Hacienda and Deep Gulch Remediation Project
Almaden Quicksilver County Park

Final Initial Study/
Mitigated Negative Declaration
September 14, 2010

SCH# 2010072049

County of Santa Clara
Parks and Recreation Department
Los Gatos, CA

Prepared by
Sokale Environmental Planning
Newark, CA

Lynne Trulio, Wetlands & Wildlife Ecologist
Basin Research Associates
Cotton Shires and Associates
TRA Environmental

RESOLUTION NO. 2010-411

RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF SANTA CLARA MAKING CERTAIN FINDINGS, AND ADOPTING A MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING AND REPORTING PLAN FOR THE HACIENDA AND DEEP GULCH REMEDIATION PROJECT

WHEREAS, the County of Santa Clara desires to approve the Hacienda and Deep Gulch Remediation Project ("Project") described in **Exhibit A**, as required by a Consent Decree approved by the Board of Supervisors May 24, 2005, which includes projects at the Hacienda Furnace Yard portion of Almaden Quicksilver County Park; and

WHEREAS, pursuant to the California Environmental Quality Act ("CEQA"), the County prepared and circulated an Initial Study and Mitigated Negative Declaration, (collectively, "MND"), attached hereto as **Exhibit B**, for public comment between July 14, 2010 and August 13, 2010; and

WHEREAS, public comments, revisions and clarifications were addressed in the Mitigated Negative Declaration; and

WHEREAS, pursuant to the CEQA, a Mitigation Monitoring and Reporting Program (MMRP), was prepared for the Project and is attached hereto as **Exhibit C**; and

WHEREAS, the Mitigated Negative Declaration identified potential environmental impacts in the areas of Aesthetics, Agricultural and Forestry Resources, Air Quality, Biological Resources, Cultural/Historical/Archeological Resources, Geology/Soils, Hazards and Hazardous Materials, Hydrology/Water Quality, Land Use and Planning, Noise, and Transportation/Traffic but these impacts will be avoided or mitigated by the MMRP to less than significant levels; and

WHEREAS, the MND, and MMRP together constitute the Final MND for the Project; and

WHEREAS, at its regular meeting of September 14, 2010, the Board of Supervisors considered the Project, the Final MND and comments received prior to approving the Project; and

THEREFORE, THE BOARD OF SUPERVISORS HEREBY makes the following findings with respect to CEQA:

(1) That the Final MND was prepared in accordance with all legal requirements of CEQA, including all public notice and comment period requirements; and

(2) That the Board of Supervisors has considered the whole record before it, including the Final MND and all comments received; and

(3) That the Final MND identifies all potential environmental impacts of the Project, specifically to Aesthetics, Agricultural and Forestry Resources, Air Quality, Biological Resources, Cultural/Historical/Archeological Resources, Geology/Soils, Hazards and Hazardous Materials,

Adopted

SEP 14 2010

Hydrology/Water Quality, Land Use and Planning, Noise, and Transportation/Traffic, which impacts can and will be avoided or mitigated to less than significant levels through adoption and implementation of the mitigation measures included in the MMRP; and

(5) That the Final MND reflects the County's independent judgment and analysis.

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of the County of Santa Clara, State of California, that

1. The administrative record is located in the Office of the Clerk of the Board of Supervisors, at 70 W. Hedding Street, 10th Floor, East Wing, San Jose, California 95110; and in the County Parks and Recreation Department Administration Office at 298 Garden Hill Drive, Los Gatos, CA 95032; and

2. That the Final MND for the Project is adopted and the Project is hereby approved.

PASSED AND ADOPTED by the Board of Supervisors of the County of Santa Clara, State of California on September 14, 2010 by the following vote:

AYES: CORTESE, GAGE, KNISS, SHIRAKAWA, YEAGER
NOES: None
ABSENT: None
ABSTAIN: None

Ken Yeager, President
Board of Supervisors

Signed and certified that a copy of this document has been delivered by electronic or other means to the President, Board of Supervisors.
ATTEST:

Maria Marinos, Clerk of the Board of Supervisors

APPROVED AS TO FORM AND LEGALITY:

Katherine Harasz, Deputy County Counsel

Exhibits to this Resolution:

A – Hacienda and Deep Gulch Remediation Project project description
B – Initial Study and Mitigated Negative Declaration for the Hacienda and Deep Gulch Remediation Project
C - Mitigation Monitoring and Reporting Plan for the Hacienda and Deep Gulch Remediation Project

Adopted

County of Santa Clara, California •Parks and Recreation Department
298 Garden Hill Drive, Los Gatos, California 95032 / Telephone: (408) 355-2200

Notice of Determination

To: ■ County Clerk
County of Santa Clara

☐ Office of Planning & Research
1400 Tenth St., Room 121
Sacramento, CA 95814

Project Title		File
Hacienda and Deep Gulch Remediation Project		None
State Clearinghouse Number	**County Contact Person**	**Telephone Number**
SCH 2010072049	Antoinette Romeo Mohamed Assaf, Project Manager	(408) 355 - 2235 (408) 355 - 2208
Project Location		**APN (s)**
Hacienda Furnace Yard area in Almaden Quicksilver County Park 21785 Almaden Road, San Jose CA 95196		583-20-004; 583-23-019

Project Description

The Hacienda and Deep Gulch Remediation Project (Project) is a mercury remediation and habitat restoration project in the Hacienda Furnace Yard Area of Almaden Quicksilver County Park (AQS County Park) and beneath the Alamitos Creek Bridge on Alamitos Road. AQS Park is a 3,977 acre park owned and operated by County of Santa Clara Parks and Recreation Department. Alamitos Creek Bridge is owned and maintained by County of Santa Clara Roads and Airports Department.

The Project includes the removal of remnant mining waste material, grading to create stable creek banks at Alamitos Creek and Deep Gulch areas, stabilizing and hydro-seeding all disturbed areas, and revegetation of the creek banks along Alamitos Creek and Deep Gulch within Almaden Quicksilver County Park.

A complete project description is contained in the Initial Study/Mitigated Negative Declaration available for review at the Administrative Offices of the Parks and Recreation Department and on the website at www.playhere.org

This is to advise that the Santa Clara County Board of Supervisors (decision maker) has adopted the above described project on September 14, 2010 and has made the following determinations regarding the project. The Negative Declaration and record of project approval may be examined at the Santa Clara County Department of Parks and Recreation.

1. The project: ☐will have ■ will not have a significant effect on the environment.
2. Monitoring Program: ■ was ☐ was not adopted.
3. ■ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
   Mitigation measures: ■ have ☐ have not been made a condition of approval of the project.
4. ☐ An Environmental Impact Report has been prepared for this project pursuant to the provisions of CEQA
   Mitigation measures: ☐ have ☐ have not been made a condition of approval of the project.
   A *Statement of Overriding Considerations* : ☐was ☐ was not adopted for this project.
   ☐ Findings were made pursuant to Section 15091 of CEQA.

Signature: Antoinette Romeo Date: 9/15/10

Title: Planner III

File#: 16317 9/15/2010

Santa Clara County Clerk–Recorder's Office
State of California

ML 97130

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REGINA ALCOMENDRAS, County Clerk–Recorder
by Mary Rattanapanya, Clerk–Recorder Office Spe, ML

County of Santa Clara
Office of the County Clerk-Recorder
Business Division

County Government Center
70 West Hedding Street, E. Wing, 1st Floor
San Jose, California 95110 (408) 299-5665

CEQA DOCUMENT DECLARATION

ENVIRONMENTAL FILING FEE RECEIPT

PLEASE COMPLETE THE FOLLOWING:

1. LEAD AGENCY: County of Santa Clara
2. PROJECT TITLE: Hacienda and Deep Gulch Remediation Project
3. APPLICANT NAME: County of Santa Clara Parks and Recreation Department PHONE: (408) 355-2200
4. APPLICANT ADDRESS: 298 Garden Hill Drive, Los Gatos, CA 95032
5. PROJECT APPLICANT IS A: ☒ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☐ Private Entity
6. NOTICE TO BE POSTED FOR 30 DAYS.
7. CLASSIFICATION OF ENVIRONMENTAL DOCUMENT

a. PROJECTS THAT ARE SUBJECT TO DFG FEES

☐ 1. ENVIRONMENTAL IMPACT REPORT (PUBLIC RESOURCES CODE §21152)	$ 2,792.25	$ 0.00
☒ 2. NEGATIVE DECLARATION (PUBLIC RESOURCES CODE §21080(C)	$ 2,010.25	$ 2,010.25
☐ 3. APPLICATION FEE WATER DIVERSION (STATE WATER RESOURCES CONTROL BOARD ONLY)	$ 850.00	$ 0.00
☐ 4. PROJECTS SUBJECT TO CERTIFIED REGULATORY PROGRAMS	$ 949.50	$ 0.00
☒ 5. COUNTY ADMINISTRATIVE FEE (REQUIRED FOR a-1 THROUGH a-4 ABOVE) Fish & Game Code §711.4(e)	$ 50.00	$ 50.00

b. PROJECTS THAT ARE EXEMPT FROM DFG FEES

☐ 1. NOTICE OF EXEMPTION ($50.00 COUNTY ADMINISTRATIVE FEE REQUIRED)	$ 50.00	$ 0.00
☐ 2. A COMPLETED "CEQA FILING FEE NO EFFECT DETERMINATION FORM" FROM THE DEPARTMENT OF FISH & GAME, DOCUMENTING THE DFG'S DETERMINATION THAT THE PROJECT WILL HAVE NO EFFECT ON FISH, WILDLIFE AND HABITAT, OR AN OFFICIAL, DATED RECEIPT / PROOF OF PAYMENT SHOWING PREVIOUS PAYMENT OF THE DFG FILING FEE FOR THE *SAME PROJECT IS ATTACHED ($50.00 COUNTY ADMINISTRATIVE FEE REQUIRED)		
DOCUMENT TYPE: ☐ ENVIRONMENTAL IMPACT REPORT ☐ NEGATIVE DECLARATION	$ 50.00	$ 0.00

c. NOTICES THAT ARE *NOT* SUBJECT TO DFG FEES *OR* COUNTY ADMINISTRATIVE FEES

☐ NOTICE OF PREPARATION ☐ NOTICE OF INTENT	NO FEE	$ NO FEE

8. OTHER: _____ FEE (IF APPLICABLE): $ _____
9. TOTAL RECEIVED..... $ 2,060.25

*NOTE: "***SAME PROJECT***" MEANS **NO** CHANGES. IF THE DOCUMENT SUBMITTED IS NOT THE SAME (OTHER THAN DATES), A "NO EFFECT DETERMINATION" LETTER FROM THE DEPARTMENT OF FISH AND GAME FOR THE **SUBSEQUENT** FILING OR THE APPROPRIATE FEES ARE REQUIRED.

THIS FORM MUST BE COMPLETED AND ATTACHED TO THE FRONT OF ALL CEQA DOCUMENTS LISTED ABOVE *(INCLUDING COPIES)* SUBMITTED FOR FILING. WE WILL NEED AN ORIGINAL (WET SIGNATURE) AND THREE COPIES. *(YOUR ORIGINAL WILL BE RETURNED TO YOU AT THE TIME OF FILING.)*

CHECKS FOR ALL FEES SHOULD BE MADE PAYABLE TO: SANTA CLARA COUNTY CLERK-RECORDER

PLEASE NOTE: FEES ARE ANNUALLY ADJUSTED (Fish & Game Code §711.4(b); PLEASE CHECK WITH THIS OFFICE AND THE DEPARTMENT OF FISH AND GAME FOR THE LATEST FEE INFORMATION.

". . . NO PROJECT SHALL BE OPERATIVE, VESTED, OR FINAL, NOR SHALL LOCAL GOVERNMENT PERMITS FOR THE PROJECT BE VALID, UNTIL THE FILING FEES REQUIRED PURSUANT TO THIS SECTION ARE PAID." Fish & Game Code §711.4(c)(3)

Hacienda and Deep Gulch Remediation Project
Almaden Quicksilver County Park

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Mitigated Negative Declaration
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County of Santa Clara
Parks and Recreation Department
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Santa Clara County Clerk–Recorder's Office
State of California

L 96585

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REGINA ALCOMENDRAS, County Clerk–Recorder
by Laura Luna, Deputy Clerk–Recorder,

County of Santa Clara
Office of the County Clerk-Recorder
Business Division

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San Jose, California 95110 (408) 299-5665

CEQA DOCUMENT DECLARATION

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2. **PROJECT TITLE:** Hacienda and Deep Gulch Remediation Project
3. **APPLICANT NAME:** County of Santa Clara, Parks and Recreation Department **PHONE:** (408) 355-2200
4. **APPLICANT ADDRESS:** 298 Garden Hill Drive, Los Gatos, CA 95032
5. **PROJECT APPLICANT IS A:** ☒ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☐ Private Entity
6. **NOTICE TO BE POSTED FOR** 30 **DAYS.**
7. **CLASSIFICATION OF ENVIRONMENTAL DOCUMENT**

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b. **PROJECTS THAT ARE EXEMPT FROM DFG FEES**

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DOCUMENT TYPE: ☐ **ENVIRONMENTAL IMPACT REPORT** ☐ **NEGATIVE DECLARATION**	$ 50.00	$ 0.00

c. **NOTICES THAT ARE *NOT* SUBJECT TO DFG FEES *OR* COUNTY ADMINISTRATIVE FEES**

☐ **NOTICE OF PREPARATION** ☒ **NOTICE OF INTENT**	NO FEE	$ NO FEE

8. **OTHER:** _____ **FEE (IF APPLICABLE):** $ _____
9. **TOTAL RECEIVED** $ 0.00

*NOTE: "***SAME PROJECT***" MEANS **NO** CHANGES. IF THE DOCUMENT SUBMITTED IS NOT THE SAME (OTHER THAN DATES), A "NO EFFECT DETERMINATION" LETTER FROM THE DEPARTMENT OF FISH AND GAME FOR THE **SUBSEQUENT** FILING OR THE APPROPRIATE FEES ARE REQUIRED.

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County of Santa Clara, California✸Parks and Recreation Department
✸Planning & Development Section✸

Proposed Mitigated Negative Declaration

A notice, pursuant to the California Environmental Quality Act of 1970, as amended (Public Resources Code 21,000, et sec.) that the following project when implemented will not have a significant impact on the environment.

File		APN(s)	Date
None		583-20-004 and 583-23-019	7/12/10

Project Name	Project Type
Hacienda and Deep Gulch Remediation Project	Mercury Remediation and Habitat Restoration

Owner	Applicant
County of Santa Clara	County of Santa Clara, Parks and Recreation Department

Project Location

Almaden Quicksilver County Park, 21785 Almaden Road, San Jose, CA 95196

Project Description (attach additional pages as necessary)

The project includes the removal of remnant mining waste material, grading to create stable creek banks at Alamitos Creek and Deep Gulch areas, stabilizing and hydroseeding all disturbed areas, and revegetation of the creek banks along Alamitos Creek and Deep Gulch within Almaden Quicksilver County Park in Santa Clara County, CA.

Purpose of Notice

The purpose of this notice is to inform you that the County of Santa Clara Parks & Recreation Department Staff has recommended that a Mitigated Negative Declaration be adopted for this project. Action is **tentatively** scheduled on this proposed Mitigated Negative Declaration before the County of Santa Clara **Board of Supervisors** on **September 14, 2010** in the Board Chambers, **70 W. Hedding, San Jose**. It should be noted that the adoption of a Mitigated Negative Declaration does not constitute approval of the project under consideration. The decision to approve or deny the project will be made separately. Meeting information will be posted on the County of Santa Clara's website at www.sccgov.org under Board Agendas or contact the Office of the Clerk of the Board at (408) 299-5001.

Review Period

The public review period for this document **begins July 13, 2010** and **ends August 12, 2010**. Public comments regarding the correctness, completeness, or adequacy of this Mitigated Negative Declaration are invited. Such comments should be **based on specific environmental concerns**. Written comments must be received on or before the close of the public review period and should be addressed to the **County of Santa Clara, Department of Parks and Recreation, Planning and Development Section, 298 Garden Hill Drive, Los Gatos, CA 95032, Tel (408) 355-2200,** attention Mohamed Assaf, Senior Facilities Engineer**.** Oral comments may be made at the meeting. A file containing additional information on this project may be reviewed at the Department of Parks and Recreation. When requesting to view this file, please refer to the project title appearing at the top of this form.

Responsible Agencies sent copy of this document

U.S. Fish and Wildlife Service, California Regional Water Quality Control Board - San Francisco Bay Region, California Department of Fish and Game, California Department of Toxic Substance Control, Santa Clara Valley Water District, County of Santa Clara Planning Department, and County of Santa Clara Roads and Airports Department.

Basis for Negative Declaration Recommendation

The Planning and Development Section of the Department of Parks and Recreation has reviewed the initial study for the project and, based upon substantial evidence in the record, finds that the proposed project could not have a significant effect on the environment, or although the proposed project could initially have a significant effect on the environment, there will not be a significant effect on the environment because of mitigation measures that have been incorporated into the project**.**

This finding is based on the following considerations (See Note below):

Mitigation Measures included in this project to reduce potentially significant impacts to less than significant level include:

Aesthetics

The permanent loss of up to 75 trees, including some large oaks along Mine Hill Trail next to Deep Gulch, will degrade the quality of the park site for visitors. Impact reduced to less than significant with **BIO-8** and **BIO-9** mitigation measures that require planting 3 native trees to each 1 removed and planting attractive native understory and ground cover species along the affected trail.

Air Quality

Project activities would generate emissions consisting of exhaust emissions from construction equipment (e.g., ozone precursors, NOx and VOC, other criteria pollutants, such as CO and PM_{10}, and toxic exhaust emissions) and dust from earthmoving activities and travel.

AIR-1 Measures:

a. Bay Area Air Quality Management District Basic Dust Control Measures (all construction sites)
b. Bay Area Air Quality Management District Enhanced Dust Control Measures (sites greater > 4 acres in size)
Bay Area Air Quality Management District Optional Dust Control Measures

Biological Resources

BIO IMPACT 1. The project will temporarily or permanently remove an estimated 1.2 acres of habitat and could directly impact sensitive species including red-legged frog, steelhead, dusky-footed woodrats, bats, and/or nesting migratory birds and raptors.

BIO-1 Measures (General):

a. Implement an Employee and Contractor Education Program.
b. Implement Daily Monitoring to check the site each morning prior to construction activities for rare and sensitive species within the work area.
c. Vehicle speed limited 5 miles per hour within the construction area. If any animal is seen in the path of a vehicle, the vehicle shall stop until the animal is out of the path.

BIO IMPACT 2. Steelhead could be present in Alamitos Creek as adults or juveniles between April 15 and October 15 when this project will occur.

BIO-2 Measures (Steelhead):

a. Develop a dewatering and fish relocation plan in consultation with NMFS. Participate in a Section 7 consultation with the NMFS through the Army Corps of Engineers (Corps), if required. Implement all dewatering and fish protection measures required by agencies.
b. Implement BMPs from Santa Clara Valley Water District (District) 2005 BMP Handbook and Stream Maintenance Program during project.
c. Implement a Stormwater Pollution Prevention Plan (See **HYD-1**) for sediment impacts during construction.

d. Implement *Guidelines and Standards for Land Use Near Streams* for sediment impacts after construction (See **HYD-2**).

BIO IMPACT 3. Protected amphibians and reptile species that have the potential to occur on the project site include California red-legged frogs, western pond turtles, and silvery legless lizard.

BIO-3 Measures (Herptofauna):

a. Conduct pre-construction in the project area in order to detect sensitive herpetofauna and to coordinate with wildlife agencies.
b. 2. Conduct during project surveys to determine if any wildlife species are found within the project area and to implement species protections, if needed.

BIO IMPACT 4. The project will remove up to 75 trees and 51,000 SF of oak woodland and riparian vegetation. Birds and their nests in trees, tree cavities, and understory vegetation in riparian and oak woodlands could be destroyed. Regrading banks could destroy nests of bank nesting birds, especially kingfishers.

BIO-4 Measures (Nesting birds):

a. Remove vegetation and trees within the project area outside of the nesting season (February 1 to August 31), in advance of calcine removal activities.
b. For all trees and vegetation that remain after clearing, a qualified biologist shall conduct a pre-construction survey for nesting raptors and other birds, including kingfishers, approximately a month before and 3 days before construction begins. If active nests are detected, a qualified biologist shall determine the appropriate buffer around the nest and will monitor the nest until the fledging or until it has been determined to be inactive.
c. To mitigate for the loss of riparian and oak woodland habitat, an area equivalent in size to the area degraded will be revegetated with native species, maintained and monitored for success (See **BIO-8** and **BIO-9)**.

BIO IMPACT 5. Maternal or day-time bat roosts could occur in trees in the project area.

BIO-5 Measures (Bats):

a. Conduct a survey for bats and their roosts prior to any construction or large tree removal. A pre-construction maternity roost survey the summer before construction is highly recommended.
b. If a roost is found, the roost shall be avoided as determined by a qualified biologist in conjunction with wildlife agency guidance. Measures may include delaying work until young are flying, implementing a buffer zone, or excluding animals from the roost (not applicable to maternal roosts with young).

BIO IMPACT 6. Woodrat houses have been found in the project area, in moderately-dense to dense riparian habitats. An estimated 32,000 SF of riparian habitats will be removed; any woodrats or their houses located in the impacted riparian zone could be harmed or destroyed.

BIO-6 Measures (Woodrats):

a. Conduct a pre-construction survey for San Francisco dusky-footed woodrat houses.
b. If any are detected, implement avoidance/minimization measures as required by the wildlife agencies potentially including a buffer zone or capturing animals and relocated them to a near by artificial house.

BIO IMPACT 7. The Loma Prieta hoita, a special status plant (CNPS List 1B), could occur in the project area. This plant was found growing on calcine deposits at the Jacques Gulch Restoration Project.

BIO-7 Measures (Loma Prieta hoita):
Conduct a pre-construction survey for the plant during a season when plants are most obvious. If any are found, develop and implement a transplanting and monitoring plan acceptable to CDFG.

BIO IMPACT 8. Calcine access and removal will result in the loss of, at most, 75 trees with diameters greater than 6 inches in foothill oak and foothill riparian woodlands; 23 are oaks and some are old, very mature trees.

BIO-8 Measures (Oaks and Large Trees):

a. A certified arborist will be on-site during all construction phases during which trees are affected to make decisions, in consultation with the Project Manager, on tree pruning, removal, and preservation. Whenever possible, mature trees will be preserved while still achieving the calcine removal goals of the project.
b. Develop an oak community revegetation plan with success criteria, monitoring and contingency measures, which will require:
    i. replacing removed trees on a 3:1 basis with trees of the same species.
    ii. planting and maintaining a palette of understory and ground cover species native to oak woodlands, covering an area not less than equal to the size of the area impacted (a total of approximately 19,000 SF of foothill oak woodlands).

BIO IMPACT 9. Calcine removal and access to the calcine deposits will result in the loss or degradation of approximately 76,000 SF of habitat. An estimated 32,000 SF (~0.74 acres) of this is foothill riparian community, which will be mitigated with measures in **BIO-9**. Approximately 19,000 SF (0.44 acres) is foothill oak woodland community, whose impacts are mitigated with **BIO-8** measures.

BIO-9 Measures (Foothill Riparian Community):

a. Protect all riparian vegetation outside the construction area from any direct or indirect impacts of construction.
b. Develop a Riparian Mitigation and Monitoring Plan as part of the Streambed Alteration Agreement. The plan will mitigate tree loss on a 3:1 basis and will restore the riparian understory and ground cover on at least a 1:1 area (SF) basis. The plan will be developed by a qualified biologist and must be approved by the CDFG.

BIO IMPACT 10. The project will also temporarily impact 500 SF of freshwater wetland due to grading in Alamitos Creek and Deep Gulch.

BIO-10 Measures:

a. If possible, create a bench at AC-2 to allow at least 500 SF of wetlands to restore in this new area.
b. Ensure that the cross-sectional area of Alamitos Creek and Deep Gulch are not reduced from pre-project conditions, allowing natural wetland restoration in areas of disturbance.

BIO IMPACT 11. Steelhead will temporarily be prevented from moving thorough the stream during the dewatering period which will last up to 12 weeks. Impacts to steelhead are reduced to less than significant with **BIO-2** measures.

BIO IMPACT 12. Impacts to natural communities on site, including oak woodlands, riparian woodlands, freshwater wetlands, and aquatic habitats are given above in Questions 2, 3 and 4. **BIO-8** and **BIO-9**, and **BIO-10** mitigation measures will reduce these impacts to less than significant.

BIO IMPACT 13. Impacts to oak woodland communities may occur as a result of Sudden Oak Death (SOD) introduction to AQS County Park or may impact other areas if SOD were to establish in AQS County Park and be transported offsite by construction equipment. Mitigation measures adopted by the California Oak Mortality Task Force are incorporated in BIO-13.

BIO IMPACT 14. Removal of calcine deposits and access routes to the deposits will result in the removal of 75 trees, 47 of which have diameters >12 inches. As described in **BIO-8**, all trees will be replanted on a 3:1 ratio, which will reduce this impact to less than significant.

BIO IMPACT 15. AQS Park is located in the New Almaden Historical Zoning District. The ordinance requires trees six (6) inches in diameter or greater be protected. Trees, subject to the relevant provisions of the County's "Tree Preservation Up to 75 trees 6 inches or greater in diameter will be removed. As per **BIO-8**, all trees with diameters 6 inches or greater will be replanted on a 3:1 ratio with trees of the same species.

BIO IMPACT 16. The Resource Conservation Element of the Santa Clara County General Plan states "riparian habitats in rural lands must be preserved through protection of native vegetation, development setback, regulation of tree and vegetation removal, and control and design of grading, road construction, and bridges." Impacts to riparian habitat from the project will be mitigated as per the measures in **BIO-9**.

Cultural Resources

Removal of the calcine deposits in the project will include both deposit and sediment removal around two historic architectural and archaeological features that could affect the cultural materials:

a) Historic Resource #y44 Retort.
b) Former Vichy Spring water bottling complex operating from 1867 to 1880/1882 were noted during the field inventory of the Alamitos Creek Bridge Deposit (ACB-1) under Bridge No. 37C0160 on Almaden Road.

CUL-1 Measures:

Conduct a pre-construction meeting to inform all construction personnel of the potential for exposing subsurface cultural resources and to inform them of the procedures that will be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains and their treatment.

CUL-2 Measures:

Further investigate and evaluate identified resources (Historic Resource #y44 – Retort and Vichy Spring Water – Former Bottling Complex) prior to project construction and during project construction is recommended to determine their potential for inclusion on the California Register of Historical Resources. Specific mitigation measures apply to each resource.

There is potential to discover buried human remains, including potential Native American skeletal remains, in the process of excavation and grading.

CUL-3 Measures:

Upon discovery of possible buried human remains, work within 100-feet of the find shall be halted and the Santa Clara County's Project Manager shall be notified. The Project Manager shall retain a qualified archaeologist to review and evaluate the find. Construction work shall not begin again until the archaeological or cultural resources consultant has been allowed to examine the remains.

Geology and Soils

Project calcine removal in areas of steep slopes has the potential to result in adverse slope stability impacts. Current project design recommendations are sufficient to address potential slope instability impacts. Appropriate geotechnical inspection and preparation of supplemental design recommendations (if needed) during project grading and the following geotechnical construction inspection services would reduce impacts to less than significant:

GEO-1 Measures:

a. Conduct geotechnical inspection of all final slopes of 2:1 (horizontal:vertical) or steeper in areas of calcine removal. Exposed slopes should be inspected by the Geotechnical Consultant prior to application of erosion control measures.
b. Conduct full time geotechnical inspection during calcine removal in the Upper Hacienda area (this removal site is anticipated to be underlain by Qls materials).
c. Excavation of first segment of rock slope foundation at Upper Hacienda to be observed by a County staff.

During construction would involve temporary ground disturbing activities that could increase erosion. These BMPs will reduce the impact to less than significant:

GEO-2 Measures:

a. Stormwater Pollution Prevention Plan
b. Surface Erosion Control Treatments (Hydroseeding and/or Fiber Netting)
c. Replacement Planting
d. Placement of rip-rap (rock slope protection) over calcine removal areas beneath Alamitos bridge
e. Placement of rip-rap at the toe of slopes within the Upper Hacienda and Alamitos Creek removal areas to protect from scour under high flow conditions

Hazards and Hazardous Materials

Excavation work could increase the potential for dust inhalation. Construction workers, park visitors, and local residents could be exposed to levels of mercury above current conditions. **HAZ-1**, **HAZ-2** and **HAZ-3** measures will reduce this potential impact to less than significant.

HAZ-1 Measures:
A worker safety and health program, as required by CalOSHA will be implemented during calcine and soil removal, transport, and consolidation.

HAZ-2 Measures:
The contractor will develop and implement a fugitive dust control program, as approved by the County. This program shall include an onsite Air Quality Monitor (AQM), a Dust Control Plan (DCP), monitoring of the project sites and the transport route for visible dust plumes.

HAZ-3 Measures:
Sediments will be stored and transported in a manner that minimizes water quality impacts as follows:

a. Wet sediments will be stockpiled in a manner that prevents any material or water from draining into Alamitos Creek.
b. Water will not drain directly into public streets without providing water quality control measures.
c. Streets will be cleared of mud and/or dirt by street sweeping, as necessary, and not by hosing down the street.

Potential routes by which hazardous materials could accidentally be released into the environment are through equipment leaking fluids onto soils or into Alamitos Creek. The contractor will implement standard BMPs (**HAZ-4**), which will reduce this impact to less than significant.

HAZ-4 Measures:
Implement standard Santa Clara County BMPs for controlling oil, grease and fuel from construction vehicles.

The project area is in a "high" Fire Severity Zone (Cal FIRE, 2007). The project would be conducted during the summer and fall when fire danger non-native grasses and weeds dry out and fire danger increases. **HAZ-5** measures will be implemented to ensure this impact is less than significant.

HAZ-5 Measures:

a. A water truck will remain on site equipped with a hose that can be used to spray water on fires.
b. Each construction vehicle will be equipped with a fire extinguisher.
c. Workers will be instructed in the need to stay alert to the start of fires and will be given instruction in using fire extinguishers; the construction manager will be informed immediately if a fire starts.

Hydrology

This project has the potential to introduce sediments and calcines into Alamitos Creek as a result of the calcine removal process, of stockpiling excavated materials, and of temporary fill placed to create creek crossings during construction. **HYD-1** and **HYD-2** Measures, below, reduce this impact to less than significant.

HYD-1 Measures:
Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) that ensures material that is removed as a result of this project is not transported by water into Alamitos Creek.

HYD-2 Measures:
Implement measures and techniques for preventing soil erosion as given in the *Guidelines and Standards for Land Use Near Streams*. In particular, Chapter 4 provides recommended soil and slope stabilization methods.

Land Use

The project would be in conflict with the County of Santa Clara Historic Preservation Zoning Ordinance § 3.50.080 K Tree, Shrub and Landscaping Conservation. Trees must be removed to access and excavate the calcine deposits. County will apply for a Santa Clara County Planning Department Tree Removal Permit and native plant species will be replanted as per Mitigation Mitigation **BIO-8**.

Noise

Project activities will require the short-term use (six months) of trucks, excavators, bulldozers, graders, compactors, chain saws and other equipment for tree cutting, calcine excavation, trucking to the San Francisco Open Cut, land grading and contouring, restoring slopes, and repairing stream banks and culverts. The project activities would create temporary intermittent and continuous noises.

NOISE-1 Measures:

The County will implement these practices to minimize disturbances to residential neighborhoods surrounding work sites:

a. No construction on Sundays and legal holidays, or between the hours of 7:00 p.m. and 7:00 a.m. If nighttime construction is required, construction activities should be grouped together so as to avoid continuing periods of high disturbance.
b. If specific noise complaints are received during construction, one or more of the following noise mitigation measures can be implemented in a more rigorous fashion:
   i. Use hydraulically or electrically powered impact tools (e.g., jack hammers) when possible. If the use of pneumatically powered tools is unavoidable, use an exhaust muffler on the compressed air exhaust.
   ii. Install manufacturer's standard noise control devices, such as mufflers, on engine-powered equipment.
   iii. Locate stationary construction equipment as far from noise-sensitive properties as possible.
   iv. Notify nearby property users whenever extremely noisy work will occur.
   v. Utilize stockpiles as effective noise barriers when feasible.
c. Work under the Alamitos Bridge will be conducted as quickly and as quietly as possible.
d. Internal combustion engines will be equipped with adequate mufflers.
e. Vehicles will not idle longer than 5 minutes.
f. All construction equipment will be equipped with manufacturer's standard noise control devices.
g. The arrival and departure of trucks hauling material will be limited to the hours of construction.
h. The County shall place a sign at the entrance of the site informing surrounding neighbors to call the County of Santa Clara, Department of Parks and Recreation regarding noise complaints.

Transportation/Traffic

Project activities would increase traffic on Hicks Road, Alamitos Road, and the unpaved single lane Wood Road within the park. Traffic would arrive on Alamitos Roads after traveling through the community of New Almaden and along the more urban city streets and highways that provide regional access.

TRA-1 Measures:

Implement County Roads and Airports BMPs requiring the installation of fences, barriers, lights, flagging, guards, and signs as determined appropriate by the public agency having jurisdiction, to give adequate warning to the public of the construction and of any dangerous condition to be encountered as a result thereof.

Construction activities adjacent to Alamitos Road and increased truck and vehicle traffic along haul routes could temporarily increase response times for emergency response providers along affected roadways. This impact could occur on the public roads, but only very briefly during the movement of construction equipment when truck traffic would fully occupy this single lane of Wood Road and the Mine Hill Trail.

TRA-2 Measures:

Prior to the start of the project, County Parks will develop and communicate to the contractor an emergency response procedure for emergency access to Wood Road and the Mine Hill Trail.

Prepared by:

Mohamed Assaf
Senior Facilities Engineer

signature

7/13/10
date

Approved by:

Julie Mark
Deputy Director

signature

7.13.10
date

Revised 5/10/10

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Section 1: Introduction

1.1 Purpose of the Initial Study

In April 2000, the County of Santa Clara was identified as a Potential Responsible Party (PRP) by the U.S. Department of Interior, Office of the Solicitor, (DOI) and the California Department of Fish and Game, Office of Spill Prevention and Response (CDFG), referred to collectively as "the Trustees". Pursuant to the Natural Resources Damages Assessment (NRDA), the Trustees seek redress for alleged injuries to natural resources from the discharge of mercury into the Guadalupe River watershed that empties into the San Francisco Bay. The Trustees undertook a natural resource damage assessment (NRDA) with the potentially responsible parties (current and former owners of the lands mined for mercury) to develop the Final Almaden Quicksilver Restoration Plan and Environmental Assessment (RP/EA) (USFWS & CDFG, 2008). This plan follows previous remediation actions undertaken at Almaden Quicksilver County Park in 1998-2000.

The County of Santa Clara, the lead agency under California Environmental Quality Act (CEQA), must evaluate the environmental impacts of a project when considering whether to approve a project. This Draft Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the County of Santa Clara Parks and Recreation Department (County Parks Department). The purpose of the Initial Study is to evaluate the potential environmental effects of the proposed Hacienda and Deep Gulch Remediation Project (Project) at Almaden Quicksilver County Park (AQS County Park), Santa Clara County, California.

The Final RP/EA evaluates five additional restoration projects for removing the remaining calcine deposits, mine tailings from the mercury mining operation. There are two primary projects--Jacques Gulch and Hacienda Furnace Yard--and three compensatory projects, Coyote Creek *Arundo* Removal, Hillsdale Bridge Fish Barrier Removal, and Ravenswood Marsh Predator Control. The compensatory projects are designed to help mitigate some of the impacts of the primary projects. In 2007, the federal government issued a Finding of No Significant Impact (FONSI) for the five projects, with the provision that Jacques Gulch and Hacienda Furnace Yard receive full environmental review. The Jacques Gulch project was undertaken by the Santa Clara Valley Water District under a Mitigated Negative Declaration and was constructed in 2009.

The remediation actions outlined in the RP/EA were also subject to CEQA reviewed by the California Department of Toxic Substance Control (DTSC). In 2006, DTSC adopted a Negative Declaration for the additional soil and calcine removal associated with the Jacques Gulch and Hacienda Furnace Yard projects.

This Draft IS/MND provides the environmental review for the removal of the remaining visible calcine deposits from the former Hacienda Furnace Yard areas located along the banks of Alamitos Creek and Deep Gulch, sites adjacent to the 1998-2000 Hacienda Furnace Yard remediation. The Draft IS/MND provides information to the public, responsible agencies, and trustee agencies on the potential environmental effects of the Project. This document has been prepared in accordance with the CEQA, Public Resources Code section§21000 *et seq*., and the State CEQA Guidelines, California Code of Regulations (CCR), Title 14, section§15000 *et seq*.

1.2 Decision to Prepare a Mitigated Negative Declaration

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment (CEQA Guidelines §15063(a)). If there is substantial evidence that a project may

have a significant effect on the environment, an Environmental Impact Report (EIR) must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the lead agency determines the impacts are to a less-than-significant level, a Negative Declaration may be prepared instead of an EIR (CEQA Guidelines §15070(b)).

This Initial Study identifies potentially significant impacts on environmental and cultural resources. The Mitigated Negative Declaration proposes a range of mitigation measures to reduce all such effects to less than significant levels. The County Parks Department has prepared this IS/MND for the Project because all impacts resulting from the Project are reduced to less than significant levels by adoption and implementation of mitigation measures that are incorporated into the project. This IS/MND conforms to the content requirements under CEQA Guidelines §15071. A Mitigated Negative Declaration for this Project is consistent with CEQA Guidelines §15070 which indicate that a Mitigated Negative Declaration is appropriate when:

> *"The project's Initial Study identifies potentially significant effects, but:*
> *a. Revisions to the project plan were made that would avoid or reduce the effects to a point where clearly no significant effects would occur, and*
> *b. There is no substantial evidence that the project, as revised, may have a significant effect on the environment."*

1.3 Interagency Collaboration, Regulatory Review and Permitting

The CEQA review process is intended to provide the public and both trustee and responsible agencies with an opportunity to provide comment on the project. Trustee agencies are state agencies that have authority by law for the protection of natural resources held in trust for the public. Responsible agencies are those that have some responsibility or authority for carrying out or approving a project. In many instances, these public agencies must make a discretionary decision to issue a local permit or provide right-of-way, funding or resources that are necessary for the project to proceed. In this instance, the California Department of Fish and Game (CDFG) and Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) may be considered responsible agencies.

~~In addition, b~~Because parts of the project occur~~s~~ in a "water of the United States" and ~~has~~ have the potential to affect both regulated wetland areas under the federal Clean Water Act (CWA) and special-status species under the federal Endangered Species Act (ESA), there are federal requirements that the Hacienda and Deep Gulch Remediation Project will have to meet. Specifically, if the project requires a dredge and fill permit (CWA §404) the United States Army Corps of Engineers (USACE) will have the responsibility to determine the conditions of issuance. This federal action under the CWA cannot be taken until USACE receives certification from the Regional Board (CWA §401) and has consulted with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) as to whether its action or the project could impact a federally protected endangered species.

Also, on a state level, the RWQCB has regulatory authority over wetlands and waterways under both the federal Clean Water Act (CWA) and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the RWQCB has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications (certifications) under Section 401 of the CWA, which are issued in combination with permits issued by the Army Corps of Engineers (ACOE), under Section 404 of the CWA. Activities that lie outside of ACOE jurisdiction may also require the issuance of either individual or general waste discharge requirements (WDRs) from the RWCQB.

This IS/MND is intended to assist federal, state and local agencies to carry out their responsibilities for permit review or approval authority over various aspects of the project. The Hacienda and Deep Gulch Remediation Project may require project-specific permitting (See Table 1 – Summary of Agency Permits).

Table 1 – Summary of Agency Permits

Summary of Agency Permits	
Agency	**Permit Required**
U.S. Army Corps of Engineers	CWA §404 (33 U.S.C. 1344) Permit
U.S. Fish & Wildlife Service	ESA §7 (50 CFR part 402) consultation, as determined by USACE
National Oceanic and Atmospheric Administration National Marine Fisheries Service	ESA §7 consultation, as determined by USACE
California Office of Historic Preservation	Section 106 consultation under the National Historic Preservation Act, as determined by USACE
California Regional Water Quality Control Board, San Francisco Bay Region	CWA §401 (33 U.S.C. 1341) Water Quality Certification; and CWA §402(p) (33 U.S.C. 1342) General Permit for Construction Activities
California Department of Fish and Game	Streambed Alteration Agreement (Code §1602), and compliance with the State Endangered Species Act (Fish and Game Code §2080) and Nesting Bird Protection Codes (Fish and Game Code §3503)
California Department of Toxic Substances Control	Approval for Transportation of Calcine Materials to the Mine Hill Consolidation Site
County of Santa Clara Planning Department	Tree Removal Permit
County of Santa Clara Roads and Airports Department	Encroachment Permit
City of San Jose	Transportation Permit for Hauling Clean Material through the Town of New Almaden

1.4 Public Review Process

This draft IS/MND will be circulated to local, state and federal agencies, interested organizations and individuals who may wish to review and provide comments on the project description, the proposed mitigation measures or other aspects of the report. The publication will commence the 30-day public review period per CEQA Guidelines §15105(b) beginning on July 13, 2010 and ending on August 12, 2010.

Written comments regarding the correctness, completeness, or adequacy of the draft IS/MND should be submitted to the name and address indicated below. Such comments should be based on specific environmental concerns and must be received on or before the close of the public review period. Submittal of written comments via e-mail would greatly facilitate the response process.

Mohamed Assaf, Project Manager
County of Santa Clara Parks and Recreation Department
298 Garden Hill Drive
Los Gatos, CA 95032
(408) 355-2235
e-mail: Mohamed.Assaf@prk.sccgov.org

The draft IS/MND is available for review at:

County of Santa Clara
Parks and Recreation Department
298 Garden Hill Drive
Los Gatos, CA 95032

Calero County Park
Park Ranger's Office
23201 McKean Road
San Jose, CA 95120

Almaden Branch Library
6445 Camden Ave.
San José, CA 95120
(408) 808-3040

Dr. Martin Luther King, Jr. Library
150 E. San Fernando St.
San Jose, CA 95112
(408) 808-2000

The draft IS/MND is also posted on the County of Santa Clara Parks and Recreation Department website: http://www.parkhere.org/

1.5 Organization of the Document

The purpose of this document is to evaluate the potential environmental effects of the Hacienda and Deep Gulch Remediation Project. This document is organized to provide the public and agencies with clear, direct information on the potential environmental impacts resulting from the project.

This document is organized as follows:

- Section 1 – Introduction
  This chapter provides an introduction to the project, describes the purpose under CEQA, summarizes the state and federal regulatory requirements, sets forth the public participation process and details the organization of this document.

- Section 2 – Project Description
  This chapter describes the location, project objectives and characteristics of the project. It provides the level of detail needed to analyze the impacts of the Project.

- Section 3 – Environmental Setting
  This chapter describes the general site history and current physical and biological resources in the area in which the project will occur.

- Section 4 – Environmental Checklist and Responses
  This chapter contains the Initial Study Checklist that describes potential impacts, identifies the significance of potential environmental impacts and details proposed mitigations to reduce significant impacts to non-significance. This chapter also contains the Mandatory Findings of Significance.

- Section 5 – Report Preparation
  This chapter identifies the preparers of this document.

- Section 6 – References
  This chapter identifies the references and sources used in the preparation of this IS/MND.

Section 2: Project Description

2.1 Location

The Hacienda and Deep Gulch Remediation Project (Project) is a mercury remediation and habitat restoration project in the Hacienda Furnace Yard Area of Almaden Quicksilver County Park (AQS County Park) and beneath the Alamitos Creek Bridge on Alamitos Road. AQS Park is a 3,977 acres area owned and operated by County of Santa Clara Parks and Recreation Department (County Parks). Alamitos Creek Bridge is owned and maintained by County of Santa Clara Roads and Airports Department (See Figure 1 – Vicinity Map).

The Hacienda Furnace Yard is the site of a ~~was the~~ former mercury sulfide (cinnabar) mine ~~mining operations site~~ that operated from 1845 to 1971. The mining operations left significant amounts of mine tailings, called calcines ~~at the site~~., and ~~in the 1990s~~ in 1998, much of the ~~calcines at~~ Hacienda Furnace Yard was the site of a remediation project to cap the calcines ~~were largely remediated either by grading and capping~~ in place or remove~~d~~ and cap~~ped~~ the calcines at the ~~"S~~San Francisco Open Cut" area at Mine Hill ~~area of the park~~. While most of the material was either capped or removed, The current project focuses on excavating the remaining calcines deposits along Alamitos Creek and Deep Gulch, sites that were difficult to reach during the 1998 remediation ~~on the opposite creek bank or adjacent to the earlier Hacienda Furnace Yard remediation~~ (See Figure 2 – Location Map).

The project site is directly adjacent to the Town of New Almaden, in unincorporated Santa Clara County. Specifically, the northeast end of the project site, under the bridge where Alamitos Road crosses Alamitos Creek, is at the edge of town. Deep Gulch and Upper Furnace Yard areas are west of Alamitos Creek and the other sites are east of the creek, between Alamitos Road and Alamitos Creek.

AQS County Park is located within the New Almaden National Historic Landmark District, one of 120 such places in California and only one of five in Santa Clara County recognized as being of such national historical significance. The County of Santa Clara has established a historic preservation zoning district for New Almaden. The boundaries of the zoning district coincide with the boundaries of the National Historic Landmark District described by the National Register listing. The calcine remediation sites within the AQS County Park are within the National Historic Landmark District.

AQS County Park is located along a northeast ridge of the Santa Cruz Mountains, called the Los Capitancillos Ridge, a line of hills running northwest to southeast, approximately 12 miles south of downtown San Jose, California. Elevations in the project area vary from approximately 520 feet to 460 feet NAVD 88 (BKF, 2007; CH2M Hill, 2009). AQS County Park is within the Guadalupe River watershed.

2.2 History of the Site

~~Some areas of~~ AQS County Park was the site of cinnabar (mercury sulfide) mining from about 1845 to about 1971. The cinnabar ore was heated to release the mercury and what remained were piles of calcines or "~~c~~asted ore" mine tailings. Some of these rocks were cooked multiple times—as furnaces became more efficient—to release more mercury. After ~~the end of the~~ mining ~~period~~ended, piles of calcines remained in the Hacienda Furnace Yard and ~~lining~~ along the slopes of Deep Gulch and Alamitos Creek. ~~Calcines deposits at Hacienda Furnace Yard were largely remediated in 1998, as stated above~~

The County purchased 3,600 acres from the New Idria Mining Chemical Company~~, the predecessor to Meyers Industries,~~ in 1973 and 1975 to create AQS County Park. The Hacienda Furnace Yard and Jacques Ridge areas were purchased later and added to the Park.

~~AQS County Park is located within the New Almaden National Historic Landmark District, which was established on October 15, 1966, and it is one of the places in California that is recognized as being of national historical significance. The County of Santa Clara has established a historic preservation zoning district for New Almaden. The boundaries of the zoning district coincide with the boundaries of the National Historic Landmark District described by the National Register listing. The calcine remediation sites within the AQS County Park are within the National Historic Landmark District.~~

Two historic resources are within the project site.

1. Mining equipment and a retort (a furnace for cooking ore) in the Deep Gulch Area are within New Almaden, a National Historic Landmark District (NHL; No. 66000236) formally recorded as CA-SCl-405H (P-43-000411) and a State Historic Landmark (#339 and #339-1). AQS County Park includes most of the National Historic Landmark District that was established on October 15, 1966. New Almaden was ". . . one of the four major sources of the world's supply of quicksilver" important prior to the discovery of the cyanide processing (1887) of gold and silver, and was ". . . the oldest and most productive quicksilver mine in the United States ... and California's first capital-intensive mining venture."

2. The remains of a historic well and portions of the former bottling house complex at Vichy Spring are present under the Alamitos Creek Bridge, also located within the National Historic Landmark District. Bubbles from the spring are present in Alamitos Creek under the bridge and immediately upstream. These sites are within the calcine remediation areas.

~~Mercury occurs naturally in this area and continues to seep from the landscape and the piles of remaining calcines into Alamitos Creek, a tributary to the Guadalupe River. Mercury mining and the remaining calcines have delivered mercury to the local rivers in the watershed and have contributed to the mercury contamination of the South San Francisco Bay. The elevated mercury levels and the highly detrimental effect of methylated mercury on wildlife and humans have been well documented. The historic mercury mining operations and remaining calcine piles at AQS County Park are one part of this mercury pollution problem.~~

The County of Santa Clara ~~Parks~~ is required pursuant to terms of the settlement agreement, document in the 2005 consent decree, ~~under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as the Superfund Law,~~ to proceed with removal of visual calcines deposited at Upper Hacienda, Lower Hacienda and Deep Gulch and remediation and restoration of these areas. The U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) were appointed as the natural resource Trustee agencies for this action. The Trustees undertook a natural resource damage assessment (NRDA). ~~with the potentially responsible parties (current and former owners of the lands mined for mercury)~~ Information from the NRDA was used to ~~and~~ develop the Final Almaden Quicksilver Restoration Plan and Environmental Assessment (RP/EA) (USFWS & CDFG, 2008). This plan follows previous remediation actions undertaken at AQS County Park in 1998-2000. The RP/EA (2008) states that ~~"~~remedial actions were completed at five former mercury ore extraction or processing areas in Almaden Quicksilver Park from 1998-2000."

The Final RP/EA evaluates five additional restoration projects for remediating the natural resource damages. ~~removing the remaining calcines.~~ There are two primary projects, Jacques Gulch and Hacienda Furnace Yard, which involve the removal of remaining calcines, and three compensatory projects, Coyote Creek *Arundo* Removal, Hillsdale Bridge Fish Barrier Removal, and Ravenswood Marsh Predator Control. The federal government issued a Finding of No Significant Impact (FONSI) for the five projects, with the provision that Jacques Gulch and Hacienda Furnace Yard receive full environmental review. The Jacques Gulch project was undertaken by the Santa Clara Valley Water District under a Mitigated Negative Declaration and was constructed in 2009. This Hacienda and Deep Gulch Remediation Project document provides the environmental review for remaining calcine removal along the banks of Alamitos Creek and Deep Gulch, sites adjacent to the earlier Hacienda Furnace Yard remediation.

2.3 RP/EA Goals and Objectives

The RP/EA described how restoration, replacement or acquisition of equivalent resources would be accomplished, based on an assessment of the natural resource injuries that occurred as the result of a release of hazardous substance, i.e. mercury from the calcines. The RP/EA provides a link between the damage assessment and the restoration. The goal of the RP/EA is to make the environment and the public whole for injuries to natural resources that resulted from releases of mercury within the Guadalupe River Watershed from sources of mercury, including from the New Almaden Mining District. The specific objectives of the RP/EA are to directly restore stream sediments and aquatic/riparian habitat at two discreet sites of significant releases (primary restoration) including Jacques Gulch and Hacienda Furnace Yard. Additional compensatory restoration actions were also required (USFWS & CDFG, 2008).

As described in the RP/EA, the Hacienda Furnace Yard Project required that:

- Remaining visible calcine materials be removed/consolidated and/or stabilized,
- Impacted areas be regraded to a stable condition,
- Clean soil be imported for plant growth, where necessary,
- Areas be revegetated by replacing trees and hydroseeding disturbed areas,
- Success criteria for calcine removal/consolidation/stabilization and revegetation be monitored for a period of three years, and
- Annual reports documenting construction efforts, habitat restoration progress and future activates be submitted to the Trustee Agencies.

The Hacienda Furnace Yard restoration project undertaken by County Parks is the sole subject of this Initial Study/Mitigated Negative Declaration conducted under the California Environmental Quality Act (CEQA).

2.4 Hacienda Furnace Yard Calcine Removal

In April 2000, the County of Santa Clara with other local municipalities and companies were identified as potentially responsible parties (PRP) by the U.S. Department of Interior and the ~~State of~~ California Department of Fish and Game (the Trustees) for natural resources damages. ~~act (NRDA).~~ In July 2005, a Consent Decree settlement was reached between PRP and the Trustees. The County's primary responsibility in accordance with the Consent Decree is to restore the Hacienda Furnace Yard by removing/consolidating and/or stabilizing the remaining visible calcine materials, thereby restoring this area to baseline conditions. The Trustees documented and issued the Final Almaden Quicksilver Restoration Plan and Environmental Assessment (RP/EA) in October 2008 as a guideline for the area restoration. The Consent Decree and RP/EA specifically named Upper Hacienda, Lower

Hacienda and Deep Gulch areas at Hacienda Furnace Yard for restoration (See Figure 3 – Site Map). The County engaged CH2M Hill to investigate these sites, identify and document calcines deposits and provide restoration alternatives. The product was the Engineer's Report for Hacienda and Deep Gulch Restoration Plan, dated March 2009. The County entered in another contract with CH2M Hill to provide project contract documents for Hacienda and Deep Gulch Remediation Project.

The construction plans call for all visible calcine deposits at Hacienda and Deep Gulch areas to be removed, consolidated and capped at the "San Francisco Open Cut" portion of the Mine Hill area of the Almaden Quicksilver County Park (See Figure 4 – Site Photos). Excavated calcines and associated soils will either be directly transported by truck on the existing Mine Hill Trail to the "San Francisco Open Cut" or stocked-piled temporarily on the previously-remediated, flat grassy areas adjacent to Alamitos Creek and then transported to the "San Francisco Open Cut." The Mine Hill Trail will be closed to public during transportation of the calcines to the consolidation site (CAL/DTSC 2006: *Fact Sheet*; CH2M Hill 2009:1-1/*Engineer's Report*). Appropriate signs will be placed at trailheads and trail junctions warning the public of construction vehicles and informing the public of the project status. During the Mine Hill Trail closure, park visitors will be directed to use the Deep Gulch Trail. Three stretches of Alamitos Creek and one section of Deep Gulch will be temporarily diverted to facilitate construction access across these drainages to remove the calcines in the creek banks or creek proper. Creek diversions will be accomplished by using temporary check dams, piping, pumps, culverts and earthen fill (CH2M Hill 2009a: 6-2, 6-7, Table 4-1/*Engineer's Report*).

2.5 Calcine Remediation Locations and Quantities

Calcines were delineated at discontinuous sub-areas through the project site (See Figure 5 – Mapped Calcine Deposits). These sub-areas include (CH2M Hill, 2010):

The ***Upper Hacienda/Upper Furnace Yard*** area involves an area on a steep slope that has exposed soil with minimal non-native grass cover due to dense trees and to native soil and rock formations at the site. The calcine deposits extend approximately ~~150~~ 200 feet along Alamitos Creek from the creek bottom upslope to Alamitos Road and at certain locations calcine material is in the creek bank (APN 58-20-004).

- UH-1/Deposit #1 consists of an estimated 3,150 square foot (SF) area with an estimated average thickness of 18 feet. The calcine deposit is moderately cemented, medium to very coarse calcine gravels and cobbles with minor fines; with minor soil cover and largely exposed.
- UH-2/Deposit #2 consists of an estimated 2,250 SF area with an estimated average thickness of 8 feet. The calcine deposit is moderately cemented, medium to very coarse calcine gravel with minor fines; with minor soil cover and largely exposed.
- UF-1 consists of an estimated 1,050 SF area with an estimated maximum thickness of 4 feet. The calcine deposit is moderately cemented, medium to very coarse calcine gravel located at the base of the canyon slope.

The ***Lower Hacienda*** area involves an area on a steep slope between Alamitos Creek and Alamitos Road downstream of the Upper Hacienda area and also extends approximately 150 feet along the slope ~~of Alamitos Road Alamitos Creek~~ (APN 58-20-004).

- LH-1/Deposit #1 consists of an estimated 6,000 SF with an estimated average thickness of 5.5 feet. The calcine deposit is moderately to weakly cemented, fine to coarse calcine gravel with trace to 30% fines; with moderate soil and grass in places.

- LH-2/Deposit #2 consists of an estimated 750 SF with an assumed estimated average thickness of 2 feet. The calcine deposit is weakly cemented, fine to medium calcine gravel with trace to 30% fines; with an approximately 1-foot soil cover.

The ***Alamitos Creek and Alamitos Creek Bridge*** areas involve removal of calcine deposits along localized areas of Alamitos Creek and below the Alamitos Road Bridge. The sites include:

- AC-1/Deposit #1: The Engineer's Report identified this area consists of an estimated 170 SF with an assumed estimated average thickness of 0.5 feet. However, upon further investigation during the preliminary design revealed that no visible calcines deposits exist in the area. This area will not be remediated.
- AC-2/Deposit #2 consists of an estimated 600 SF with an assumed estimated average thickness of 3 feet. ~~The calcine deposit is moderately to well-cemented, fine to medium calcine gravel with trace to 40% fines.~~ Thick soil and vegetation cover the deposit. The outcrop extends approximately 150 feet along the creek embankment from 1 to 3 feet above the active creek channel.
- ACB-1/Deposit #1, located under the Alamitos Road Bridge, consists of an estimated 370 SF with an assumed estimated average thickness of 3 feet. The calcine deposit is within the fluvial sediment ~~and contains an estimated 40% calcine 1-2 inch gravel fragments in a reddish sandy matrix~~.
- ACB-2/Deposit #2, on the opposite bank from ACB-1 under the bridge, consists of an estimated 370 SF with an assumed estimated average thickness of 3 feet. The calcine material is present within the fluvial sediment matrix.

The ***Deep Gulch*** area involves the north bank of the Deep Gulch drainage beginning about 40' from the Mine Hill trail gate and extending approximately 300 feet to the remains of an abandoned retort.

- DG-1/Deposit #1 consists of an estimated 950 SF with an estimated average thickness of 3 feet. The creek bank is formed of unconsolidated calcines and soil material deposit with fine to medium gravel ~~with trace to 30% fines~~ with minor soil cover.
- DG-1 adjacent area consists of an estimated 4475 SF with an estimated average thickness of 6 feet. This slope area is characterized by mixed calcines and colluvial materials.
- DG-2/Deposit #2 consists of an estimated 450 SF with an estimated average thickness of 3 feet. This creek bank is formed of unconsolidated calcines and soil material deposit with fine to medium calcine gravel ~~with trace to 30% fines~~; with minor soil cover.
- DG-2 adjacent area consists of an estimated 1915 SF with an estimated average thickness of six feet. This slope area is characterized by mixed calcines and colluvial materials.
- The Retort Area consists of an estimated 1055 SF with an estimated average thickness of 3 feet.

Together, these deposits contain an estimated 5,800 cubic yards of calcine material. A construction contingency of 50% has been applied to this volume of material due to the challenging site conditions for accurately assessing these mining deposits. This environmental assessment assumes approximately 9,000 cubic yards of calcine material plus associated soils will be removed from the project site and consolidated and capped at the ~~"~~San Francisco Open Cut" consolidation area at Mine Hill in AQS County Park.

2.6 Disturbance to Previous Hacienda Furnace Yard Remediation Site

Four areas in the Hacienda Furnace Yard area were remediated previously and some calcines were capped on site. These capped areas are inspected each year to ensure they are intact and calcines are

not exposed. The current project will disturb one of these previous remediation areas. The impacted site is located between Alamitos Road and Alamitos Creek (AC-2). Additional material from this former remediation site will be excavated and consolidated at the ―San Francisco Open Cut" at Mine Hill. This material will be removed to provide access to and create stabile slopes above the AC-2 deposit. The exposed portion of this remediation area will be recapped with no less than two feet of clean fill.

2.7 Tree Removals and Brushing

Construction access and calcine removal will result in the loss of at most 75 trees with diameters greater than 6 inches in the foothill oak and foothill riparian woodlands. Twenty-three of these removals are coast live oak (*Quercus agrifolia*) and valley oak (*Quercus lobata*) trees. At a minimum 50 of these trees will be removed to access and excavate the calcine. It is possible that as many as 25 trees may not need to be removed, based on the extent of the calcine deposits and the location of the tree root systems, but this will not be known until conditions are revealed in the field during construction. As a result, this analysis includes all 75 trees that have the potential to be impacted by the project. Several additional trees in the Upper Hacienda and Alamitos Creek areas will need to be pruned to clear a path for construction equipment, but do not need to be impacted beyond the removal of lower limbs. The areas within the footprint of the calcine removal areas will also be brushed to eliminate the understory for construction access.

2.8 Calcine Consolidation and Capping

The excavated calcine materials will be trucked to the ―San Francisco Open Cut" consolidation site at Mine Hill in AQS County Park. The calcine material will be placed on top of other previously removed calcine materials and capped with a minimum of two feet of clean cover.

2.9 Finished Grading After Calcine Removal

The primary goal of this Project is to remove visible calcines and then regrade calcine removal areas to natural and stable slopes. For most areas, it is assumed that calcines are on the surface of the natural slope and that once calcines are removed the natural slope will be exposed~~, regraded,~~ and then revegetated. However, if calcines are found to exist below the natural slope, deeper excavation and ~~two (2') minimum~~ cover with a minimum two feet of clean or native soil to ensure calcines are not visible will be undertaken. Areas will then be regraded to a natural contour and slope, and revegetated with native trees, understory plants and ground cover species. Thus, immediately after the Project is completed, the calcine removal areas should appear as natural creek banks and hillside slopes.

At Alamitos Creek (AC-2) the steep banks near the water's edge will be removed and regraded to a minimum 2:1 slope allowing calcine removal and providing a more natural slope for riparian and oak woodland revegetation. If all calcine within the creek bank is able to be successfully removed then large boulders and rootwads from trees removed for the Project may be installed to protect the toe of the newly formed slope at this location. If some calcine is ~~was found to be~~ too deep to be fully removed then it will be capped in place and protected with a riprap wall. At Deep Gulch, more natural landforms will be created by recontouring the slopes and placing rootwads/logs and other bioengineering features that provide stability using natural materials.

At some locations, unstable slopes will require additional erosion protection and slope protection measures. In particular, the slope at Upper Hacienda (UH-1) is very steep. Alamitos Road, just upstream of the calcine deposit failed in 2008 and was rebuilt with a tie-back type of retaining wall. Removal of calcines deposits at this area should be done carefully without significant disturbance of

native slopes. An erosion protection/ cut-off wall with riprap wall will be required where the slope meets Alamitos Creek at ordinary high water (OHW). This wall will be essential for ~~giving~~ providing ~~the slope~~ adequate slope stability and to prevent the creek from ~~eroding~~ under-cutting the slope and causing future undermining of ~~Alamitos Road~~ the road. ~~Riprap will also be needed where a drainage pipe delivers runoff to the creek between Upper Hacienda 1 and 2. This riprap is also needed to dissipate energy and prevent soil erosion from occurring in the drainage.~~ Appropriate size riprap for energy dissipation and erosion protection will be also needed at the 24" diameter drainage pipe outlet draining Alamitos Road between Upper Hacienda 1 and 2.

An important objective at each calcine remediation site is to create final landforms and soil conditions that are as conducive as possible, within the constraints of the remediation, to restoring the native plant communities that will be disturbed by this calcine removal project.

2.10 Habitat Restoration

As part of the remediation project, impacted oak woodland, riparian communities and wetland/aquatic habitats will be revegetated to restore habitat and protect water quality. Approximately 19,000 SF of oak woodland and 32,000 SF of riparian community will be damaged or degraded by calcine removal and construction access. Up to 75 trees, 47 of which are 12 inches or greater in diameter, will be removed and a wide range of nesting birds of prey, other birds, and other species such as woodrats will temporarily lose their habitat. In particular, the Upper Hacienda and Alamitos Creek sites are moderately or heavily treed and vegetated will be nearly denuded. As part of the Project, appropriate tree species will be replanted and disturbed areas will be revegetated with locally collected and contract grown native understory and ground cover species (See Biological Resources Section) to meet County and agency requirements and to ensure high quality habitat is restored for the many sensitive and listed species that rely on these habitats.

The sensitive stream/aquatic habitat will require protection from potential construction impacts, such as migration of stockpiled material into the creek. A range of measures will be required to ensure that water diversions and creek crossings do not permanently damage the stream habitat and do not result in harm to steelhead trout, California red-legged frogs or western pond turtles, all protected species with the potential to occur in Alamitos Creek.

2.11 Construction Access, Staging and Temporary Trail Closures and Rerouting

The calcine deposits will be accessed via Alamitos Road and the Mine Hill Trail. Two construction staging areas will be established for storage of equipment and temporary stockpiling of calcines. One staging area will be established on each side of the creek near the work areas. The staging areas are both located on former remediation sites and were selected for proximity to the work areas and absence of mature vegetation (See Figure 6 – Site Access and Temporary Culver Placements). These staging areas will allow the County and the contractor to best determine the most efficient way of hauling the excavated calcine deposits to the ~~–S~~San Francisco Open Cut" consolidation area.

Trucks will either make a) round-trips traveling on Alamitos Road and the Mine Hill Trail to reach the consolidation area or b) loop trips carrying full loads along Alamitos Road and the Mine Hill Trail and returning to the project site with empty trucks via Wood Road, Hicks Road and Alamitos Road. These two haul routes are provided as options to the County and contractor (See Figure 7 – Construction Haul Routes) to maximize job efficiency. These two haul routes have been used in the previous remediation efforts in the area including the 1998-2000 Hacienda Furnace Yard Remediation and the 2009 Jacques Gulch Remediation.

The Mine Hill Trail will be closed to the public during transportation of the calcines to the consolidation site (CAL/DTSC 2006: *Fact Sheet*; CH2M Hill 2009:1-1/*Engineer's Report*). During the temporary Mine Hill Trail closures, equestrians and hikers will be directed to use the Deep Gulch Trail as an alternative recreation route. Mountain bicyclists will be directed to other park entrances. Appropriate signs will be placed at trailheads and trail junctions warning the public of construction vehicles and providing information on the project status.

2.12 Temporary Dewatering and Crossings of Alamitos Creek

Several of the calcine deposits are located on the banks of Alamitos Creek. In order to access these deposits three temporary creek crossings are proposed on Alamitos Creek and one is proposed in Deep Gulch. These crossings will be located at Upper Hacienda (UH-1 and UH-2)/Upper Furnace Yard (UF), Alamitos Creek (AC-2), Alamitos Creek Bridge (ACB-1 and ACB-2) and Deep Gulch (DG-1) (See Figure 6 – Site Access Routes and Temporary Culvert Placements). At a minimum, these crossings would consist of check dams, culverts and temporary clean gravel ~~earthen~~ fill to channel stream flows into a culverted crossings. Fabric would be laid on the creek bottom prior to placement of the clean gravel ~~earthen~~ fill to facilitate removal of the material after the completion of construction.

In two locations, Upper Hacienda (UH-1 and UH-2)/Upper Furnace Yard (UF) and Alamitos Creek (AC-2), the calcine deposits extend ~~between 150-250~~ approximately 200 feet along the creek. In these areas, ~~it is probable that~~ the contractor will need to construct a check dam ~~to pump~~ and divert all flow through piping to fully dewater the stream to ~~and~~ facilitate removal of the calcines and to protect creek water quality. The construction access crossings at Deep Gulch and Alamitos Creek Bridge would each temporarily impact approximately 75 feet of channel and the diversions at Upper Hacienda (UH-1 and UH-2) and Alamitos Creek (AC-2), that would include the crossings, would each temporarily impact approximately ~~300~~ 400 feet of channel (See Figure 6 – Site Access and Temporary Culvert Placements). The total combined temporary dewatering impacts from the three locations along Alamitos Creek would not exceed 675 feet.

A ~~low flow~~ natural spring is located in the creek bed immediately upstream and beneath the Alamitos Creek Bridge. The spring will not be subject to any temporary overcovering or dewatering. This document analyzes this worst-case construction access and dewatering scenario to provide the County and its contractor with the greatest range of possible construction solutions in these difficult to reach areas that are constrained by the steep slopes, mature vegetation and Alamitos Creek.

2.13 Probable Construction Phasing

The Hacienda and Deep Gulch Remediation Project is proposed to occur in two phases. The project will begin with tree removal and brushing in the winter between November 1 and January 31. This first phase will be undertaken outside of the breeding bird season to facilitate construction the following summer. Calcine removal, grading, any additional tree removal and revegetation will occur the following summer during the permitted in stream work window which typically begins April 15 and runs through October 15. A certified arborist will be on site to supervise tree pruning, removal and protection. Revegetation planting will extend into the fall and early winter to ensure the highest potential for planting success during the cooler, rainy season. Construction will typically occur on weekdays.

Section 3: Environmental Setting

3.1 Physical and Biological Environment

Alamitos Creek flows through the Project area, eventually flowing into the Guadalupe River, which flows north into southern San Francisco Bay. The Almaden Reservoir is upstream a few miles from the Hacienda Furnace Yard on Alamitos Creek. "Alamitos Creek is a perennial stream with summertime flows maintained by releases from the Almaden Reservoir (SCVWD, 2003). In the Hacienda Furnace Yard Area, the Alamitos Creek stream gradient is relatively medium characterized by pool-riffle morphology. The Deep Gulch Drainage is tributary to Alamitos Creek and in the project area is dry or nearly so during the summer months. This drainage is characterized by step-pool stream morphology" (CH2M Hill, 2009).

The Engineer's Report (CH2M Hill, 2009) and the H.T. Harvey Mitigation and Monitoring Plan (2009) state that the soils in the project area are classified as Los Gatos and Maymen series, "which are gravelly loams to a rocky fine sandy loam that are relatively shallow (14 to 35 inches average thickness) (USDA, 1968). The bedrock geology in the project area is complex consisting of marine sedimentary, igneous and metamorphic rocks of the Franciscan Complex (USGS, McLaughlin and others, 2001). These formations are prone to landslides and erosion and can contribute large amounts of sediment to waterways (SCVWD, 2003)" (CH2M Hill, 2009). Mercury is a naturally occurring element in the local rocks and occurs as cinnabar in soil and rocks at the surface and below ground. "Mining activities in the Furnace Yard area resulted in processing waste materials (calcines) from which mercury was removed, but residual mercury remains. These calcine materials tend to be gravel to cobble-sized, cemented deposits on slopes adjacent to Alamitos Creek and Deep Gulch" (CH2M Hill, 2009). The terrain in the area includes almost vertical drops from the road edge or other benches to Alamitos Creek as well as terrace areas as shallow as 6H:1V (CH2M Hill, 2009). The Engineer's Report (CH2M Hill, 2009) notes that, while of apparent historic significance, "the retort bricks and other materials may contain mercury at concentrations of concern."

The Final Almaden Quicksilver Restoration Plan and Environmental Assessment (2008) notes, "foothill woodland species are the dominant vegetation in Almaden Quicksilver Park and surrounding areas". H.T. Harvey (2009) lists 3 primary vegetation types in the Project area:

- Foothill oak woodland, along Alamitos Creek and Deep Gulch, is dominated by coast live oaks (*Quercus agrifolia*), valley oak (*Quercus lobata*), California bay laurel (*Umbellularia californica*) and California buckeye (*Aesculus californica*).

- Predominant species in foothill riparian woodland, which lines Alamitos Creek and Deep Gulch, are coast live oaks (*Quercus agrifolia*), valley oak (*Quercus lobata*), California bay laurel (*Umbellularia californica*), and California sycamore (*Platanus racemosa*), willows (*Salix spp*.), box elder (*Acer negundo*) and big-leaf maple (*Acer macrophyllum*).

- Chaparral on the hillsides in drier areas are dominated by chamise (*Adenostoma fasciulatum*), buckbrush (*Ceanothus cuneatus*), California sagebrush (*Artemesia californica*), and California buckwheat (*Eriogonum fasciculatum*).

Other habitats include the in-stream/aquatic habitat of Alamitos Creek and wetlands within the riparian corridors of the Deep Gulch drainage and Alamitos Creek, as well as non-native grasslands in disturbed areas scattered throughout the Project area.

One special status plant species, the Loma Prieta hoita (*Hoita strobolina*), was found at Jacques Gulch, a few miles up the watershed from the Hacienda/Deep Gulch site (Santa Clara Valley Water District, 2008). While this plant is not mentioned in the H.T. Harvey (2009) Habitat Restoration and Monitoring Plan or the RP/EA, conditions for its survival exist on the Project site.

A number of animal species are found or could be found in the Project area. Special status species include the California red-legged frog (*Rana aurora*) and California steelhead (*Onchorynchus mykiss*), federally listed species, which are both found in the Guadalupe River watershed. Bald eagles (*Haliaeetus leucocephalus*), California endangered and federally protected, are known to winter on nearby by reservoirs. Nests of the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a state species of special concern, have been found in the Deep Gulch riparian zones. The Jacques Gulch Mitigated Negative Declaration (Santa Clara Valley Water District, 2008) also notes that California tiger salamanders (*Ambystoma californiense*), a federally-listed threatened species, and yellow-legged frog (*Rana boylii*), western pond turtles (*Clemmys marmorata*), and a number of bat species all have the potential to occur in the watershed.

Hacienda and Deep Gulch Remediation Project
Almaden Quicksilver County Park

Final Initial Study/
Mitigated Negative Declaration
September 14, 2010

SCH# 2010072049

County of Santa Clara
Parks and Recreation Department
Los Gatos, CA

Prepared by
Sokale Environmental Planning
Newark, CA

Lynne Trulio, Wetlands & Wildlife Ecologist
Basin Research Associates
Cotton Shires and Associates
TRA Environmental

INITIAL STUDY

Environmental Evaluation Checklist for County of Santa Clara

Project Title: Hacienda and Deep Gulch Remediation Project **Date:** July 13, 2010

File Number: None **APN(s): 583-20-004 and 583-23-019**

500" Map #: 169 **Zoning:** _H1' Historic Preservation Zoning District

General Plan Designation: Regional Park

Project Type: Mercury Remediation and Restoration **USA (if any):** None

Lead Agency Name & Address: County of Santa Clara, Parks and Recreation Department
298 Garden Hill Drive, Los Gatos, CA 95032-7669

Applicant Name & Address: County of Santa Clara, Parks and Recreation Department
298 Garden Hill Drive, Los Gatos, CA 95032-7669

Owner Name & Address: County of Santa Clara, Parks and Recreation Department
298 Garden Hill Drive, Los Gatos, CA 95032-7669

Contact Person and Phone Number: Mohamed Assaf, Senior Facilities Engineer
408-355-2200

Project Location (address or description): Almaden Quicksilver County Park
21785 Almaden Road, San Jose, CA 95196

Project Description (attach additional sheets if necessary): The project includes the removal of remnant mining waste material, grading to create stable creek banks at Alamitos Creek and Deep Gulch areas, stabilizing and hydroseeding all disturbed areas, and revegetation of the creek banks along Alamitos Creek and Deep Gulch within Almaden Quicksilver County Park in Santa Clara County, CA.

Environmental Setting / Surrounding Land Uses: The proposed project site is within Almaden Quicksilver County Park. The historic community of New Almaden is slightly downstream of the Hacienda park entrance.

Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement): Permits, agreements and consultations will be required from U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration - National Marine Fisheries Service, California Regional Water Quality Control Board - San Francisco Bay Region, California Department of Fish and Game, California Department of Toxic Substance Control and County of Santa Clara.

The environmental factors checked below would be potentially affected by this project, involving at least one impact as indicated by the checklist on the following pages.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

■ **Aesthetics**	■ **Agriculture and Forestry Resources**	■ **Air Quality**
■ **Biological Resources**	■ **Cultural/ Historical/ Archaeological Resources**	☐ **Energy**
■ **Geology / Soils**	☐ **Greenhouse Gas Emissions**	■ **Hazards & Hazardous Materials**
■ **Hydrology / Water Quality**	■ **Land Use & Planning**	☐ **Mineral Resources**
■ **Noise**	☐ **Population / Housing**	☐ **Public Services/ Utilities**
☐ **Recreation**	■ **Transportation / Traffic**	■ **Mandatory Findings of Significance**

Section 4: Environmental Checklist and Discussion of Impacts

A. AESTHETICS

	IMPACT					
WOULD THE PROJECT:	**NO**	**YES**				**SOURCE**
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. If subject to ASA, be generally in non-compliance with the Guidelines for Architecture and Site Approval?	■	☐	☐	☐	☐	35,36
2. Create an aesthetically offensive site open to public view?	☐	☐	■	☐	☐	2,3,37
3. Substantially damage scenic resources, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	■	☐	☐	☐	☐	2,3,4,7,10f ,37
4. Obstruct scenic views from existing residential areas, public lands, public water body or roads?	■	☐	☐	☐	☐	2,3
5. Be located on or near a ridgeline visible from the valley floor?	■	☐	☐	☐	☐	2,10f,11c, 37
6. Adversely affect the architectural appearance of an established neighborhood?	■	☐	☐	☐	☐	2,3
7. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	■	☐	☐	☐	☐	1,3

DISCUSSION

AQS County Park is on the National Register of Historic Places and within the County of Santa Clara Historic Preservation Zoning District. This special zoning district is used to protect and conserve sites and areas that are of special character, architectural value, or aesthetic interest, if such areas contain at least one registered historic place or resource.

IMPACTS AND MITIGATION

1) If subject to ASA, be generally in non-compliance with the Guidelines for Architecture and Site Approval?

This project is a remediation of mining waste material in accordance with the Consent Decree between the Trustees and the County of Santa Clara. Architecture and Site Approvals are required when altering buildings or signs or changing the use of a facility in a historic preservation zoning district. This project will not result in any of these actions. No impact.

2) Create an aesthetically offensive site open to public view?

The project area is visible from Alamitos Road, a County designated scenic road, and from the trails within AQS County Park. Access and excavation of the calcine deposits would remove approximately 75 trees along Alamitos Creek and Deep Gulch, some of which are very large (See Table 5 – Tree Loss By Species). Several mature oak trees that line the Mine Hill Trail adjacent to Deep Gulch will be removed. These are the most visible of the planned tree removals. Removing these trees will disrupt the natural character of the views and potentially degrade the aesthetic quality of this area as observed from this road and the park trails.

These impacts would be mitigated by replanting trees and ultimately trees will again occur in areas where they are removed. All tree removals will be mitigated through the replanting of native tree species (See Mitigation Measures **BIO-8** and **BIO-9**). The restoration of the old mining deposit sites would enhance views of the area in the long term. Impacts that would occur during construction would be adverse, but would be less than significant with Mitigation Measures **BIO-8** and **BIO-9**. Less than significant with mitigation incorporated.

3) Substantially damage scenic resources, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Alamitos Road is considered a County of Santa Clara Scenic Road, but it not a state scenic highway (§ 3.30.050. Scenic Roads Inventory). Thus, the project would not substantially damage a scenic resource within a state scenic highway. No impact.

4) Obstruct scenic views from existing residential areas, public lands, public water body or roads?

The project will not obstruct views in any manner. No impact.

5) Be located on or near a ridgeline visible from the valley floor?

The project is not located on a ridgeline. No impact.

6) Adversely affect the architectural appearance of an established neighborhood?

The project includes earth moving and habitat restoration within a County Park. No structures are included within the construction limits (See Figure 3 – Site Map). No impact.

7) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The project would not create any new sources of light or glare which would adversely affect day- or nighttime views in the area. No impact.

B. 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 Dept. 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:	IMPACT					SOURCE
	NO	YES				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
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?	■	☐	☐	☐	☐	3,20, 21, 23,24,26
2. Conflict with existing zoning for agricultural use?	■	☐	☐	☐	☐	9,21
3. Conflict with an existing Williamson Act Contract or the County's Williamson Act Ordinance?	■	☐	☐	☐	☐	1, 49
4. 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?	■	☐	☐	☐	☐	3,4,26
5. 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 definite by Government Code section 51104(g)?	■	☐	☐	☐	☐	5, 33
6. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	■	☐	☐	33

IMPACTS AND MITIGATIONS

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?

2) Conflict with existing zoning for agricultural use?
3) Conflict with an existing Williamson Act Contract or the County's Williamson Act Ordinance?

There is no agricultural or farmland in the project area. Thus, there are no Williamson Act contracts and no agricultural or farmland will be converted from those uses. No impact.

4) 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?

No agricultural or farmlands exist in the project area to be converted to another use. However, over half of the project area is forested. Foothill oak woodland, in the Deep Gulch area and along Alamitos Creek, is dominated by coast live oaks (*Quercus agrifolia*), valley oak (*Quercus lobata*), California bay laurel (*Umbellularia californica*) and California buckeye (*Aesculus californica*). Foothill riparian woodland lines Alamitos Creek and Deep Gulch. Dominant tree and shrub species include coast live oaks (*Quercus agrifolia*), valley oak (*Quercus lobata*), California bay laurel (*Umbellularia californica*), and California sycamore (*Platanus racemosa*), willows (*Salix spp*.), box elder *(Acer negundo*) and big-leaf maple (*Acer macrophyllum*). While up to 75 trees will be removed for the project the current forest lands not be converted to a non-forest use. Native foothill oak and riparian forest plants will either naturally recolonize or be replanted. No impact.

5) 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 definite by Government Code section 51104(g)?

The project does not conflict with existing zoning nor will any rezoning of any type occur. No impact.

6) Result in the loss of forest land or conversion of forest land to non-forest use?

The project will require removing up to 75 trees, including 47 trees with diameters 12 inches or larger; approximately 51,000 SF (~0.75 acres) of foothill oak and riparian woodland will be impacted by calcine removal and construction access. These impacts could be construed as a loss of forest land. Tree and vegetation loss will be mitigated as described in measures **BIO-8** and **BIO-9** in the Biological Resources section, resulting in functional replacement of habitat in the near future for woodland understory and ground cover plants and in the longer term for trees. In general, mitigation areas will be equal in size to the area impacted and will be revegetated with native woodland species; trees will be replanted on a 3:1 ratio, including oak species. This impact is less than significant with mitigations incorporated. As noted above, forest lands will not be converted to a non-forest use.

C. AIR QUALITY
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

WOULD THE PROJECT:	IMPACT					SOURCE
	NO	YES				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Conflict with or obstruct implementation of the applicable air quality plan?	■	☐	☐	☐	☐	5,34
2. Violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation?	☐	☐	■	☐	☐	2,3,4
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)?	☐	■	☐	☐	☐	5,29
4. Expose sensitive receptors to substantial pollutant concentrations?	☐	■	☐	☐	☐	
5. Create objectionable dust or odors affecting a substantial number of people?	☐	■	☐	☐	☐	
6. Alter air movement, moisture, or temperature, or cause any change in climate?	■	☐	☐	☐	☐	

DISCUSSION

Criteria Pollutants

Air quality is determined by measuring ambient concentrations of six criteria pollutants, which are air pollutants for which acceptable levels of exposure can be determined and for which standards have been set. The degree of air quality degradation is then compared to the current National and California Ambient Air Quality Standards (NAAQS and CAAQS). Historic differences of opinion by medical panels established by the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (U.S. EPA) cause considerable diversity between State and Federal standards in California. In general, the CAAQS are more stringent than the corresponding NAAQS. The air quality standards currently in effect in California are shown in Table 2 – Ambient Air Quality Standards.

Attainment Status and Air Quality Plans

The U.S. EPA, CARB, and the local air district classify an area as attainment, unclassified, or nonattainment, depending on whether or not the monitored ambient air quality data show compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively.

The project site is located within the County of Santa Clara under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). This portion of the Bay Area is downwind of many urban sources of pollution in San Jose and further upwind in San Francisco, San Mateo, and Alameda Counties. Applying the

State standards the project area is in nonattainment for ozone (1-hour), PM_{10} and $PM_{2.5}$. The area is in attainment for carbon monoxide (CO), nitrogen dioxide (NO_2) and sulfur dioxide (SO_2).

Table 2 – Ambient Air Quality Standards

Ambient Air Quality Standards				
Pollutant	**Averaging Time**	**California Standards**	**National Standards**	
			Primary	**Secondary**
Ozone	8-hour	0.07 ppm	0.08 ppm	---
	1-hour	0.09 ppm	---	Same as primary
Carbon Monoxide	8-hour	9 ppm	9 ppm	---
	1-hour	20 ppm	35 ppm	---
Nitrogen Dioxide	Annual	0.03 ppm	0.053 ppm	Same as primary
	1-hour	0.18 ppm	0.030 ppm	---
Sulfur Dioxide	Annual	---	0.03 ppm	---
	24-hour	0.04 ppm	0.14 ppm	---
	3-hour	---	---	0.5 ppm
	1-hour	0.25 ppm	---	---
PM_{10}	Annual	20 μg/m	---	Same as primary
	24-hour	12 μg/m	150 μg/m	Same as primary
$PM_{2.5}$	Annual	12 μg/m	15 μg/m	---
	24-hour	---	35 μg/m	---
Lead	Calendar quarter	---	1.5 μg/m	Same as primary
	30 day average	1.5 μg/m	---	---

Rules and Regulations
The responsibility for developing regional air quality plans within the project area lies with the Bay Area Air Quality Management District **(**BAAQMD). BAAQMD exercises permit authority through its Rules and Regulations by requiring that new stationary sources secure a permit to construct and a permit to operate through the New Source Review (NSR) program (Regulation 2, Rule 2). This ensures that such sources would not interfere with progress in attaining State and national ambient air quality standards. Mobile and portable sources and temporary activities that cause emissions of air contaminants are managed through a range of State and federal programs mentioned below.

• U.S. EPA/CARB Off-Road Mobile Sources Emission Reduction Program. The California Clean Air Act mandates CARB achieve the maximum degree of emission reductions from all off-road mobile sources in order to attain the state ambient air quality standards. Off-road mobile sources include construction equipment. Tier 1 standards for large compression-ignition engines used in off-road mobile sources went into effect in California in 1996.

• CARB Portable Equipment Registration Program. This program allows owners or operators of portable engines and associated equipment commonly used for construction or farming to register their units under a statewide portable program to operate their equipment throughout California without having to obtain individual permits from local air districts.

• BAAQMD Regulation 2 Rule 1 – General Requirements. This regulation prohibits any source from causing a public nuisance and defines what equipment is subject to permitting/new source review requirements and exempts portable stationary equipment (e.g., generators or soil screeners) from permitting if they comply with all applicable requirements of the Statewide Portable Equipment Registration Program.

Other general rules such as Regulation 6 – Particulate Matter and Visible Emissions (for dust control) would also apply to all project activities.

The CEQA Guidelines also recommend that the criteria established by the local air district should be relied upon to make determinations of significance. The BAAQMD recommends controlling dust (PM_{10}) during construction to minimize nuisance conditions and avoid violations of the ambient air quality standards. The BAAQMD recommends that a standard set of feasible dust control measures be implemented for all construction activities. Emissions of other contaminants (NOx, VOC, CO, SO2, and diesel-related PM_{10}) that would occur in the exhaust from heavy equipment are included in the regionwide inventory that is the basis for regional attainment and are not expected to impede attainment of maintenance of the ambient air quality standards. The BAAQMD does not recommend quantification of construction-related emissions but rather recommends implementation of specific measures that can reduce the potential impacts to a level that would be considered less than significant (BAAQMD, 2010).

IMPACTS AND MITIGATION

1) Conflict with or obstruct implementation of the applicable air quality plan?

The project would not lead to population or job growth such a housing or commercial development, and would not cause an increase in long-term employment since construction would be temporary. Therefore, the proposed project would not impact or obstruct the implementation of the applicable air quality plans. No impact.

2) Violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation?

The project would involve earthmoving and construction-type activities including the removal of calcine, land grading, contouring, restoration of slopes and revegetation of stream banks. Construction activities would require the use of equipment. Construction would be temporary, lasting approximately 6 months. This activity would not occur near land uses that would be considered sensitive to air quality impacts (residences, schools, children‘s day care centers, hospitals, and convalescent homes where population groups may have increased susceptibility to respiratory distress).

Project activities would generate emissions at the work sites and along the haul routes. The impacts would principally consist of exhaust emissions from heavy-duty diesel and gasoline powered construction equipment (e.g., ozone precursors, NOx and VOC, other criteria pollutants, such as CO and PM10, and toxic exhaust emissions) and fugitive particulate matter (dust) from earthmoving activities and travel on unpaved surfaces. Beyond the project area, exhaust emissions would also be caused by workers commuting to and from the work sites and from trucks hauling equipment and supplies to the work sites. This impact is less than significant with mitigations incorporated to meet BAAQMD recommendations as follows.

AIR-1 Measures:
Implement the following BAAQMD BMPs to reduce this impact to a less than significant level.
• Bay Area Air Quality Management District Basic Dust Control Measures (all construction sites)
• Bay Area Air Quality Management District Enhanced Dust Control Measures (sites greater > 4 acres in size)
• Bay Area Air Quality Management District Optional Dust Control Measures

Implementation: County Parks staff to include BMPs in construction documents and contractor to implement measures on site
Timing: During design and construction
Monitoring: County Parks Inspector to inspect contractor work for compliance with dust control measures

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)?

Construction activities, including heavy truck traffic and worker vehicle traffic, would cause emissions during the limited duration of work. Upon completion of construction of the project, project-related emissions would cease. Because emissions would be temporary, they would not result in a cumulatively considerable net increase that could impede attainment or maintenance of the ambient air quality standards. Less than significant impact.

4) Expose sensitive receptors to substantial pollutant concentrations?

The proposed project site is located in regional park. Construction activities would not occur near land uses that would be considered sensitive to air quality impacts (residences, schools, children‘s day care centers, hospitals, and convalescent homes where population groups may have increased susceptibility to respiratory distress). Construction impacts are most significant adjacent to the construction area and the impacts decrease rapidly with distance. While the pollutant concentrations from the project activities may be notable, the distance to the nearest sensitive receptors is such that their impacts would be less than significant.

5) Create objectionable dust or odors affecting a substantial number of people?

The proposed project area is located in a regional park, away from residential, commercial, or other land uses with large numbers of users. Normally occurring odors from diesel equipment operation would not have the potential to affect a substantial number of people, and the proposed project‘s activities would have less than significant odor impacts. Less than significant impact.

6) Alter air movement, moisture, or temperature, or cause any change in climate?

The project will slightly alter the existing topography and tree cover in an effort to restore the creek corridor and valley to a more natural state. This project will temporarily effect air movement, soil moisture and ground temperature over the project site, but this area is too small to have an impact on climate. No impact.

D. BIOLOGICAL RESOURCES						
	IMPACT					SOURCE
WOULD THE PROJECT:	NO	YES				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
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?	☐	☐	■	☐	☐	1, 7, 1, 17
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	■	☐	☐	3,7, 8a, 17 33
3. 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.) or tributary to an already impaired water body, as defined by section 303(d) of the Clean Water Act through direct removal, filling, hydrological interruption, or other means?	☐	☐	■	☐	☐	3, 7, 17, 32
4. Have a substantial adverse effect on oak woodland habitat as defined by Oak Woodlands Conservation Law (conversion/loss of oak woodlands) – Public Resource Code 21083.4?	☐	☐	■	☐	☐	1, 3, 30, 31
5. 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?	☐	☐	■	☐	☐	1,7, 17, 17o
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	■	☐	☐	☐	☐	3,4
7. Impact a local natural community, such as a fresh water marsh, oak forest or salt water tide land?	☐	☐	■	☐	☐	1,2,3,10b, 11d,e
8. Impact a watercourse, aquatic, wetland, or riparian area or habitat?	☐	☐	■	☐	☐	2,3,12b,3 9,45, 46
9. Adversely impact unique or heritage trees or a large number of trees over 12" in diameter?	☐	☐	■	☐	☐	1,2,3,25
10. Conflict with any local policies or ordinances protecting biological resources:						
i) Tree Preservation Ordinance?	☐	☐	■	☐	☐	1,3,31, 49
ii) Wetland Habitat?	■	☐	☐	☐	☐	3, 5, 8a
iii) Riparian Habitat?	☐	☐	■	☐	☐	3, 5, 8a,

DISCUSSION

Natural communities in the project area include stream/aquatic, freshwater wetland, foothill riparian woodland, foothill oak woodland, chaparral, and open grassland. Several of these communities as well as species or individuals within these communities are protected by law. Stream and wetland communities are protected by the Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. California Department of Fish and Game (CDFG) Code Section 1602 requires that lead agencies work with CDFG to develop a Stream Alteration Agreement when stream habitats and riparian zones are impacted by a project. Riparian zone protection is also required by the County of Santa Clara General Plan (1994). The Regional Water Quality Control Board (RWQCB) has regulatory authority over wetlands and waterways under both the federal Clean Water Act (CWA) and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the RWQCB has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications (certifications) under Section 401 of the CWA, which are issued in combination with permits issued by the Army Corps of Engineers (ACOE), under Section 404 of the CWA. When the RWCQB issues Section 401 certifications, it simultaneously issues general Waste Discharge Requirements for the project, under the Porter-Cologne Water Quality Control Act. Activities in areas that are outside of the jurisdiction of the ACOE (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high water mark) are regulated by the RWCQB under the authority of the Porter-Cologne Water Quality Control Act. Activities that lie outside of ACOE jurisdiction may require the issuance of either individual or general waste discharge requirements (WDRs) from the Water Board.

The Federal Endangered Species Act (FESA) requires agencies to consult with the Secretary of the Interior through the US Fish and Wildlife Service (USFWS) for terrestrial listed species and NOAA, National Marine Fisheries Service (NMFS), for aquatic listed species to ensure that projects do not jeopardize the continued existence of endangered or threatened species or destroy or adversely modify critical habitats that support such species. California Endangered Species Act (CESA) under the jurisdiction of the CDFG protects state listed and sensitive species.

The US Fish and Wildlife Service (USFWS) protects migratory birds and their nests through the Migratory Bird Treaty Act. State Fish and Game Code protects birds of prey and their nests (CDFG Code 3503.5). Trees with diameters 6 inches or larger are protected under provisions of the New Almaden Historic Conservation Zoning District. Impacts to oaks and woodlands must be mitigated as per Public Resources Code 21083.4.

The project will remove approximately 9,000 CY (estimate includes a 50% contingency) of calcine and associated materials from locations in Deep Gulch and along Alamitos Creek. Grading to remove calcines will impact approximately 35,500 SF and access to the sites will impact an additional 40,500 SF for a total of approximately 76,000 SF. Included in this total is the construction staging and material stockpiling area of approximately 25,000 SF; this will occur in non-native grassland areas that are previous remediation sites. Project activities will impact approximately 52,000 SF of woodlands (19,000 SF of oak woodlands and 32,000 SF of riparian woodlands) as well as approximately 900 SF of wetlands (500 SF associated with temporary grading and 400 SF associated with temporary construction access) located with Alamitos Creek and the Deep Gulch drainage. A maximum of 75 trees with diameters 6" or greater will be removed; 23 of these are oaks (See Table 3 – Summary of Construction Effects). A number of sensitive species occur or have the potential to occur in the project area.

Table 3 - Summary of Construction Effects

Summary of Construction Effects						
Location	**Estimated Grading + Access = Total (~SF)**	**# Trees Removed**	**Trees >12" DBH**	**Freshwater Wetland Area Impacts (~SF)**	**Riparian Vegetation Impacts (~SF)**	**OHW Area Impacts (~LF)**
Deep Gulch 1	4,500 + 2,900= **7,400**	3	2	100 (grading)	3800	50
Deep Gulch 2	2,400 + 700 = **3,100**	0	0	100 (grading)	0	0
Retort Area	**1,500**	0	0	0	0	0
Upper Furnace Yard	8,250 + 23,000 = **31,250**	0	0	300 (access) + 300 (grading)	500	300
Upper Hacienda 1		37	21		9,500	
Upper Hacienda 2						
Lower Hacienda 1	11,750 + 17,000 = **28,750**	7	4		2,700	0
Lower Hacienda 2		1	1	0	5,300	0
Alamitos Ck 2		27	19	100 (access)	10,200	300
Alamitos Creek Bridge 1	1,950 + 2,050 = **4,000**	0	0	0	0	50
Alamitos Creek Bridge 2		0	0	0	0	
TOTALS	**76,000**	**75**	**47**	**900**	**32,000**	**700**

Habitat Types and Common Species

There are six primary habitat types in the Project area:

Foothill oak woodland is dominated by coast live oaks (*Quercus agrifolia*), valley oak (*Quercus lobata*), California bay laurel (*Umbellularia californica*) and California buckeye (*Aesculus californica*); understory species include poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), bush monkeyflower (*Diplacus aurantiacus*), and coffeeberry and other *Rhamnus* spp. Impacts to oak woodlands must be mitigated under Public Resources Section 21083.4.

Foothill riparian woodland, which lines Alamitos Creek and Deep Gulch, is populated by coast live oaks (*Quercus agrifolia*), valley oak (*Quercus lobata*), California bay laurel (*Umbellularia californica*), California sycamore (*Platanus racemosa*), willows (*Salix spp*.), box elder (*Acer negundo*) and big-leaf maple (*Acer macrophyllum*). Riparian habitat is necessary habitat for nesting birds and many listed species. The County of Santa Clara General Plan (1994) requires a riparian set-back from streams of at least 100 feet in disturbed areas and 150 feet in less disturbed areas. The CDFG requires a Riparian Mitigation and Monitoring Plan to be prepared as part of the Streambed Alteration Agreement application under CDFG Code 1602.

Key species in Chaparral habitat on the hillsides in drier areas are chamise (*Adenostoma fasciulatum*), buckbrush (*Ceanothus cuneatus*), California sagebrush (*Artemesia californica*), and California buckwheat (*Eriogonum fasciculatum*).

Non-native grasslands are found in the project area primarily where previous remediation actions took place in the Hacienda Furnace Yard and between Alamitos Creek (AC-2) and Alamitos Road. These grasslands support annual European grasses from Mediterranean areas and native annual wildflowers; few if any native grass species grow in these areas.

Freshwater wetlands are characterized by hydric soils, water at or near the surface for some or all of the year, and wetland-adapted plant species such as sedges (*Carex* spp.), *Juncus* spp., horsetails and water cress. Wetlands are protected by Section 404 of the Clean Water Act.

Stream/Aquatic zones are moving water habitat with little to no emergent vegetation. They provide habitat for aquatic animals from invertebrates to steelhead to various amphibian life forms. This habitat is found year-round in Alamitos Creek and during the rainy season in Deep Gulch. Streams can be protected by the Rivers and Harbors Act, Section 10 and the Clean Water Act, Section 404. CDFG Code 1602 requires a Stream Alteration Agreement for changes to rivers and streams and their riparian zones.

Typical reptiles and amphibians found in some or all of these habitats are Pacific tree frogs (*Hyla regilla*), western rattlesnakes (*Crotalus viridis*), gopher snakes (*Pituophis catenifer*), and southern alligator lizards (*Cerrhonotus multicarinatus*). Common birds include scrub jays (*Aphelocoma coerulenscens*), California quail (*Callipepla californica*), western bluebirds (*Sialia mexicana*), and acorn woodpeckers (*Melanerpes formicivorus*) as well as a diversity of nesting song birds and birds of prey such as red-shouldered hawks (*Buteo lineatus*). Mammals, including as black-tailed deer (*Odocoileus hemionus*), coyotes (*Canis latrans*), and raccoons (*Procyon lotor*), are common, as are a number of mouse (*Reithrodontomys*, *Microtus* and *Peromyscus* spp.) and bat species (*Myotis* and other genera). Special status species that occur or potentially-occur in the project are discussed below and listed in Table 4.

Special Status Plants

No surveys for special status plants were conducted in the planning stage of this project. A search of California Natural Diversity Database (CNDDB) records showed no rare plant species in the project area. Four rare plant species occur within 1 mile of the project area: Mt. Hamilton thistle (*Cirsium fontinale* var. *campylon*), smooth lessingia (*Lessingia micradenia* var. *glabrata*), most beautiful jewel flower (*Streptanthus albidus* ssp. *peramoenus*), and the Santa Clara dudleya (*Dudleya setchellii*). All of these species are predominantly found on serpentine soils and habitats associated with serpentine soils (SCC, 2006a) and are not expected to occur in the project area, which has no serpentine soils or outcrops.

The Loma Prieta hoita (*Hoita strobolina*) was found at Jacques Gulch, a few miles up the watershed from the Hacienda/Deep Gulch site (Santa Clara Valley Water District, 2008); this species is not mentioned in the Habitat Restoration and Monitoring Plan for the Hacienda/Deep Gulch remediation (H.T. Harvey, 2009) or the RP/EA (USFWS and CDFG, 2008). The plant is found —as an understory element of coast live oak forest and woodland, generally in riparian woodland or on shaded slopes, between 100 and 2,000 feet elevation…The species sometimes occurs in chaparral or on serpentine" (California Natural Diversity Database 2006 cited in SCC, 2006b). Since such conditions are found in the Hacienda/Deep Gulch project area, this species could potentially occur on the project site.

Special Status Fish, Amphibians and Reptiles
No surveys for these taxa were conducted during the planning stage of this project. Information on occurring or potentially-occurring fish, amphibians and reptiles was gained from a search of the CNDDB and other literature.

Steelhead (*Oncorhynchus mykiss*). Steelhead, is a salmonid species found along the Pacific coast. NMFS has determined that steelhead using Santa Clara County streams are part of the Central California Coast Evolutionarily Significant Unit (ESU). This ESU is listed as threatened under the Federal Endangered Species Act (FESA) and the Guadalupe River up to the confluence of Guadalupe Creek and Alamitos Creek is designated as critical habitat (NOAA, 2005). Alamitos Creek is listed as occupied by steelhead, but excluded from the critical habitat designation (NOAA, 2005). Although Alamitos Creek is not critical habitat, steelhead in the Creek are protected; harming or harassing steelhead at any point in their life cycle is considered ~~"t~~take" under FESA.

Guadalupe Creek and Alamitos Creek join at Lake Almaden and become the Guadalupe River, where steelhead have been found regularly during at least the last 100 years (Leidy, et al., 2005). Citing Abel (1997), Leidy et al. (2005) note that 21 steelhead were found in a 120 m stretch of Alamitos Creek, just downstream of the McKean Road-Alamitos Creek crossing in July and August 1997. This site is approximately 3 miles downstream from the project site. In a field trip exercise in 2000, Dr. Jerry Smith and his students from San Jose State University collected approximately 24 steelhead smolts in Lake Almaden (Leidy, et al., 2005). The RP/EA states that steelhead have been documented to occur in the area.

Steelhead primary use shaded pools in small, cool, low-flow streams. They may also use warm water habitats below some dams or at pipeline outfalls as foraging areas. Fish spawn in gravelly-stream substrate. Water temperatures in excess of 75ºF are lethal to the fish. Steelhead migrate beginning in October and spawn between January and May. Juveniles may stay in streams for 2 years before heading to sea. Some steelhead are anadromous (going from fresh to salt water and back), but others will be resident trout, residing in streams their entire lives.

California Red-legged Frog (*Rana aurora draytonii*). The RP/EA states that California red-legged frogs have been irregularly documented in the project area. Jacques Gulch assessments concluded that there was potential breeding habitat and adequate dispersal habitat for this species at that site, which is just upstream from Hacienda/Deep Gulch. Habitat requirements for larvae, tadpoles, and metamorphs include streams, deep pools and stream backwaters more than 2 feet deep. Breeding adults typically use still or slow-moving water with dense, shrubby riparian or emergent vegetation. Adult frogs are also found in shallow, non-shaded sections of streams or in upland locations when water is not available (SCC, 2006c).

Foothill Yellow-legged Frog (*Rana boylii*). Research by H.T. Harvey and Associates (1999) indicates the foothill yellow-legged frog is not found below major reservoirs. The species is rare in much of Santa Clara County, but is still fairly abundant in the foothill and mountain ranges of eastern Santa Clara County. Since the project site is below a dam and there are no records of occurrences in the area, it is very unlikely that this species occurs in the project area.

California Tiger Salamander (*Ambystoma californiense).* California tiger salamanders require aquatic breeding sites and upland refuge sites for aestivation (summer hibernation). They are typically found in valley and foothill grasslands and the grassy understory of open woodlands, usually near ponded water such as stock ponds, reservoirs and lakes. Streams are rarely used for reproduction. Adult salamanders spend most of their time underground, typically in California ground squirrel (*Spermophilus beechyii*) burrows. California tiger salamander numbers are limited in many areas by the number of small-mammal burrows available. Since

there are no ponds on site and few ground squirrels in the project area, it is very unlikely that this species is found on site.

Western Pond Turtle (*Clemmys marmorata*). The western pond turtle, a California Species of Special Concern, is found in rivers, streams, lakes, ponds, wetlands, reservoirs, and many other aquatic habitats. This is the only native turtle in northern California. They prefer habitats with large logs, algae, and vegetation for cover and seek boulders or other suitable surfaces as basking sites. Females lay eggs in open grasslands near streams from April to July and hatchings disperse from July through September. Young or adults are likely inhabitants of Alamitos Creek in the project area.

Silvery Legless Lizard (*Anniella pulchra pulchra*). The East Contra Costa County HCP/NCCP, citing many researchers, states that silvery legless lizards ―occur primarily in areas with sandy or loose loamy soils such as under sparse vegetation of beaches, chaparral, or pine-oak woodland; or near sycamores, cottonwoods, or oaks that grow on stream terraces (Gorman 1957, Cunnignham 1959), Banta and Morafka 1968, Stebbins 1985, Jennings and Hayes 1994). The sandy loam soils of stabilized dunes seem to be especially favorable habitat (Grinnell and Camp 1917, Miller 1944, Smith 1946, Bury 1985). The species is often found under or in the close vicinity of logs, rocks, old boards, and the compacted debris of woodrat nests (Jennings and Hayes 1994). Soil moisture is essential for legless lizards to conserve energy at high temperatures; it also allows shedding to occur (Jennings and Hayes 1994)." Some of these conditions--especially oaks and sycamores near streams and woodrat nests--occur in the project area and this species could potentially be present in riparian areas especially near woodrat houses.

California Horned Lizard (*Phrynosoma coronatum frontale*). The California horned lizard, a California Species of Special Concern, can occur in many habitat types, including grassland, oak woodland, and riparian habitats. The presence of this species may be limited by the extent of exposed gravelly-sandy substrate such as clearings in riparian woodlands, or annual grassland with scattered perennial species (BCAG, 2007). According to CDFG, this species was most abundant in lake sand dunes and old alluvial fans bordering the San Joaquin Valley (CDFG 2006). It is unlikely this species is present in the project area as favorable habitat conditions do not seem to be present.

Special Status Avian Species, Nesting Birds and Birds of Prey
All nesting birds are protected by CDFG Code and migratory birds are protected by the federal Migratory Bird Treaty Act. Tree cavity nesting species, such as the oak titmouse (*Baeolophus inornatus*), nest in trees in the project area. Other species such as Allen's hummingbird (*Selasphorus sasin*) and California yellow warbler (*Dendroica petechia brewsteri*) have the potential to build nests in understory plants the project site. Vaux's swifts *(Chaetura vauxi*) and black swifts *(Cypseloides niger)* may occur in the Park, but not within the project area as these are cliff-nesting species.

The white-tailed kite (*Elanus caeruleus*), a state fully-protected raptor, nests at the top of trees in oak woodlands or along marsh edges. They may use any suitable tree that is of moderate height, such as eucalyptus, cottonwoods, toyons, and even coyote bush with the nests placed near the tops of these shrubs or trees. Other birds of prey such as red-shouldered hawks, may nest in tall trees in the project area and forage in the vicinity. All birds of prey and their nests are protected by CDFG Code. While nearly all nesting birds use trees, tree cavities and shrubs, the belted kingfisher (*Ceryle alcyon*) nests in cavities dug in tall stream banks. This bird was observed in the project area in April 2010 and potential nesting habitat for this species occurs along Alamitos Creek in the project area.

Federally- and state-protected golden eagles (*Aquila chrysaetos*) and bald eagles *(Haliaeetus leucocephalus)* have been recorded within several miles of the project area. Golden eagles prefer cliffs and secluded overhangs as nesting sites, but they will occasionally nest in tall trees in oak woodlands near open grasslands

where they hunt squirrels and rabbits. Suitable habitat exists in the Park, so it is possible that this species could nest in the project area. Bald eagles nest near large open water bodies, such as reservoirs and wide rivers free from overhanging vegetation, where then hunt or scavenge for fish. These birds have been recorded at the Almaden Reservoir, but there is no suitable habitat for this species on the project site.

Special Status Mammals
Houses built by the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a CDFG Species of Special Concern, have been detected on the site. This species inhabits hardwood forests of moderate canopy with a moderate to dense understory. Nests (houses) are constructed out of leaves, shredded grass, and other material.

A number of bat species such as the western small-footed myotis (*Myotis leibii*), long-eared myotis (*Myotis evotis*), pallid bat (*Antrozous pallidus*), Townsend's western big-eared bat (*Corynorhinus townsendii townsendii*) and Yuma myotis (*Myotis yumanensis)* all have the potential to occur in or near the project area and are protected species. The CNDDB lists *Yuma myotis* as present within a mile of the project area.

Table 4 - Rare and Sensitive Species Occurring or Potentially-Occurring in the Project Area

Rare and Sensitive Species Occurring or Potentially-Occurring in the Project Area				
Listed or Sensitive Species Present or Potentially Present	**Species Legal Status**	**Natural Communities where Found**	**Potential to Occur in Project Area**	**Mitigations**
Steelhead—Central Coast ESU	USFWS Threatened	Stream/Aquatic	Occurs in Alamitos Creek	BIO-2
California Red-legged Frog	USFWS Threatened (ESA); California Species of Special Concern (CESA)	Stream/Aquatic; Freshwater Wetland	Occurs irregularly	BIO-3
Foothill Yellow-legged Frog	California Species of Special Concern (CESA)	Stream/Aquatic; Freshwater Wetland; not below dams	Highly unlikely; no suitable habitat on site	None needed
California Tiger Salamander	USFWS Threatened (ESA); California Species of Special Concern (CESA)	Ponds and Grasslands (abundant ground squirrels)	Highly unlikely; no suitable habitat on site	None needed
Western Pond Turtle	California Species of Special Concern (CESA)	Stream/Aquatic; Freshwater Wetland	Very likely; good quality habitat exists	BIO-3
Silvery Legless Lizard	California Species of Special Concern (CESA)	Foothill Riparian; Foothill Oak Woodland	Potential unknown; habitat exists	BIO-3
California Horned Lizard	California Species of Special Concern (CESA)	Gravelly-sandy habitat in Foothill Riparian; Foothill Oak Woodland	Highly unlikely; no habitat exists on site	None needed

Rare and Sensitive Species Occurring or Potentially-Occurring in the Project Area (cont.)				
Listed or Sensitive Species Present or Potentially Present	**Species Legal Status**	**Natural Communities where Found**	**Potential to Occur in Project Area**	**Mitigations**
Bald Eagle	Federally-protected (The Bald and Golden Eagle Protection Act); State Endangered (CESA)	Nest near and forage on large open waters such as reservoirs	Highly unlikely; no habitat exists on site	None needed
Golden Eagle	Federally-protected (The Bald and Golden Eagle Protection Act); State Fully-Protected (CDFG Code 3511)	Nests on ledges, cliffs, overhanging, sometimes in tall trees in oak woodlands	Possible; suitable habitat exists on site	BIO-4
White-tailed Kite	State Fully-Protected (CDFG Code 3511)	Foothill Oak Woodland	Possible; suitable habitat exists on site	BIO-4
Nesting Raptors	State Protected (CDFG Code 3503.5)	Foothill Riparian; Foothill Oak Woodland	Very likely; good quality habitat exists	BIO-4
Vaux‘s Swift & Black Swift	California Species of Special Concern (CESA)	Cliffs for nesting	Nesting birds are highly unlikely; no suitable habitat on site; birds may forage in the area	None needed
Nesting Birds, including Belted Kingfisher	Federally Protected (Migratory Bird Treaty Act); State Protected (CDFG Code 3503)	Foothill Riparian; Stream Banks; Foothill Oak Woodland	Very likely; good quality habitat exists	BIO-4
Roosting Bats, such as Yuma Myotis (*Myotis yumamensis*)	State Protected (CDFG Code 4150)	Foothill Riparian; Foothill Oak Woodland, especially cavities in Sycamores and other large trees	Very likely; good quality habitat exists	BIO-5
San Francisco Dusky-footed Woodrat	CDFG Species of Special Concern (CESA)	Foothill Riparian, especially in Deep Gulch	Occurs in the project area	BIO-6
Loma Prieta Hoita	Seriously endangered (CNPS List 1B.1)	Foothill Oak Woodland	Possible	BIO-7
Oak spp.	Public Resources Code 21083.4	Foothill Riparian; Foothill Oak Woodland	Occurs in the project area	BIO-8
Trees >6‘”DBH	County of Santa Clara New Almaden Historic Conservation Zoning District	Foothill Riparian; Foothill Oak Woodland	Occurs in the project area	BIO-8

IMPACTS AND MITIGATIONS

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?

BIO IMPACT 1. *A number of sensitive species and biological resources occur in the area*. Nesting birds, steelhead, wetlands and stream quality can be easily damaged by construction activities and personnel who are not aware of the presence of these species, their protected status, and the methods to protect them. Incorporating the following measures will reduce this impact to less than significant.

BIO-1 Measures:

a. *Employees and Contractor Education Program*. An employee education program will be conducted prior to the initiation of project activities. The program will consist of a brief presentation by persons knowledgeable in federally-listed and state special status species biology and legislative protection to explain concerns to contractors and their employees. The program would include: a) a description each rare species, nesting bird species, and plant communities; b) information on their status and protection under state and federal laws; and c) a list of measures required during the project to reduce impacts to natural communities and protect species. Crews will be instructed what to do if an animal is found, including notifying the project foreman and County Parks staff immediately. County Parks staff will notify the appropriate wildlife agency. Likewise, if a nest of any type is found in the project footprint, it is to be left alone and the project foreman and County Parks staff must be notified immediately. Educational materials will also provide information on protecting the creeks and wetlands from construction damage.

Implementation: Qualified County natural resources staff or biological monitor
Timing: During a pre-construction field meeting with contractors and subcontractors
Monitoring: County staff will require contractor and subcontractors to have each employee attend training session and sign training materials indicating attendance at education program.

b. *Daily Monitoring*. During the construction phase of the project, a qualified biologist will check the site every morning prior to the start of construction activities for the presence of rare species such as nesting birds, western pond turtles, red-legged frogs, woodrats or other wildlife. If any species is found, the monitor shall have the authority to halt construction in the area and immediately notify appropriate County staff. The biologist will have the authority to notify the appropriate regulatory agency for guidance when sensitive species issues arise. Subsequent recommendations made by the USFWS or CDFG shall be followed. The biological monitor would not handle or try to relocate any special-status species.

Implementation: Qualified biologist
Timing: During project work
Monitoring: Biological monitor to submit a letter report of survey results to project manager.

c. *Speed Limit*. Vehicles shall not drive more than 5 miles per hour within the construction area. If any animal is seen in the path of a vehicle, the vehicle shall stop until the animal is out of the path. Parked vehicles shall be thoroughly inspected underneath before they are moved to ensure that no animals are on the ground below the vehicle.

Implementation: County Parks staff
Timing: During project work
Monitoring: County Parks staff will keep records of any wildlife findings and any impacts to biological resources as well as how the organisms or resources were protected.

BIO IMPACT 2. *Steelhead* could be present in Alamitos Creek as adults or juveniles between April 15 and October 15 when this project will occur. Project work will not occur between December and mid-April when steelhead migrate and spawn. To access and remove calcine deposits, this project will require dewatering approximately 300 feet of Alamitos Creek at Upper Hacienda and 300 feet of stream at Alamitos Creek (AC-2). At the Alamitos Creek Bridge sites, the creek will be constricted into a pipe for approximately 75 feet and earth will be placed around the pipe so that trucks can drive over it. At Deep Gulch, approximately 75 feet of stream will be dewatered. These project elements could trap and kill steelhead in the dewatered or filled areas. A dewatering and fish relocation plan would be prepared for the project in consultation with NMFS. Relocation activities have the potential to take steelhead. Therefore, a Section 7 consultation with the National Oceanic Atmospheric Administration Fisheries Service (NOAA) through the Army Corps of Engineers (Corps) would most likely be initiated to address potential impacts to steelhead. The Corps is responsible for determining impacts to existing wetlands and Waters of the U.S. Fish will be prevented from moving through the area and using these parts of Alamitos Creek during the course of the project. These habitat impacts will be temporary; when the project is completed, the stream will be restored to its original course. Incorporating the following mitigations will reduce this impact to less than significant.

BIO-2 Measures:

a. Develop a dewatering and fish relocation plan in consultation with NMFS. Participate in a Section 7 consultation with the NMFS through the Army Corps of Engineers (Corps), if required. Implement all dewatering and fish protection measures required by agencies.

Implementation: Qualified biologist
Timing: Before and during project work
Monitoring: Qualified biologist to submit a letter report of dewatering and fish relocation results to project manager, Corps, and NMFS.

b. County Parks will follow Best Management Practices (BMPs) from the Santa Clara Valley Water District (District) 2005 BMP Handbook and Stream Maintenance Program (2002) during project implementation to avoid impacts to steelhead due to dewatering and to prevent sediment runoff from entering the creek because of vegetation removal and bank layback (See Appendix E for full text of BMPs). A Stormwater Pollution Prevention Plan (See **HYD-1**) will be implemented to control erosion during construction and erosion after construction is completed will be controlled with measures specified by the Guidelines and Standards for Land Use Near Streams will be implemented (See **HYD-2**). Specific sections of the 2005 BMP Handbook that will be followed are:

WQ-12 Dewater/ Bypass Water at Non-tidal Sites
WQ-16 Avoid Erosion When Restoring Flows
WQ-18 Erosion and Sediment Control Measures
WQ-3 Pump/Generator Set Operations and Maintenance
WQ-5 Soil Stockpiles
WQ-10 Concrete Use Near Waterways
BI-7 Minimize Stream Access Impacts
BI-2 Salvage Native Aquatic Vertebrates from Dewatered Channels
BI-3 Conduct In-Channel Work During the Dry Season
BI-8 Remove Temporary Fills as Appropriate
WQ-6 Stabilized Construction Entrance
HM-10 Vehicle and Equipment Fueling
HM-11 Vehicle and Equipment Maintenance

These measures may be modified depending on the outcome of the NOAA Biological Opinion.

Implementation: Qualified biologist for fish-related mitigations; County Parks staff for construction BMPs
Timing: During project work
Monitoring: County staff to submit a letter report of BMP results to project manager, Corps, and NMFS.

BIO IMPACT 3. *Protected amphibians and reptile species* that have the potential to occur on the project site include California red-legged frogs, western pond turtles, and silvery legless lizards (See Table 4). Individuals of any of these species could be killed by construction equipment and project activities to remove calcines. California red-legged frogs and western pond turtles could be killed or harmed by stream dewatering. Incorporating the following mitigations will reduce this impact to less than significant.

BIO-3 Measures:

a. Conduct pre-construction surveys in the project area to detect sensitive herpetofauna. One daytime survey will be performed in the two days prior to the start of project implementation activities. The entire work area, including any burrows, rocks and woodpiles that may be disturbed by construction activities, will be inspected for rare species, especially California red-legged frogs and silvery legless lizards. If these species are detected, work will be delayed and the USFWS will be contacted for guidance on how to proceed with respect to the frog and CDFG will be contacted for procedures relative to the turtle and the lizard. If other listed species are found, the appropriate wildlife agency will be contacted for guidance on how to proceed.

b. Conduct during-project surveys each day before construction begins to detect sensitive herpetofauna in the project area. If a red-legged frog or any federally-listed ESA species is found, work in the immediate area of the animal will not proceed and the USFWS will be contacted for information on how to proceed. For western pond turtles and silvery legless lizards, or any state species of special concern, protocols for handling species will be developed and confirmed with CDFG before construction begins or before handing any animal found during construction. CDFG will be notified of the detection of any species of special concern and the protocols will be followed to protect the animal. In the past, CDFG has approved protocols for the western pond turtle state that if a turtle is detected, the turtle will be observed to determine if it is moving through the area in which it was detected or if the animal is occupying the habitat for nesting, foraging, or basking. During construction activities within the immediate area of the turtle detection, an on-site monitor will work with construction crews. If the animal is relocated during construction activities, the monitor will observe the turtle and alert work crews to delay work if it is within the work area or begins to move toward or into the work area. If the turtle appears to be traveling from upland habitat to a nearby aquatic site, work shall cease until the turtle has traveled a safe distance from the immediate project site. The monitor shall observe the animal from a distance to ensure it does not wander back into the work area. If the turtle is relocated and appears to be occupying the habitat within the project footprint for activities such as nesting, basking, or foraging, the County or its representatives will contact CDFG for guidance.

Implementation: Qualified biologist
Timing: Before project implementation and during all phases of project work
Monitoring: Qualified biologist will submit a letter report of survey results and any measures taken to protect species on site to project manager, Corps, USFWS and/or CDFG. Any additional monitoring requirements called out in the Corps permit would also be followed.

BIO IMPACT 4. *Birds and their nests* in trees, tree cavities, and understory vegetation in riparian and oak woodlands could be destroyed. The project will remove up to 75 trees and 51,000 SF of oak woodland and riparian vegetation. The white-tailed kite, a fully-protected bird, as well as other birds of prey, other tree and cavity nesting birds and birds that nest in understory vegetation could be harmed if trees and vegetation were removed or damaged during the breeding season. Belted kingfishers, which nest in steep stream banks, could be killed or harmed by construction activity. The area of the Alamitos Creek (AC-2) deposit has a steep bank

that could be attractive to kingfishers and a bird was observed in this area in April 2010. Incorporating the following mitigations will reduce this impact to less than significant.

BIO-4 Measures:

a. To avoid impacts to tree and vegetation nesting birds, vegetation and tree removal activities within the project area will take place outside of the nesting season (February 1 to August 31), in advance of calcine removal activities. A qualified biologist and certified arborist shall direct the removal of all trees and understory vegetation in the project area. In order to avoid impacts to existing raptor nests during pre-nesting season tree removal, a survey of all trees that could support raptor nests shall be completed.

b. For all trees and vegetation that remain after pre-nesting season clearing, a qualified biologist shall conduct an initial pre-construction survey for nesting raptors and other birds, including kingfishers, approximately 30 days before construction begins. This survey area will include the construction footprint and an area equivalent to nest buffer distances adjacent to the project footprint. A final pre-construction survey shall occur no more than 3 days prior to the start of construction activities. If active nests are not present, construction activities can take place as scheduled. If more than 3 days elapse between the final nest search and the beginning of construction activities, another nest survey shall be conducted. If any active nests are detected, a qualified biologist shall determine the appropriate buffer to be established around the nest and monitor the nest until the fledging or until it has been determined to be inactive. CDFG generally accepts a 50-foot radius buffer around passerine and non-passerine land bird nests, and up to a 250-foot radius for most raptors; however, the qualified biologist shall have flexibility to reduce or expand the buffer depending on the species and specific site circumstances.

c. To mitigate for the loss of riparian and oak woodland habitat, an area equivalent in size to the area degraded will be revegetated with native species, maintained and monitored for success. See **BIO-8** and **BIO-9** for more detail on these measures.

Implementation: Qualified biologist and certified arborist
Timing: Before project work begins and during project work
Monitoring: Project manager to schedule removal and/or trimming outside of nesting season. If not feasible, project manager shall ensure that removal/trimming is completed within 3 days of the completion of nest surveys. If nests are found, the qualified biologist would ensure that an adequate buffer is maintained until chicks have fledged. The biologist would provide a memo report on the results of the nest survey and protection to project manager.

BIO IMPACT 5. *Bats* are non-game mammals protected by CDFG Code §4150, which reads, ―All mammals occurring naturally in California which are not game mammals, fully protected mammals, or fur-bearing mammals, are nongame mammals. Nongame mammals or parts thereof may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission." Maternal or day-time bat roosts could occur in trees in the project area. Incorporating the following mitigations will reduce this impact to less than significant.

BIO-5 Measures:

a. Conduct a survey for bats and their roosts prior to any construction or large tree removal. In particular, to avoid construction delays, a pre-construction maternity roost survey the summer before construction should be conducted. The survey shall be conducted by a qualified biologist.

b. If a roost is found, especially a maternal roost, the following avoidance measures shall be implemented as necessary and as determined by a qualified biologist (defined as a biologist holding a CDFG collection permit and a Memorandum of Understanding with CDFG allowing the biologist to handle and collect bats):

i. Temporal avoidance. To avoid disturbance to an active maternity colony, construction activities adjacent to the roost tree shall commence after young are volant (flying) (i.e., after July 31) and end before

maternity colonies form (i.e., prior to March 1). CDFG considers the maternity season to occur from March 1 to August 31. Thus the project construction can be scheduled from September 1 through March 1 to avoid potential construction disturbance to the maternity roost.

ii. Construction buffer zones. Depending upon bat species and the expected disturbance to the roost, a qualified biologist shall determine the extent of construction-free zones around the roost. Although impacts to a roost are greater during the maternity season, a buffer zone for the non-breeding season day roost shall also be established. This buffer would be placed to prevent the loss of roots and branches. CDFG will be notified of any active nurseries within the construction zone.

iii. Exclude bats prior to construction disturbance of, or loss of, roosts. If any roosting area with a nursery as determined by the preconstruction survey is planned (and required) to be removed, a qualified biologist shall exclude bats outside of the maternity season (i.e., prior to March 1 or after July 31 when young are volant) with the use of one-way doors. Tree cutting or construction shall then follow no sooner than 3 days after because all bats may not exit each night. If a non-breeding bat hibernaculum is found in a tree that must be removed, the individual bats shall be safely evicted by a qualified biologist, through the use of one-way doors as described above.

Implementation: Qualified biologist
Timing: Prior to and, potentially, during project work
Monitoring: Project manager to schedule construction activities near roost tree outside of maternity season. If not feasible, project manager shall ensure that measures listed above are followed. The qualified biologist completing work would submit a letter to CDFG and project manager of monitoring, protection, and results.

BIO IMPACT 6. *Woodrat houses* have been found in the project area. The San Francisco dusky-footed woodrat is a protected species. These mammals live year round in their houses, which are essential for their survival. Woodrats dwell in moderately-dense to dense riparian habitats, such as those found along Alamitos Creek and Deep Gulch in the project area. Access to and removal of calcines will impact 32,000 SF of riparian habitats. Any woodrats or their houses located in the impacted riparian zone could be harmed or destroyed. Incorporating the following mitigations will reduce this impact to less than significant.

BIO-6 Measures:
Conduct a pre-construction survey for San Francisco dusky-footed woodrat houses. If any are detected, the County will complete one of the following avoidance/minimization measures, listed in order of priority and implementation:

a. The project work will be rerouted to avoid the woodrat house by at least 50 feet.
b. If the work cannot be rerouted at least 50 feet from the house, it will be rerouted as far away from the nest as possible but not closer than 5 feet from the house. Safety and/or silt fencing (for houses downslope) will be erected around all houses within 25 feet of the construction activity to avoid impacts during construction.
c. If the project footprint must go directly through or within 5 feet of a house, CDFG should be consulted with one of the two following options:
    i. If the house appears inactive (e.g. no scat or fresh leaves and twigs), seek approval from CDFG to dismantle the house and replace the lost resource by building an artificial house. One artificial house should be built for every one existing inactive house.
    ii. If the house appears active, approval will be sought from CDFG to: 1) trap the occupant(s) of the house, 2) dismantle the house, 3) construct a new artificial house with the materials from the dismantled house, and 4) release the occupant into the new artificial house. The new house should be placed no more than 20 feet from its original location and as far from the project footprint as necessary to be protected from construction activities. If the house is to be moved downslope of the project footprint, extra precautions should be taken, such as a plywood barrier, to stop falling/sliding materials from impacting the new house. Houses should only be moved in

the early morning during the non-breeding season (October through February). If trapping has occurred for 3 consecutive nights and no woodrats have been captured, the house should be dismantled and a new house constructed.

Implementation: Qualified biologist
Timing: Before project work begins and, potentially, during project period
Monitoring: If nests are found, the project manager and County Parks Natural Resource Management Program staff or qualified consulting biologist will ensure that all protection measures are implemented. The County Parks Natural Resource Management Program staff or qualified consulting biologist will provide a memo reporting the results of the nest survey and any nest management required.

BIO IMPACT 7. *The Loma Prieta hoita*, a special status plant (CNPS List 1B), could occur in the project area. Three patches occupying approximately 50 square feet were found growing on calcine deposits at the Jacques Gulch Restoration Project. If any of these plants are found in the project area, they would need to be removed to excavate the underlying calcine. Incorporating the following mitigations will reduce this impact to less than significant.

BIO-7 Measures:
Conduct a pre-construction survey for the plant during a season when plants are most obvious. If any are found, implement the following measures:

a. Develop a plan that includes transplanting techniques, a monitoring program acceptable to CDFG, performance criteria and contingency propagation measures to ensure that the Loma Prieta hoita is restored within the project area. This plan, with mitigation and monitoring measures, will be included in the Riparian Mitigation and Monitoring Plan prepared as part of the Streambed Alteration Agreement application for CDFG.

b. After plants are removed from the site, they will be held in a nursery until the excavation and grading of the project area is complete. After construction, the plants shall be replanted at a site with appropriate habitat conditions. A contingency plan, involving collection ripe seeds from the plants, shall ensure that any mortality of transplanted individuals can be compensated with planting of the collected seeds. In order to ensure viable seed is available for collection, the District shall install exclusionary fencing around the plants during the flowering period to minimize browsing by deer.

Implementation: Qualified biologist
Timing: Before project work begins and after the construction work is completed
Monitoring: Qualified biologist will monitor and maintain the plants for 3 years. The biologist would provide a memo report on the results to project manager.

BIO IMPACT 8. *Oaks and large trees* are valuable aesthetic and biological resources found in the project area. Calcine access and removal will result in the loss of, at most, 75 trees with diameters greater than 6 inches in foothill oak and foothill riparian woodlands; 23 are oaks (See Table 5 – Tree Loss by Species) and some are old, very mature trees. Figures 8-11 – Tree Demolition Plans indicate the locations and sizes of trees that will be impacted by the project. It is possible that some trees may not need to be removed based on the extent of the calcine deposits, but this will not be known until conditions are revealed in the field before and during construction. Several trees in the Upper Hacienda and Alamitos Creek (AC-2) area will need to be pruned to clear a path for construction equipment, but do not need to be impacted beyond that. A certified arborist must be on-site to determine how to prune trees, determine if trees can be saved, and guide tree removal and protection in the field. The zoning ordinance for the New Almaden Historic Conservation Zoning District, in which the project is located, states that, "Special emphasis shall be given to preservation of mature native trees and shrubs…"

The RP/EA estimated a loss of 20-40 mature trees at Deep Gulch and fewer at Upper and Lower Hacienda. To address habitat impacts, the RP/EA requires "re-establishment and survival of native species" in impacted areas and requires that the revegetation areas are "reasonably comparable with surrounding areas". Public Resources Code 21083.4 requires mitigations if a "project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment." Mitigation measures can include planting an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees, as well as other mitigations required by the County. Planting trees "shall not fulfill more than one-half of the mitigation requirement for the project". To complete the oak mitigation requirement, the County can require other mitigations. A reasonable and feasible additional mitigation would be to replant understory and ground cover species native to oak woodlands. This measure will: 1) provide other plant species to ensure a more ecologically functional oak woodland, 2) will reestablish a community "reasonably comparable with surrounding areas" as required by the RP/EA, and 3) will fulfill mitigation requirements for mitigating losses to oak communities, which is an impact of the project (19,000 SF of oak woodland will be removed by the project) (See Question 2, below). The RP/EA requires maintaining and monitoring trees for 3 years; Public Resources Code 21083.4 states that the requirement to maintain trees ends 7 years after the trees are planted. Incorporating the following mitigations will reduce this impact to less than significant.

Table 5 - Tree Loss by Species

Tree Loss by Species					
Species	**Deep Gulch 1, 2 and Retort**	**Upper Hacienda**	**Lower Hacienda 1**	**Lower Hacienda 2, Alamitos Creek 2, Alamitos Bridge**	**TOTAL**
Quercus lobata Valley Oak	2	6	0	1	*9*
Quercus agrifolia Coast Live Oak	0	7	2	5	*14*
Umbellularia californica California Bay	1	15	4	2	*22*
Aesculus californica California Buckeye	0	0	1	3	*4*
Platanus racemosa California Sycamore	0	3	0	0	*3*
Salix spp. Willow species	0	0	0	9	*9*
Alnus rhombifolia White Alder	0	4	0	3	*7*
Acer macrophyllum Big Leaf Maple	0	2	0	0	*2*
Acer negundo Box Elder	0	0	0	5	*5*
TOTALS	***3***	***37***	***7***	***28***	**75**

BIO-8 Measures:

a. A certified arborist will be on-site during all construction phases during which trees are affected. The arborist will make decisions, in consultation with the Project Manager, on tree pruning, removal, and preservation. Whenever possible, mature trees will be preserved while still achieving the calcine removal

goals of the project. Up to 75 trees could be removed, but some may be able to be retained based on construction needs and arborist advice.

b. Develop an oak community revegetation plan with success criteria, monitoring and contingency measures. The plan will require replacing removed trees on a 3:1 basis with trees of the same species grown from seeds or acorns collected in AQS Park or from the watershed. Tree species to be replaced are listed in Table D3. The plan will include requirements to grow, plant and maintain a palette of understory and ground cover species native to oak woodlands, covering an area not less than equal to the size of the area impacted (a total of approximately 19,000 SF of foothill oak woodlands). Some typical understory species are listed in this section, but a more complete list of oak community species as well as information on oak care can be found in Hagen, Coate, and Oldman (2007). The revegetation plan will be developed by a qualified biologist.

c. Monitor and report on vegetation health for 3 years, as per RP/EA reporting requirements.

Implementation: Certified arborist and qualified biologist
Timing: Before project work begins (develop oak community revegetation plan; collect seeds and acorns; revegetation implementation), during project work (monitor tree pruning, removal, preservation), and after the project (maintenance, monitoring, reporting)
Monitoring: Native plant expert or other qualified biologist will monitor tree and vegetation success for 3 years; biologist will recommend changes to improve performance, if needed, and will report the results each year to the Project Manager.

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?
4. Have a substantial adverse effect on oak woodland habitat as defined by Oak Woodlands Conservation Law (conversion/loss of oak woodlands) – Public Resource Code 21083.4?

BIO IMPACT 9. Foothill riparian. Calcine removal and access to the calcine deposits will result in the loss or degradation of approximately 76,000 SF of habitat; approximately 32,000 SF (~0.74 acres) of this is foothill riparian community. Some trees, including oaks, willows, and sycamores, that dominate the overstory will be removed and 0.74 acres of understory and ground level species, including poison oak, coffeeberry, toyon, non-native blackberry and native and non-native herbaceous species will be damaged or destroyed. This important habitat supports a great diversity of species including bats, migratory and nesting birds, birds of prey, and woodrats. The ecological value of riparian corridors is widely recognized, resulting in many protective codes and ordinances.

Under Fish and Game Code 1602, CDFG requires a Riparian Mitigation and Monitoring Plan to be prepared as part of the Streambed Alteration Agreement application. The Resource Conservation Element of the County of Santa Clara General Plan states ―iparian habitats in rural lands must be preserved through protection of native vegetation, development setback, regulation of tree and vegetation removal, and control and design of grading, road construction, and bridges (32). Buffer should be 150‘ from natural and 100‘ from modified streams.” This element also states that ―Habitat types and biodiversity within County should be maintained and enhanced (19). Development projects in rural areas must be evaluated and conditioned to assure they do not degrade natural resources and that reasonable steps are taken to mitigate potentially adverse impacts (5).” Incorporating the BIO-9 measures will reduce this impact to less than significant.

Foothill oak woodland. The Project will impact approximately 76,000 SF of habitat and 19,000 SF is oak woodland. Twenty-three valley or coast live oaks, all 6 inches in diameter or greater, will be removed (Table D3). Oak woodlands are protected by CDFG Code as special communities that are ―ither known or believed to be of high priority for inventory in California Natural Diversity Database (CNDDB)” as administered by the California DFG (CDFG, 2003). Oak trees and woodlands are also protected by Public Resources Code

21083.4. In addition, the RP/EA requires restoration of natural communities in impacted areas to a state that is ―easonably comparable with surrounding areas". These natural communities have some of the highest species diversity in California. Typical animal species include western rattlesnakes (*Crotalus viridis*), gopher snakes (*Pituophis catenifer*), scrub jays (*Aphelocoma coerulenscens*), California quail (*Callipepla californica*), western bluebirds (*Sialia mexicana*), and acorn woodpeckers (*Melanerpes formicivorus*). Mammals, such as black-tailed deer (*Odocoileus hemionus*), coyotes (*Canis latrans*), and raccoons (*Procyon lotor*), are common as are a wide diversity of rodents. The plant species that characterize oak woodlands are well covered in Hagen, Coate, and Oldman (2007). See Question 1H for more discussion of oaks and oak woodlands and **BIO-8** for mitigation measures reducing impacts to this community to less than significant.

Wetlands. Wetlands and streams are sensitive habitats protected by a number of codes and laws. Impacts to these habitats are addressed under Question 3, below, and impacts are mitigated to less than significant with measures given in **BIO-10**.

BIO-9 Measures:

a. Protect all riparian vegetation outside the construction area from any direct or indirect impacts of construction. In particular, no vehicles or foot traffic will be allowed outside the construction zone, soil excavated for the project will not be allowed flow or erode into the riparian zones, and no animals will be harassed.

b. Develop a Riparian Mitigation and Monitoring Plan as part of the Streambed Alteration Agreement required by the CDFG and as a component of the CWA Section 401 certification/Waste Discharge Requirements that will be issued for the Project by the RWCQB. The plan will mitigate tree loss on a 3:1 basis and will restore the riparian understory and ground cover on at least a 1:1 area (SF) basis. The plan will be developed by qualified biologist and must be approved by the ~~CDFG~~ appropriate agencies.

c. Maintain and monitor mitigation areas, and report on the success of the Riparian Mitigation and Monitoring Plan as required by CDFG.

Implementation: County staff for BIO-9a and c; Qualified biologist for BIO-9b and c.
Timing: Before project work begins (develop riparian community revegetation plan; collect seeds and acorns), during project work (monitor tree pruning, removal, preservation and revegetation implementation), and after the project (maintenance, monitoring, reporting)
Monitoring: Qualified biologist will monitor vegetation success for 3 years; biologist will recommend changes to improve performance, if needed, and will report the results each year. County staff will conduct any required maintenance or replanting.

3. 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.) or tributary to an already impaired water body, as defined by section 303(d) of the Clean Water Act through direct removal, filling, hydrological interruption, or other means?

BIO IMPACT 10. Pre-project wetland and stream/aquatic mapping in the project area showed 0.14 acres or approximately 6,100 SF of freshwater wetlands (See Appendix B - Identification of Waters and Wetlands of the United States). Of this area, approximately 900 SF (0.020 acres) of wetlands will be temporarily impacted by the project. Impacted wetlands occur in Deep Gulch (approximately 200 SF), in Alamitos Creek adjacent to Upper Furnace Yard (approximately 600 SF) and adjacent to AC-2 (100 SF). Wetlands will be impacted as a result of providing access to calcine tailings and grading to remove calcines.

Activities to access calcines will cause temporary impacts to approximately 400 SF (0.009 acres) of wetlands (See Table 3 – Summary of Construction Effects). These access impacts to wetlands will be caused by the temporary placement of a lining, clean soil and culverts to form bridges for construction equipment to use to

cross the creek. The lining will capture the material placed on it such that all material can be removed after construction. The stream flow will either be completely diverted from the stream or will be channeled into a pipe. All materials--the impermeable mat, pipes and soil--will be completely removed when the project is completed. Wetlands under these materials will be temporarily over covered. Since all material will be removed, these impacts to wetlands are temporary. Once uncovered, these wetlands will be able to resprout and revegetate. Thus, this is impact is less than significant.

Temporary grading impacts to approximately 500 SF (0.012 acres) of wetlands will be caused by the removal of wetlands adjacent to calcine deposits in the Deep Gulch area (200 SF), and the removal of calcine deposits plus the installation of an erosion protection/riprap wall at Upper Hacienda (300 SF). The project will compensate for the temporary impact to 500 SF of wetlands by:

1. Removing the *Arundo donax* from the wetlands immediately upstream of Upper Hacienda to restore native freshwater wetland vegetation and prevent the spread of this invasive species to the newly disturbed wetland areas within the project site.
2. If possible, compensating for the estimated 500 SF of temporary wetland impacts resulting from the calcine removal at Upper Hacienda and Deep Gulch by creating wetlands conditions at AC-2, if full calcine removal is achieved. When the vertical bank at AC-2 is laid back for calcine removal, the entire area will be regraded to a minimum of a 2:1 slope. In the process of this resculpting, it may be possible to create a 500 SF area bench to allow wetlands to form next to the stream in an area that had previously been above Ordinary High Water (OHW). However, wetland creation in this area may not be possible if the calcines found in the area are unable to be fully removed and must be capped and secured with an erosion protection/riprap wall. This site is adjacent to a previously remediated upland area and the full extent of the existing capped in place soils is not known. These two treatments are included in the construction documents as ―Add Alternatives" for bidding purposes. If wetland conditions can be created, then the recolinization of the site will be monitored for 3 years as part of the other vegetation monitoring required for this project.
3. Ensuring that the cross-sectional area of Alamitos Creek and Deep Gulch are not reduced from pre-project conditions to allow for bar reformation and vegetation recolonization to form wetlands within the channel.

This is a less than significant impact with mitigation incorporated.

The area of stream zone mapped in the project area was an approximately 0.9 acres or 39,200 SF of stream/aquatic habitat (0.07 acres in Deep Gulch and 0.83 acres in Alamitos Creek). Dewatering the stream at Upper Hacienda/Furnace Yard (300 LF) and at AC-2 (300 LF), and routing the stream into a pipe at Deep Gulch (75 LF) and Alamitos Bridge (75 LF) will result in temporary impacts to approximately 750 LF of stream. This is a temporary impact that will not change the aquatic environment because when the project is completed, the stream will be restored to its original course. No impact.

Soil will be placed in the streambed on a lining that will capture all material placed on top of it. Since the stream will be rerouted around these temporary fill areas, this material will not have the potential to enter stream waters. However, calcine and soil stockpiled near Alamitos Creek and grading to remove calcines adjacent to the creek could result in soil and contaminated material entering stream waters, which flow into the Guadalupe River, a 303(d) impaired water body. Sediment eroding from regraded and denuded areas could also result in sediment entering Alamitos Creek. The County will ensure that complete measures to prevent sediment and other materials from entering Alamitos Creek during and after construction are in place as given in **HYD-1** and **HYD-2.** This impact is less than significant with mitigations incorporated.

5. 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 wildlife nursery sites?

BIO IMPACT 11. By removing trees and riparian habitat, the project will create breaks in the riparian corridor. However, these breaks will not be great enough to impede the movement of species such as birds, turtles, and woodrats that travel the riparian zone, and the breaks will be revegetated after project completion to provide a continuous corridor. Also, steelhead will temporarily be prevented from moving thorough the stream during the dewatering period which will last up to 12 weeks. Impacts to steelhead are reduced to less than significant with **BIO-2** measures.

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

The project area is within the boundaries of the proposed County of Santa Clara HCP/NCCP planning area. This plan has not yet been completed or adopted, so the project cannot conflict with it. Given that the purpose of this project is to improve habitat quality and to restore natural communities in the project area, the project will protect local species and improve the survival and reproduction of species dependent on Alamitos Creek, Guadalupe River and the South San Francisco Bay. These outcomes are all in keeping with habitat conservation. No impact.

7. Impact a local natural community, such as a fresh water marsh, oak forest or salt water tide land?
8. Impact a watercourse, aquatic, wetland, or riparian area or habitat?

BIO IMPACT 12. Impacts to natural communities on site, including oak woodlands, riparian woodlands, freshwater wetlands, and aquatic habitats are given above in Questions 2, 3 and 4. Incorporating **BIO-8**, **BIO-9**, and **BIO-10** mitigation measures will reduce these impacts to less than significant.

BIO IMPACT 13. Santa Clara County has confirmed sites in which oak trees are infested with Sudden Oak Death (SOD), a virulent disease of oaks caused by *Phytophthora ramorum*. This disease has resulted in widespread dieback of several tree species including tan oak, coast live oak and black oak. This pathogen thrives in moist coastal forests. Oaks are prevalent in the project area and, one of the best indicators that SOD may occur is the presence of California bay laurel, which is also found in the project area. While present in Santa Clara County, the disease is not shown as occurring in Almaden Quicksilver Park by Oak Mapper (http://www.oakmapper.org/), a SOD mapping tool developed by UC Berkeley, supported by the California Department of Forestry and the Forest Service. As of November 2004, Sanborn and Stevens Creek are the only confirmed SOD infested County Parks. However, the project area is within the area regulated for SOD by the California State Board of Forestry and Fire Protection. For the project, oaks and bay laurels will be removed to access calcines, but all cut trees and tree material will either remain in the park or will be transported directly to the San Francisco Open Cut. Thus, if trees are infected with SOD, they will not be transported off site and will not have the potential to affect other trees.

However, soil from the site may harbor the disease and must not be transported off-site. In addition, and perhaps more likely, trucks and equipment coming to the project site from other sites may potentially carry infected soil. The County of Santa Clara policy on SOD states that staff should make every attempt to limit the spread of SOD within and between Park properties by controlling the movement of soil, SOD host plants and SOD infected plants from infested areas. Mitigation measures to minimize the unintended movement of host material are required. To ensure that the disease is neither imported to nor exported from the site, follow BIO-13 measures. This impact is less than significant with mitigations incorporated.

BIO-13 Measures:
To prevent the spread of SOD from soil and attached plant material (adapted from California Oak Mortality Task Force, 2008):

a. Conduct operations during the dry season to minimize wet soil, mud and plant material adhering to vehicles, equipment, and boots; utilize paved and rocked roads and landings to the extent possible.
b. Inspect material and equipment leaving the site to ensure that no host material is being transported.
c. Clean mud from shoes, boots, vehicles and heavy equipment, etc. to remove soil and host plant material imbedded in mud, as needed depending on conditions during project work.
d. Equipment coming from potentially SOD-infested sites must be cleaned of soil and plant material at that site to ensure SOD is not transported to the project site.

Implementation: Contractor and County staff
Timing: During all project work
Monitoring: County staff

9. Adversely impact unique or heritage trees or a large number of trees over 12" in diameter?

BIO IMPACT 14. Removal of calcine deposits and access routes to the deposits will result in the removal of 75 trees, 47 of which have diameters >12 inches. As described in **BIO-8**, all trees will be replanted on a 3:1 ratio; this impact is less than significant with BIO-8 mitigations incorporated.

10. Conflict with any local policies or ordinances protecting biological resources:
i) Tree Preservation Ordinance?
ii) Wetland Habitat?
iii) Riparian Habitat?

BIO IMPACT 15. County of Santa Clara has a Tree Preservation Ordinance (C16) which requires mitigation for removing trees ≥12 inches. In addition, AQS Park is located in the New Almaden Historical Zoning District (See Figure 12 - New Almaden Historical Conservation Zoning District Map). The zoning ordinance for this District states, "Trees and shrubs having a main trunk or stem measuring six (6) inches in diameter or greater (eighteen and eight tenths (18.8) inches in circumference), at a height of four and one-half (4.5) feet above ground, are protected trees, subject to the relevant provisions of the County's "Tree Preservation and Removal Ordinance," Division C16 of the County Ordinance Code." The zoning code also states, "Trees and shrubs selected for new plantings and landscaping treatments should be native species typical of the hills and riparian areas specific to this district." As described in **BIO-8**, all trees with diameters 6 inches or greater will be replanted on a 3:1 ratio with trees of the same species, reducing this impact to less than significant.

BIO IMPACT 16. The Resource Conservation Element of the County of Santa Clara General Plan states "riparian habitats in rural lands must be preserved through protection of native vegetation, development setback, regulation of tree and vegetation removal, and control and design of grading, road construction, and bridges (32). Buffer should be 150' from natural and 100' from modified streams." Impacts to riparian habitat from the project will be mitigated as per the measures in **BIO-9**, reducing this impact to less than significant.

The County has no specific policies or ordinances relating to wetland habitat. No impact.

E. CULTURAL/ HISTORICAL/ ARCHAEOLOGICAL RESOURCES						
	IMPACT					SOURCE
WOULD THE PROJECT	NO	YES				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5 of the CEQA Guidelines, or the County's Historic Preservation Ordinance (i.e. relocation, alterations or demolition of historic resources)?	☐	☐	■	☐	☐	3, 16, 19, 40, 41, 49
2. Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5 of the CEQA Guidelines?	☐	☐	■	☐	☐	3, 19, 40, 41,
3. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐	☐	2, 40,41
4. Be located in a Historic District (e.g., New Almaden Historic District)?	☐	☐	■	☐	☐	7,10a
5. Disturb a historic resource or cause a physical change which would affect unique ethnic cultural values or restrict existing religious or sacred uses within the potential impact area?	■	☐	☐	☐	☐	3,25,42
6. Disturb potential archaeological resources?	☐	☐	■	☐	☐	3,10d,41, 42
7. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	■	☐	☐	☐	☐	2,3,4,40, 41

DISCUSSION

A Technical Report for Cultural Resources was prepared by Basin Research Associates for the Hacienda and Deep Gulch Remediation Project sites located within the AQS County Park. This report identifies prehistoric and historic resources in order to meet the legal requirements of the California Environmental Quality Act (CEQA) (Public Resources Code 21000 et seq.) 1970, as amended and planning directives of the County of Santa Clara. The intent of this report is to identify cultural resources that are present and are listed, determined or potentially eligible for inclusion on the California Register of Historical Resources (CRHR) that may be impacted by the proposed project (See Appendix C – Cultural Resources Report).

The report included a literature search by the California Historical Resources Information System, Northwest Information Center, Sonoma State University, Rohnert Park and a review of other pertinent materials and archival records on file at other repositories. The investigation included an archaeological field inventory of the calcine deposits sites and nearby areas. The State of California Native American Heritage Commission (NAHC) was contacted for a review of the Sacred Lands Inventory. Letters soliciting additional information were sent to the nine Native Americans individuals/groups listed by the NAHC.

The text contained in the setting and mitigation measures of this section is excerpted from the Cultural Resources Report prepared for this project by Basin Research Associates (2010) (Appendix C).

Regulatory Context
The California Environmental Quality Act (CEQA) requires regulatory compliance in regard to historical resources. Under CEQA, public agencies must consider the effects of their actions on both "historical resources" and "unique archaeological resources" - a ". . . project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment" (Public Resources Code, Section 21084.1). The CEQA Guidelines define a significant resource as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) (see Public Resources Code, Section 21084.1 and CEQA Guidelines Section 15064.5 (a) and (b)). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

The CRHR was created to identify resources deemed worthy of preservation on a state level and was modeled closely after the NRHP. The criteria are nearly identical to those of the NRHP, which includes resources of local, state, and region or national levels of significance. The CRHR automatically includes properties listed in the National Register, determined eligible for the National Register either by the Keeper of the National Register or through a consensus determination on a project review, or State Historical Landmarks from number 770 onward. In addition, California Points of Interest nominated from January 1998 onward will be jointly listed as Points and in the CRHR. Landmarks prior to 770 and Points of Historical Interest may be listed through an action of the State Historical Resources Commission. These listings are updated as resources are determined eligible and/or are officially listed. Current listings are maintained by the California Historical Resources Information System, Northwest Information Center, Sonoma State University (CHRIS/NWIC) for Santa Clara County.

Historical Resources
Public Resources Code Section (PRC) 21084.1 stipulates that any resource listed in, or eligible for listing in, the CRHR is presumed to be historically or culturally significant.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks register or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be "historical resources" for the purposes of CEQA unless a preponderance of evidence indicates otherwise (Public Resources Code, Section 5024.1g; California Code of Regulations, Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially affected by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts on historical resources (Public Resources Code, Section 21084.1; CEQA Guidelines, Section 15064.5(a)(3)). In general, a historical resource is defined as any object, building, structure, site, area, place, record, or manuscript that:

a) Is historically or archaeologically significant; or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and

b) Meets any of the following criteria:

   (1) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

   (2) is associated with the lives of persons important in our past;

(3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(4) has yielded, or may be likely to yield, information important in prehistory or history.

For historic buildings and structures, CEQA Guidelines Section 15064.5(b)(3) indicates that following the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), mitigates impacts to a less than significant level. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

Archaeological Resources
When an archaeological resource is listed in or eligible to be listed in the CRHR, Section 21084.1 requires that any substantial adverse effect to that resource be considered a significant environmental effect. Sections 21083.2 and 21084.1 operate independently to ensure that potential effects on archaeological resources are considered as part of a project's environmental analysis. Either of these benchmarks may indicate that a proposal may have a potential adverse effect on archaeological resources.

CEQA also requires lead agencies to consider whether projects will affect "unique archaeological resources" (Public Resources Code, Section 21083.2(g)) which are defined as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Treatment options for unique archaeological resources include preservation in place in an undisturbed state; excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a "unique archaeological resource").

Native American Burials
California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (see Section 7050.5(b) of the California Health and Safety Code; Public Resources Code 5097.8; and, CEQA Guidelines section 15064.5(e)).

Cultural Resource Findings
Basin Research Associates cultural resources findings from the literature, archeaological field inventory and outreach to the State of California Native American Heritage Commission (NAHC) and the nine Native Americans individuals/groups listed by the NAHC are summarized below and detailed in Appendix C.

- The project areas are within the Hacienda Area of the AQS County Park in the County of Santa Clara. The Deep Gulch area (2 locations) of the project is located along the Mine Hill Trail. Access to the

Upper Hacienda and Lower Hacienda areas is provided by Alamitos Road, an important transportation vector during the mining era onward. The Alamitos Creek Deposits (3 locations) are present along Alamitos Creek. The Alamitos Creek Bridge Deposits (2 locations) are present under the Alamitos Creek Bridge on Alamitos Road and to the immediate north.

- Six (6) compliance reports on file with the CHRIS/NWIC include the three project areas.
- The general project area is considered an area of archaeological sensitivity in the County of Santa Clara (Garaventa and Guedon 1993; Basin Research Associates 2009).
- No prehistoric and or combined prehistoric/historic era sites have been recorded or reported in or immediately adjacent to the proposed project areas.
- No known ethnographic, traditional or contemporary Native American use areas and/or other features of cultural significance have been identified in or adjacent to the project alignments although the cinnabar ore was considered a valued material by a number of Native American groups.
- No known Hispanic Period expeditions, adobe dwellings, or other structures, features, etc. have been reported in or immediately adjacent to the proposed project areas.
- The project areas are within the boundary defined for CA-SCl-405H (P-43-000411), "New Almaden," which is a National Historic Landmark District (NHL 66000236). The New Almaden Historic District is listed under National Register criterion, "a" and is automatically included on the California Register of Historical Resources (CRHR).
- One recorded American Period resource, Historic Resource #y44, a structure identified as a retort near the Hacienda entrance to the Deep Gulch area, is present within the project area. It has been identified and evaluated as in fair condition, with medium/high integrity, low accessibility, low/medium interpretive value, and as low priority for treatment.

  The retort may have been built in the 1940s or 1950s and was subsequently used by various persons to treat ore. It continued in use up to the point that New Idria Mining and Chemical Company purchased the property. The last operator was John Tobar. The resource does not appear to have been formally recorded and evaluated for the CRHR.
- No evidence of significant prehistoric archaeological resources was observed during the field surveys conducted within the project areas. The surface has been extensively disturbed by historic mining activities primarily the deposition of calcine deposits associated with cinnabar reduction to extract mercury.
- The remains of several features associated with the former Vichy Spring water bottling complex operating from 1867 to 1880/1882 were noted during the field inventory of the Alamitos Creek Bridge Deposit (ACB-1) under Bridge No. 37C0160 on Almaden Road [Fig. 3]. The features include a stone wall, the remains of a wood wall in the creek bank, and the exposed top of what local tradition believes to be the remains of the former Vichy Spring water well - a carbonated water source.
- No other evidence of historically significant archaeological resources was observed during the field surveys conducted within the project areas. The surface has been extensively disturbed by historic mining activities.
- No standing buildings or architectural features other than the retort identified as Historic Resource #y44 and the former location of the Vichy Spring water bottling complex are located in or immediately adjacent to the project areas.
- No local, state or federal historically or architecturally significant structures, landmarks, or points of interest have been identified within or adjacent to the project areas except for their location within a

listed National Historic Landmark District.

IMPACTS AND MITIGATION

The thresholds of significance for cultural resource impacts for the project are defined as situations where construction could:

> Result in damage to, the disruption of, or adversely affect a property that is listed in the California Register of Historical Resources (CRHR) or a local register of historic resources per Section 5020.1 of the Public Resources Code;
>
> Cause damage to, disrupt, or adversely affect an important prehistoric or historic archaeological resource such that its integrity could be compromised or eligibility for future listing on the CRHR diminished; or,
>
> Cause damage to or diminish the significance of an important historic resource such that its integrity could be compromised or eligibility for future listing on the CRHR diminished.
>
> A significant impact would occur if the project would directly or indirectly disturb any human remains, including those interred outside of formal cemeteries.

Any damage to a cultural resource determined to be ~~"i~~important" based on the criteria outlined above would be considered a significant impact.

1. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5 of the CEQA Guidelines, or the County's Historic Preservation Ordinance (i.e. relocation, alterations or demolition of historic resources)?
2. Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5 of the CEQA Guidelines?
6. Disturb potential archaeological resources?

Removal of the calcine deposits in the project will include both deposit and sediment removal around two historic architectural and archaeological features that could affect the cultural materials:

Deep Gulch Deposit #2 - Historic Resource #y44 Retort. The estimated three foot thick soil deposit around the retort has been identified as a potential source of mercury. Ground-disturbing removal activities have the highest potential to directly impact this cultural resource by disturbing both surface and subsurface soils.

Alamitos Creek Bridge Deposit - remains of several features associated with the former Vichy Spring water bottling complex operating from 1867 to 1880/1882 were noted during the field inventory of the Alamitos Creek Bridge Deposit (ACB-1) under Bridge No. 37C0160 on Almaden Road. The estimated three foot thick soil deposit has been identified as a potential source of mercury. Ground-disturbing removal activities have the highest potential to directly impact this cultural resource by disturbing both surface and subsurface soils.

Surface and subsurface disturbances or calcines removal activities may result in the loss of integrity of cultural deposits, loss of information, and the alteration of a site setting. Potential indirect impacts, primarily vandalism, could result from increased access to and use of the general area during both construction and operation. There is also the potential for inadvertent discoveries of buried archaeological materials during construction. This impact is less than significant with the incorporation of the following mitigations.

CUL-1 Measures:
Prior to the initiation of construction or ground disturbing activities, the County Parks staff or designee shall conduct a tailgate meeting to inform all construction personnel of the potential for exposing subsurface cultural resources and to recognize possible buried cultural resources. Personnel shall be informed of the procedures that will be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains and their treatment.

Implementation: County of Santa Clara
Timing: During a pre-construction field meeting with contractors and subcontractors
Monitoring: County staff will require contractor and subcontractors to have each employee attend training session and sign training materials indicating attendance at education program.

CUL-2 Measures:
Two potentially significant archaeological and/or architectural resources have been identified in the project as a result of research and/or survey conducted for the proposed project. Further investigation and evaluation of the identified resources prior to project construction and during project construction is recommended to determine their potential for inclusion on the California Register of Historical Resources. No other potentially significant archaeological or architectural sites or features have been identified in the project as a result of research and/or survey conducted for the proposed project.

A. Historic Resource #y44 - Retort
One American Period structure, Historic Resource #y44, identified as a historic retort is present in the Deep Gulch Deposit #2. It has been previously identified and evaluated as in fair condition, with medium/high integrity, low accessibility, low/medium interpretive value, and as low priority for treatment (see Allen and Crosby 2002). However, the resource appears not to have been formally recorded and evaluated for the CRHR. Possible mercury contamination of adjacent soil and the retort structure strongly indicate that removal may be the only viable option to the County. Mitigation actions shall include:

- Development of an appropriate historic context of the resource; record the resource on appropriate DPR 523 forms; and, formally evaluate the resource for the CRHR.
- Pre-construction treatment measures prior to resource removal shall include HABS/HAER large format (4x5) black & white photography; mapping; and compilation of appropriate measured drawings/plans. In addition, archaeological and architectural monitoring including additional HABS/HAER large format photography of its demolition shall be undertaken due to the potential to expose associated subsurface archaeological deposits and/or buried architectural construction features not visible during pre-construction studies.

B. Vichy Spring Water – Former Bottling Complex

One American Period archaeological resource, cultural materials associated with the former bottling house complex at Vichy Spring now present under the Alamitos Creek Bridge on Almaden Road, was noted during the field inventory. The materials include a stone wall, the remains of a wood wall in the creek bank, and the exposed top of what local tradition believes to be the remains of the former Vichy Spring water well - a carbonated water source bottled from 1867 to 1880/1882. The former Vichy Water bottling complex was demolished in 1939 and the remainder of the resource was supposedly destroyed during the construction of the Alamitos Creek Bridge in 1966. The stone wall is outside the work area and will not be disturbed, while the remains of a wooden wall and possibly the water well are in an area where calcines must be removed and a riprap slope protection constructed to protect the bridge footings. Possible actions include:

- Development of an appropriate historic context of the resource; record the resource on appropriate DPR 523 forms; and, a professional archaeologist and architectural historian shall formally evaluate the resource for the CRHR.
- Archaeological recordation shall be undertaken of any significant subsurface features exposed during calcine removal. The water well will be preserved in place and will not be affected by the proposed project except for the removal of calcines around the well. There are no plans to remove the existing plug/cap. The presence of the calcines shall be reviewed to determine the safe extent of any archaeological recordation program.
- Pre-construction treatment measures prior to resource removal of resources associated with the former Vichy Spring within the project area shall include HABS/HAER large format (4x5) black & white photography; mapping; and compilation of appropriate measured drawings/plans. In addition, archaeological
- and architectural monitoring including additional HABS/HAER large format photography shall be undertaken of any significant associated subsurface archaeological deposits and/or buried architectural construction features not visible during pre-construction..
- Resource protection measures shall include installation of barrier fencing or other appropriate measures to protect the stone wall shall be included in the project construction contract documents.

Implementation: Qualified archaeologist and architectural historian
Timing: Pre-construction and construction evaluation and documentation
Monitoring: County of Santa Clara

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

The project areas located within AQS County Park have been subject to extensive mining operations. The potential to encounter human remains in these calcine piles in considered low. However, the following mitigation measure is included to address any unanticipated discoveries of human remains.

CUL-3 Measures:
Upon discovery of possible buried human remains including potential Native American skeletal remains, work within 100-feet of the find shall be halted and the Santa Clara County‘s Project Manager shall be notified. The Project Manager shall retain a qualified archaeologist to review and evaluate the find. Construction work shall not begin again until the archaeological or cultural resources consultant has been allowed to examine the remains, assess their significance, and offer proposals for any additional exploratory measures deemed necessary for the further evaluation of, and/or mitigation of adverse impacts. Human remains shall be handled in accordance with State law including immediate notification of the County Medical Examiner/Coroner. This potenial impact is less than significant with mitigation incorporated.

Implementation: County of Santa Clara
Timing: During construction
Monitoring: County of Santa Clara

4. Be located in a Historic District (e.g., New Almaden Historic District)?

The project site is located within the New Almaden Historic District. The project requires removal and/or stabilization of visible mercury containing calcine deposits within specified areas ~~is required under the Superfund Law to remove and/or stabilize the mercury containing calcine deposits that remain from mining activities~~ and the project will restore the natural contours of the landscape and native foothill riparian and oak woodland vegetation. Mitigation measures CUL-1 through CUL-3 would guide construction activities and specifies actions to protect in place and/or and to fully evaluate and document the remains of the Vichy Spring Water

Complex and Historic Resource #y44 - Retort and any other potentially significant unknown cultural resources discovered during construction. Mitigation measures BIO-8 and BIO-9 would restore the native foothill riparian and oak woodland forest landscapes that that the _H1' Historic Preservation Zoning District is designed to preserve. This zoning district —..si intended to provide for the preservation of historic sites, historic structures, buildings of architectural significance, and other natural and man-made heritage resources which are included in the National Register of Historic Places, or which are otherwise designated as a registered cultural heritage resource." (County of Santa Clara, 2009. Zoning Ordinance, Article 3.50). The impact of construction on the New Almaden Historic District will be less than significant with mitigation incorporated.

5. Disturb a historic resource or cause a physical change which would affect unique ethnic cultural values or restrict existing religious or sacred uses within the potential impact area?

The project would restore the topography and habitat to approximate the landscape conditions prior to mining activities. This work would not impact or restrict unique ethnic cultural values, existing religious or sacred uses of the land. No impact.

7. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

There are no known unique paleontological resources or sites or unique geologic features in the project area. No impact.

F. ENERGY						
	IMPACT					
WOULD THE PROJECT	**NO**	**YES**				**SOURCE**
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Use non-renewable resources in large quantities or in a wasteful manner?	■	☐	☐	☐	☐	1, 3, 5
2. Involve the removal of vegetation capable of providing summer shade to a building or significantly affect solar access to adjacent property?	■	☐	☐	☐	☐	2, 3

IMPACTS AND MITIGATION

1) Use non-renewable resources in large quantities or in a wasteful manner?

Non-renewable fossil fuel resources will be used to power construction equipment for this project. Fuel use will be as efficiently as possible for this equipment. Measures to ensure efficiency are specified in the Greenhouse Gases section. No impact.

2) Involve the removal of vegetation capable of providing summer shade to a building or significantly affect solar access to adjacent property?

While trees will be removed for this project, none shade buildings or affect solar access to adjacent properties. No impact.

G. GEOLOGY AND SOILS						
	IMPACT					
WOULD THE PROJECT:	NO	YES				SOURCE
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:						
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map 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.	■	☐	☐	☐	☐	6, 17, 43
ii) Strong seismic ground shaking?	☐	■	☐	☐	☐	6, 17,18b
iii) Seismic-related ground failure, including liquefaction?	☐	■	☐	☐	☐	6, 17, 18b
iv) Landslides?	☐	☐	■	☐	☐	6, 17, 118b
2. Result in substantial soil erosion or siltation or the loss of topsoil?	☐	☐	■	☐	☐	6, 2, 3
3. 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, collapse, shrink/ swell potential, soil creep or serve erosion?	☐	☐	■	☐	☐	2, 3, 17, 23, 24, 42
4. Be located on expansive soil, as defined in the report, *Soils of Santa Clara County* or California Building Code, creating substantial risks to life or property?	☐	■	☐	☐	☐	14, 20, 21, 23, 24, 48
5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	■	☐	☐	☐	☐	3,6, 23,24,
6. Cause substantial compaction or over-covering of soil either on-site or off-site?	☐	■	☐	☐	☐	3, 6
7. Cause substantial change in topography or unstable soil conditions from excavation, grading, or fill?	☐	☐	■	☐	☐	2, 3, 6, 42
8. Be located in an area designated as having a potential for major geological hazard?	☐	■	☐	☐	☐	9b,10c,11a 12a,17,18
9. Be located on, or adjacent to a known earthquake fault?	■	☐	☐	☐	☐	9c,10c,11a
10. Be located in a Geologic Study Zone?	☐	☐	■	☐	☐	9c,11a
11. Involve construction of a building, road or septic system on a slope of:	■	☐	☐	☐	☐	9b,10c,11a 12a,17,18
a. 30% or greater?	■	☐	☐	☐	☐	1,3,10j,11c
b. 20% to 30%?	■	☐	☐	☐	☐	1,3,10j,11c
c. 10% to 20%?	■	☐	☐	☐	☐	1,3,10j,11c

DISCUSSION

The text contained in the setting and mitigation measures of this section is excerpted from the Geology and Soils Report prepared for this project by Cotton, Shires and Associates (2010) (See Appendix D).

Geology
The geologic units mapped in the area of the proposed project include mélange, chert, and basaltic volcanic rocks of the Franciscan Complex (R.J. McLaughlin, et al., 2001). In addition, a mapped Quaternary Landslide (Qls) of approximately 2,300 feet in length and 1,000 feet in width is located on the southeastern bank of Alamitos Creek and upslope areas of Upper Hacienda Calcine deposits. The size and geomorphology of this landslide suggests a depth of landsliding exceeding 60 feet.

Seismicity
Active faults have not been mapped across the project area and the site is not located within the State's Special Fault Study Zone. Consequently, the risk of primary fault rupture through the project area is low. State designated active Type A and B faults mapped near the project include the Monta Vista-Shannon fault (1.4 miles northwest), Sargent fault (4.2 miles southwest) and San Andreas fault (5.9 miles southwest). Very strong seismic ground shaking should be anticipated at the project site in response to a major local earthquake.

Seismic ground shaking could trigger potential liquefaction within young alluvial deposits located adjacent to Alamitos Creek. Liquefaction could result in sand boils, lateral spreading, and settlement. Impacts associated with possible liquefaction should not impact the intent of the project (removal of exposed calcine material).

Soils
Soils in the project vicinity generally consist of gravelly- to sandy silt largely representing colluvial and alluvial deposits. Site soils have a moderate to high potential for erosion when unvegetated. Calcine materials are typically associated with artificial fill (mining spoil deposits). In addition, calcine materials have been mixed with local soils by water transport and by gravity mixing on slopes with colluvial soil deposits. Calcine deposits identified for removal are typically located near active drainage channels or on steep embankments near drainage channels. Calcine removal in some areas will result in exposure of underlying steep natural slopes with the potential for erosion.

IMPACTS AND MITIGATIONS

1) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent special studies Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

No active faults are known to pass through the project area, and the proposed project is not located within a State of California designated Fault Special Study Zone. Consequently, fault rupture through the project area is not likely to occur. Implementation of the proposed project would not result in the construction of any structures for human habitation, nor would it significantly increase long-term human use of the project area. Consequently, there is no anticipated impact on humans or structures from fault rupture.

ii) Strong seismic ground shaking?

Although no known active faults have been identified within the project area, very strong ground shaking can be expected to occur at the project area during major earthquakes in the region. Impacts to the project resulting from anticipated seismic ground shaking would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

The Upper and Lower Hacienda project areas and planned calcine removals beneath Alamitos Creek Bridge are located within a zone of potential liquefaction as delineated on the Santa Teresa Hills Quadrangle Hazard Zone Map prepared by the California Geologic Survey (CGS, 2003). The affects of potential liquefaction at or in the immediate vicinity of the project site could include sand boils, lateral spreading, and settlement. The proposed project should not increase potential hazards from liquefaction and planned calcine removal is unlikely to be impacted by potential liquefaction. Implementation of the proposed project would not result in the construction of any structures for human habitation, nor would it significantly increase long-term human use of the project area. Therefore, the potential impacts on humans from liquefaction (as a result of the project) are less than significant.

iv) Landslides?

An existing mapped Quaternary Landslide (Qls) underlies the Upper Hacienda calcine removal area (R. F. McLaughlin, et. al., 2001). This landslide is over 2,000 feet in length and project calcine removal in the Upper Hacienda area is not of sufficient volume to result in potential reactivation of the massive Qls deposit. Calcine removal in this vicinity is also located near the base of a steep slope. Pacific Geotechnical Engineering (Geotechnical Investigation of January 14, 2010) has concluded that native earth materials are present beneath the calcine deposits planned for removal, and that the project is not anticipated to have a significant impact on the stability of native slopes. Pacific Geotechnical Engineering has recommended that final slopes be established in accordance with the recommendations of their report, and that they provide geotechnical construction inspection services to verify anticipated earth materials, and to confirm the adequacy of presented recommendations.

Project calcine removal in areas of steep slopes has the potential to result in adverse slope stability impacts. Current project design recommendations prepared by Pacific Geotechnical Engineering are sufficient to address potential slope instability impacts. In addition, the project will require an erosion protection/riprap wall at the edge of Alamitos Creek at the base of the Upper Hacienda calcine removal area. There is a slight chance that excavation for this structure could result in material sliding down the slope. Appropriate geotechnical inspection and preparation of supplemental design recommendations (if needed) during project grading would reduce the impact to less than significant. The following geotechnical construction inspection services are an essential part of the project.

GEO-1 Measures:

a. Conduct geotechnical inspection of all final slopes of 2:1 (horizontal:vertical) or steeper in areas of calcine removal. Exposed slopes should be inspected by the Geotechnical Consultant prior to application of erosion control measures.

b. Conduct full time geotechnical inspection during calcine removal in the Upper Hacienda area (this removal site is anticipated to be underlain by Qls materials).

c. Excavation of first segment of rock slope foundation at Upper Hacienda to be observed by a County staff.

Implementation: Geotechnical consultant for GEO-1a and b; County staff for GEO-1c
Timing: Upon completion of grading for all calcines sites except Upper Hacienda (UH-1 and UH-2) which would require full time inspection during calcine excavation
Monitoring: County of Santa Clara

2) Would the project result in substantial soil erosion or the loss of topsoil?

Construction would involve temporary ground disturbing activities, including excavation and removal of calcine deposits, establishment of temporary channel crossings along Alamitos Creek, and other temporary

access routes for equipment. These impacts will be reduced to less than significance with Stormwater Pollution Prevention Plan implementation (See **HYD-1**). Vegetation removal and regrading will result in areas that could erode after construction. These activities will expose unvegetated soils, which would accelerate erosion and sedimentation and could expose native slopes to scour during high flow or flood events. Areas disturbed during the construction phase would be addressed by revegetation with trees and native understory and ground cover vegetation (See **BIO-8** and **BIO-9**) as well as measures given in the *Guidelines and Standards for Land Use Near Streams* (SCVWRPC, 2006), such as natural fiber netting/erosion control blanket installation on steeper slopes (See **HYD-2**). Disturbed slope areas within the limits of seasonal flooding would be addressed by placement bioengineering structures (SCVWRPC, 2006) and more traditional engineering methods such as riprap, when required. The existing drainage pipe discharging above the Upper Hacienda area is to be extended or the flow path below the pipe outlet is to be armored to prevent erosion of steep slopes in this vicinity. All erosion protection mitigation measures are to be completed prior to initiation of seasonal rainfall (October 15).

Construction of the proposed project could accelerate erosion, and would be potentially significant. However, this impact is less than significant with incorporation of the following mitigations.

GEO-2 Measures:

a. Stormwater Pollution Prevention Plan
b. Surface Erosion Control Treatments (Hydroseeding and/or Fiber Netting)
c. Replacement Planting
d. Placement of rip-rap (rock slope protection) over calcine removal areas beneath Alamitos bridge
e. Placement of rip-rap at the toe of slopes within the Upper Hacienda and Alamitos Creek removal areas to protect from scour under high flow conditions
f. Drainage control improvements to mitigate the potential for erosion resulting from culvert discharge above the Upper Hacienda area

Implementation: County of Santa Clara
Timing: Integrate measures into construction documents and implement during construction
Monitoring: County of Santa Clara

3) Would the project 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, collapse, shrink/swell potential, soil creep, or severe erosion?

As indicated above, the project calcine removal includes areas that have the potential for liquefaction, lateral spreading, erosion, and slope instability. The project is not anticipated to result in the aggravation of these existing conditions. Any potential impacts will be reduced to less than significant with incorporation of **GEO-1** and **GEO-2** mitigations.

4) Would the project be located on expansive soil, as defined in the report Soils of Santa Clara County or California Building Code, creating substantial risks to life or property?

The project area may include expansive soils. However, no significant new structures are proposed for construction that could be damaged. The project would not create substantial risks related to expansive soils. The project would have a less than significant impact.

5) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed project would not involve the construction or operation of septic tanks or other waste disposal systems. Therefore, the proposed project would have no impacts related to wastewater disposal.

6) Would the project cause substantial compaction of over-covering of soil either on-site or off-site?

The proposed project includes removal of calcine and placement of this material in the designated "San Francisco Open Cut" area that was previously utilized for the Jacques Gulch Restoration Project. The project would not result in substantial compaction or over-covering of on-site soil. Less than significant impact.

7) Would the project cause substantial change in topography or unstable soil conditions from excavation, grading, or fill?

The project includes isolated areas of change in topography. These changes result from removal of artificial fill material and restoration of grades that match with adjoining native slopes. Substantial grading (beyond calcine removal) is not part of the project and negative impacts to native slopes are not anticipated. Less than significant with mitigations incorporated (**GEO-1** and **GEO-2**).

8) Would the project be located in an area designated as having a potential for major geologic hazard?

The channel of Alamitos Creek and immediately adjoining flood plains are located within State mapped liquefaction hazard zones. Moderate to steep slopes located on both sides of the creek corridor are uniformly located within State mapped earthquake-induced landslide hazard zones (Santa Teresa Hills Quadrangle Hazard Zone Map, CGS 2003). The proposed project with currently defined mitigation measures would not result in aggravation of these existing conditions, or increased exposure of structures or the public to these potential hazards. Less than significant impact.

9) Would the project be located on or adjacent to a known earthquake fault?

The closest active Type A or B faults are located approximately 1.4 to 5.9 miles from the site. Consequently, the potential for fault rupture across the project site is low. No impact.

10) Would the project be located in a Geologic Study Zone?

The site is not located within the State's Special Fault Study Zone. Comments about the local mapped liquefaction and earthquake-induced landslide hazard zones are addressed in Item 8 above. Less than significant with mitigations incorporated (**GEO-1** and **GEO-2**).

11) Would the project involve construction of building, road or septic system on a slope?

The project does not include construction of a building, road, or septic system. No impact.

H. GREENHOUSE GAS EMISSIONS						
	IMPACT					SOURCE
WOULD THE PROJECT	NO	YES				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	☐	■	☐	☐	☐	1, 3, 5
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	■	☐	☐	☐	2, 3
3. Would the project increase greenhouse gas emissions that hinder or delay the State's ability to meet the reduction target (25% reduction by 2020) contained in CA Global Warming Solutions Act of 2006 (AB 32)?	☐	■	☐	☐	☐	

IMPACTS AND MITIGATIONS

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
3) Would the project increase greenhouse gas emissions that hinder or delay the State's ability to meet the reduction target (25% reduction by 2020) contained in Global Warming Solutions Act of 2006 (AB 32)?

Through the adoption of AB 32 (California Global Warming Solutions Act of 2006), the State of California has set the goal of reducing greenhouse gas (GHG) production by 25% from 2000 levels by 2020. Currently, neither the Office of Planning and Research (OPR) nor the Bay Area Air Quality Management District (BAAQMD) have developed thresholds for significant impacts from GHGs resulting from construction impacts. CAPCOA (2008) notes that, "CEQA law does not require a lead agency to establish significance thresholds for GHG. CEQA guidelines encourage the development of thresholds, but the absence of an adopted threshold does not relieve the agency from the obligation to determine significance." In its proposed changes to CEQA, OPR states that lead agencies can rely on a qualitative analysis or performance based standards to estimate GHG emissions.

The Bay Area Air Quality Management District (BAAQMD) recently adopted CEQA Air Quality Guidelines (June 2010). While these guidelines do not set thresholds for construction-related GHGs, they state that "the Lead Agency should quantify and disclose GHG emissions that would occur during construction, and make a determination on the significance of these construction generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals, as required by the Public Resources Code, Section 21082.2. The Lead Agency is encouraged to incorporate best management practices to reduce GHG emissions during construction, as feasible and applicable" (BAAQMD, 2010). A relevant standard for judging for GHG emissions is the BAAQMD threshold for "operational-related" GHG emissions of 1,100 MT (Metric Tons) of carbon dioxide (CO_2) per year.

Greenhouse gas emissions generated the Hacienda and Deep Gulch Remediation Project will result from two activities. First, trees and vegetation will be removed, which removes carbon sinks. However, trees will be replaced on a 3:1 basis and an estimated 51,000 SF will be revegetated with oak woodland and riparian species (**BIO-8** and **BIO-9**). The plants will be monitored and maintained by the County of Santa Clara to ensure they establish. These measures will, over time, compensate for the CO_2 sequestration levels of the original vegetation. To the extent that more trees survive, sequestration may be increased. Second, during construction, the consumption of fuel by vehicles and equipment related to construction activity would generate GHG emissions. This project has no long-term operational GHG impacts since, once the remediation is complete, the site will return to parkland with natural habitats.

A qualitative estimate of the GHG emissions from this project can be developed based on a similar County Parks project, the Madrone Landfill Closure Project. The emissions for the Madrone project were quantified using Urbemis 2007 model for all of the construction activity and phases involving grading for covering and capping a landfill area as well as demolition of existing trail segment and grading/reconstructing a of the trail. Equipment for the Madrone project was similar to that which will be used for the Hacienda and Deep Gulch Remediation Project, including personal light trucks, graders, compactors, loaders, water trucks, scrapers, dozers and 10-wheeler dirt haulers. However, the Madrone project was estimated to take 40 days, while Hacienda and Deep Gulch Remediation is expected to take approximately 100 days. In addition, 10-wheelers were estimated to make 280 trips for Madrone, while approximately 900 trips will be required this project. In essence, the construction work for this project is approximately 3 times the size of Madrone. The GHG quantification for the Madrone project yielded 20,122.85 pound/day, or approximately 9 MT/day, of carbon dioxide emissions as a result of the grading and construction activities for 37 days, or a total of 333 MT. Estimating the Hacienda and Deep Gulch Remediation as 3 times the size of the GHG output of the Madrone project, would mean an output of approximately 1,000 MT total. Upon completion of the remediation project the construction related GHG emissions will cease.

As recommended by the BAAQMD, the County will implement these BMPs, to the extent feasible, to reduce construction –related GHG output:

a. All construction vehicles, equipment and delivery trucks shall have a maximum idling time of 5 minutes (5 minute limit require by Title 13, Section 2485, California Code of Regulations). Engines shall be shut off if construction requires longer idling time unless necessary for proper operation of the vehicle.
b. Provide signage at the entrances to the site that clearly state this requirement.
c. Maintain all construction equipment in proper working condition. Equipment must be maintained by a certified mechanic and documented to be in proper condition before operated on the site.
d. Use equipment properly-sized for the job.
e. If feasible, use an CARB-approved low carbon fuel for construction equipment (SMAQMD, 2009).

The impacts of this project are <u>less than significant</u>.

I. HAZARDS AND HAZARDOUS MATERIALS

WOULD THE PROJECT	IMPACT					SOURCE
	NO	YES				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐	☐	1, 3, 4, 5
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?	☐	☐	■	☐	☐	
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	■	☐	☐	☐	☐	
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	■	☐	☐	☐	☐	
5. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐	☐	
6. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	■	☐	☐	
7. Involve risk of explosion or release of hazardous substances (including pesticides, herbicides, toxic substances, oil, chemicals or radioactive materials?	■	☐	☐	☐	☐	1, 3, 4, 5
8. Provide breeding grounds for vectors?	■	☐	☐	☐	☐	1, 3, 5
9. Proposed site plan result in a safety hazard (i.e., parking layout, access, closed community, etc.)?	■	☐	☐	☐	☐	3
10. Involve construction of a building, road or septic system on a slope of 30% or greater?	■	☐	☐	☐	☐	1, 3, 17n
11. Involve construction of a roadway greater than 20% slope for a distance of 300' or more?	■	☐	☐	☐	☐	1, 3, 17n
12. Be located within 200' of a 230KV or above electrical transmission line	■	☐	☐	☐	☐	2,4
13. Create any health hazard?	☐	☐	■	☐	☐	1,3,4,5

14. Expose people to existing sources of potential health hazards?	☐	☐	■	☐	☐	2,3,4
15. Be located in an Airport Land Use Commission Safety Zone?	■	☐	☐	☐	☐	31
16. Increase fire hazard in an area already involving extreme fire hazard?	☐	☐	■	☐	☐	10g
17. Be located on a cul-de-sacs over 800 ft. in length and require secondary access which will be difficult to obtain?	■	☐	☐	☐	☐	1,3,4,32,33
18. Employ technology which could adversely affect safety in case of a breakdown?	■	☐	☐	☐	☐	1,3,5

DISCUSSION

Mercury from calcine deposits is the primary hazard on this project site. Although a naturally-occurring element, mercury in the environment is a concern for both people and wildlife because exposure can result in many lethal and sublethal effects. Human activities such as mining, have added mercury to the atmosphere at levels that are now three to six times higher than those estimated before the industrial age, but still these levels are "very, very low and do not pose a health risk" (ATSDR, 1999).

Mercuric sulfide (cinnabar ore) is one common form of mercury and the form found at the Hacienda Furnace Yard. Cinnebar ore, cooked at 1,000 degrees F, releases elemental mercury that can be used for human purposes. The remaining ore, called calcines, have varying levels of residual mercury. So much methylmercury has been released by the Hacienda calcine deposits that the site is listed as a state hazardous site and has been the focus of remediation efforts for two decades. High mercury levels can harm the human nervous system, including brain damage and tremors. Depending on its state, mercury can harm lungs, kidneys, mouth/throat/nasal tissues, can cause vomiting, rashes, and can cause birth defects. Children are especially susceptible to the harmful effects of mercury. People can be exposed to metallic mercury vapors from breathing contaminated air around hazardous sites although most outdoor air is not likely to contain levels that would be harmful. Exposure to mercury compounds at hazardous waste sites is much more likely to occur from handling or ingesting contaminated soil or drinking contaminated well-water waters near those sites.

Due to high levels of mercury escaping into soils and waters from calcines, Almaden Quicksilver County Park is included on the list of hazardous waste sites ("Cortese" List) compiled by the Department of Toxic Substances Control pursuant to Government Code Section 65962.5 (Cal EPA, 2006 http://www.calepa.ca.gov/sitecleanup/corteselist/SectionA.htm). This project will remove visible calcine deposits, which is expected to reduce levels of mercury in soils, water, and sediment below current levels, decreasing mercury risks to wildlife and people from methylmercury. However, during the project, calcine deposits will be dug up and moved to Mine Hill. Both these activities could add mercury-contaminated dust to the air. This project will remove approximately 9,000 CY of calcines and contaminated material in an area approximately 24,000 SF (approximately 0.55 acres). This estimate does not include the area required for equipment access and other construction related activities. The calcine removal actions are expected to last from April 15 to October 15. Material will be trucked to "San Francisco Open Cut" at Mine Hill, which does not require trucks to go through the Town of New Almaden.

The Engineer's Report for Hacienda Furnace Yard (CH2M Hill, 2009) gives the results for 110 soil analyses taken at 55 sites. The report states, "Average mercury concentrations were highest for the Deep Gulch calcine deposit (269 mg/kg) and the Lower Hacienda calcine deposits (169 and 241 mg/kg for Deposits 1 and 2). The average mercury concentration for the Upper Hacienda Calcine Deposit 1 was 55 mg/kg. The lowest average

mercury concentrations were associated with the Upper Hacienda Calcine Deposit 2 (17 mg/kg), the Upper Furnace Yard Calcine Deposit (23 mg/kg), and the Alamitos Creek Calcine Deposit (24 mg/kg). The results are consistent with sampling results for calcines summarized on Map of Area CP-1, Hacienda Furnace Area (CDM, 1994), which indicated that average mercury concentrations for calcines were 200 mg/kg, and for samples other than calcines were 270 mg/kg." All levels are below the 400 mg/kg remediation level set in the Remedial Action Plan (RAP) for the Hacienda Furnace Yard Site calcine sites (CDM, 1994).

IMPACTS AND MITIGATIONS

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
13) Create any health hazard?
14) Expose people to existing sources of potential health hazards?

These three categories focus on the exposure of people to hazards either existing or created by the project. Excavation of calcine and trucking to "San Francisco Open Cut" for the project has the potential to increase the amount of mercury-contaminated dust in the vicinity for the short-term. Dust from the excavation work could increase the opportunity for inhalation, potentially creating a health risk. This dust could expose construction workers, park visitors, and local residents to increased amounts of mercury, as compared to current conditions. To prevent fugitive dust from creating a health risk, implement mitigations **HAZ-1** and **HAZ-2**, below. Incorporating these mitigations will reduce this potential impact to less than significant.

Sediment could enter Alamitos Creek as a result of calcine removal, stockpiling and transport activities as well as from erosion of denuded areas after construction. This sediment could pose a hazard to the environment. These hazards will be prevented by implementing measures in **HAZ-3** below, which include a Stormwater Pollution Prevention Plan (See **HYD-1**) and following the measures given in the *Guidelines and Standards for Land Use Near Streams* (See **HYD-2**). Incorporating these mitigations will reduce this impact to less than significant.

HAZ-1 Measures:
A worker safety and health program, as required by CalOSHA will be implemented during calcine and soil removal, transport, and consolidation. It is anticipated, based on the Jacques Gulch project and the Camp Dresser McKee Final Remedial Action Plan (1994), that Level D Personal Protective Equipment would be worn by all workers involved in or near to soils disturbance and movement. However, the necessary level of protection will be determined based on field conditions at the time of project execution. The worker safety and health program will:

a. Minimize human contact with contaminated soils, inhalation of dust, and contact with ground or surface water.
b. Inform workers and Park visitors of the relevant aspects of the safety and health program.
c. Require the responsible contractor shall monitor and enforce compliance.
d. Require visitors and other non-essential personnel to stay a distance adequate to ensure their safety. Visitors to the site shall be provided appropriate Personal Protective Equipment.

The site will be open only to workers and individuals required to undertake or inspect work. Active removal areas will be fenced with temporary construction-type chain link fences adequate to prevent unauthorized entry. The fence will be maintained for the duration of soil disturbance activities.

Implementation: County staff or qualified expert
Timing: During project work monitor for compliance with worker safety program
Monitoring: County of Santa Clara will report compliance with **HAZ-1** measures to lead agency and other relevant agencies.

HAZ-2 Measures:
To ensure workers and visitors are not exposed to hazardous calcine and soil dust, a fugitive dust control program shall be developed and implemented by the contractor, as approved by the County. This program shall include an onsite Air Quality Monitor (AQM), a Dust Control Plan (DCP), monitoring of the project sites and the transport route for visible dust plumes. The AQM will require more frequent and more extensive dust control methods, should standard methods not be adequate to control airborne dust. Dust control measures, as described in the Jacques Gulch Mitigated Negative Declaration are cited here as they are relevant and adequate for the Hacienda and Deep Gulch Remediation Project.

~~a~~. The project shall designate and retain onsite an Air Quality Monitor (AQM) who shall be responsible for directing and documenting compliance with dust control measures for the entire project site and transportation route to the consolidation area. The AQM shall have full access to all areas of excavation and loading on the site, and shall have the authority to stop any or modify all activities as warranted in order to ensure that these dust control measures remain adequate to control dust generation.

b. A Dust Control Plan (DCP) shall be developed and implemented to prevent the generation of dust during soils movement. The plan shall include measures to ensure the following:

- All unpaved roads and disturbed areas in the project site shall be watered as frequently as necessary to comply with the dust mitigation objectives. The frequency of watering can be reduced or eliminated during periods of precipitation.
- No vehicle shall exceed 15 miles per hour within the site or on any unpaved road along the transport route to the soils repository.
- All site entrances shall be posted with visible speed limit signs.
- All vehicles leaving the site that have ridden on contaminated soil shall have their tires inspected and dirt removed and/or washed as necessary to be cleaned free of dirt prior to leaving the site and/or entering paved roadways. This is done with metal pikes, large wire brushes, and water. The volume of water is to be kept at a minimum and kept contained. Decontamination of vehicle tires shall be conducted. This can be done on top of 50-mil Visqueen plastic sheets with small berms on the perimeter to keep the water/soil from flowing off except into collection areas, or, if Visqueen plastic is not used, gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.
- Soil removal areas adjacent to any paved roadway shall be provided with sandbags or other measures as required to prevent runoff to roadways.
- All soil storage piles and disturbed areas that remain inactive for longer than 2 days, or if high wind conditions exist, shall be covered or shall be treated with appropriate dust suppressant compounds.
- All vehicles that are used to transport excavated material to the consolidation area and that have potential to cause visible dust emissions shall be provided with a cover or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.
- Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all areas of soil that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.
- The AQM shall monitor all soil removal activities on the site and the transport route for visible dust plumes. Observations of visible dust plumes that have the potential to be transported: (1) off the project site; (2) 100 feet beyond the centerline of the transport route; (3) within 25 feet downwind of any soil removal/excavation activity; (4) within the presence of onsite workers such that they will become exposed to an inhalation hazard shall be an indication that existing dust suppression/control measures are not resulting in effective mitigation. The AQM shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed:

- Step 1: The AQM shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination.
- Step 2: The AQM shall direct implementation of additional methods of dust suppression if Step 1 specified above fails to result in adequate mitigation within 30 minutes of the original determination.
- Step 3: The AQM shall direct a temporary shutdown of the activity causing the emissions if Step 2 specified above fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQM is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source."
  (Jacques Gulch Mitigated Negative Declaration, 2008).

Implementation: County staff or qualified expert
Timing: During project work monitor for compliance with fugitive dust control program
Monitoring: County of Santa Clara Inspector will report compliance with HAZ-2 measures to lead agency and other relevant agencies.

HAZ-3 Measures:
To prevent stockpiled sediments from entering Alamitos Creek, sediments will be stored and transported in a manner that minimizes water quality impacts as follows:

a. Wet sediments will be stockpiled in a manner that prevents any material or water from draining into Alamitos Creek.
b. Water will not drain directly into public streets without providing water quality control measures.
c. Streets will be cleared of mud and/or dirt by street sweeping (with a vacuum-powered street sweeper), as necessary, and not by hosing down the street.
d. Follow measures in **HYD-1** and **HYD-2** for construction and post-construction control of sediments and prevention of soil erosion.

Implementation: County staff or qualified expert
Timing: During project work monitor for compliance with measures to prevent sediment from moving into Alamitos Creek.
Monitoring: County of Santa Clara Inspector will report compliance with HAZ-3 measures to lead agency and other relevant agencies.

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?

While no foreseeable upset could release hazardous materials that would endanger the public, there are three potential routes by which hazardous materials could accidentally be released into the environment:

1. Equipment on site could leak diesel, gasoline, oil, and other lubricants onto soils or into Alamitos Creek and Deep Gulch. These materials would be onsite only in quantities sufficient to operate the equipment. The contractor will implement standard BMPs for ensuring these materials do not leak into waters on site, which will reduce this impact to less than significant.
2. Materials stockpiled on site could be washed into Alamitos Creek. Measures to reduce this impact to less than significant are given in **HAZ-3** measures.
3. Calcines and materials from steep hillside excavations at Upper Hacienda and Alamitos Creek (AC-2) could fall into Alamitos Creek and those from Deep Gulch could fall into these intermittent drainage. However, construction methods will reduce this impact to less than significant. At Upper Hacienda and Alamitos Creek (AC-2), the creek will be dewatered and diverted in a pipe around the site. Any material that falls in the creek bed will not contaminate stream water and will be removed before the creek is returned to its

original course. All other areas where materials could potentially reach the stream or the drainage will be protected with SWPP Plan and erosion prevention measures (**HYD-1**). Less than significant with mitigations incorporated.

HAZ-4 Measures:
Standard County of Santa Clara BMPs for controlling oil, grease and fuel from construction vehicles.

Implementation: County staff or qualified expert
Timing: During project work, monitor for compliance with BMPs for controlling oil, grease and fuel runoff from
Monitoring: County of Santa Clara Inspector will report compliance with HAZ-4 measures to lead agency and other relevant agencies.

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

The project does not entail the management of acutely hazardous materials, substances, or waste, nor are there existing schools located within 1/4 mile of the project. 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?

Almaden Quicksilver County Park is included on the list of hazardous waste sites (―Cortese" List) compiled by the Department of Toxic Substances Control (DTSC) pursuant to Government Code Section 65962.5. The Park is listed because of the high levels of mercury escaping into the environment from the calcines. This project is intended to reduce these mercury impacts to less than significance. Four areas in the Hacienda Furnace Yard area were remediated previously and some calcines were capped on site. These capped areas are inspected each year to ensure they are intact and calcines are not exposed. The current project will disturb one of these previous remediation areas that is located between Alamitos Road and Alamitos Creek (AC-2). Additional material from this former remediation site will be excavated and consolidate at the ―San Francisco Open Cut" at Mine Hill. This material will be removed to provide access and create stabile slopes to the AC-2 deposit. The exposed portion of this remediation area will be recapped with no less than two feet of clean fill or other measures as specified by DTSC.

As part of this project, calcines will be transported to an existing consolidation site at the ―San Francisco Open Cut". This site is where calcine materials have been previously consolidated and capped during remedial actions implemented elsewhere in the County Park and at Jacques Gulch, under the oversight of the California DTSC. Therefore, hazardous waste from this project would be added directly to an existing hazardous waste depository. No disturbance of the existing waste would occur. Therefore, this project would have no impact on the existing hazardous waste site.

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

Construction activities adjacent to Alamitos Road and increased truck and vehicle traffic along haul routes could temporarily increase response times for emergency response providers along affected roadways. This impact could occur on the public roads, but only very briefly during the movement of construction equipment. This impact is addressed in the Transportation section and this impact is reduced to less than significant with incorporation of mitigation measure TRA-2.

6) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
16) Increase fire hazard in an area already involving extreme fire hazard?

The project area is in a "high" Fire Severity Zone (Cal FIRE, 2007). The project would be conducted during the summer and fall when fire danger non-native grasses and weeds dry out and fire danger increases. Downed wood, leaves and other dry plant material cover much of the site and could serve as fuel. Hot construction equipment on site could increase risks of fire. This risk is minor, but incorporating **HAZ-5** measures will ensure this impact is less than significant.

HAZ-5 Measures:

a. A water truck will remain on site equipped with a hose that can be used to spray water on fires.
b. Each construction vehicle will be equipped with a fire extinguisher.
c. Workers will be instructed in the need to stay alert to the start of fires and will be given instruction in using fire extinguishers; the construction manager will be informed immediately if a fire starts.
d. SWPPP measures will ensure that water and chemicals required to stop fires will not enter Alamitos Creek.

Implementation: County staff or qualified expert
Timing: During project work, monitor for compliance with wildfire control measures
Monitoring: County of Santa Clara Inspector will report compliance with HAZ-5 measures to lead agency and other relevant agencies.

7) Involve risk of explosion or release of hazardous substances (including pesticides, herbicides, toxic substances, oil, chemicals or radioactive materials?

The project does not require explosives so there is no risk of explosion or release of hazardous substances including pesticides, herbicides, toxic substances, oil, chemicals or radioactive materials. No impact.

8) Provide breeding grounds for vectors?

The project would not increase standing water on site and so would not provide breeding grounds for vectors. No impact.

9) Proposed site plan result in a safety hazard (i.e., parking layout, access, closed community, etc.)?

The project does not include a site plan and therefore cannot result in a safety hazard from the plan (i.e., parking layout, access, closed community, etc.). No impact.

10) Involve construction of a building, road or septic system on a slope of 30% or greater?

This project does not include construction of a building, road or septic system. No impact.

11) Involve construction of a roadway greater than 20% slope for a distance of 300' or more?

No roadway construction of any type is part of this project. No impact.

12. Be located within 200' of a 230KV or above electrical transmission line?

The project is not located within 200' of a 230KV or above electrical transmission line. No impact.

15. Be located in an Airport Land Use Commission Safety Zone?

No airports lie within two miles of any part of the proposed project; therefore, there is no impact to public safety associated with aircraft operations or an aircraft safety hazard for workers or nearby residents. No impact.

17. Be located on a cul-de-sac over 800 ft. in length and require secondary access which will be difficult to obtain?

The project is not located on a cul-de-sac. No impact.

18. Employ technology which could adversely affect safety in case of a breakdown?

This project does not employ technology which could adversely affect safety in case of a breakdown. Construction equipment is the only technology associated with the project. No impact.

J. HYDROLOGY AND WATER QUALITY						
	IMPACT					
WOULD THE PROJECT:	**NO**	**YES**				**SOURCE**
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Violate any water quality standards or waste discharge requirements?	☐	☐	■	☐	☐	34, 36
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?	■	☐	☐	☐	☐	3, 4
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on or off site?	☐	☐	■	☐	☐	
4. 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?	■	☐	☐	☐	☐	3
5. Create or contribute increased impervious surfaces and associated runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	■	☐	☐	☐	☐	1, 3, 5, 36, 21a
6. Degrade surface or ground water quality or public water supply? (Including marine, fresh and wetland waters.)	☐	☐	■	☐	☐	1,3,11b,21 ,46
7. Place a structure within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or	■	☐	☐	☐	☐	3, 18b, 18d

	Flood Insurance Rate Map or other flood hazard delineation map?						
8.	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	■	☐	☐	☐	☐	3, 18b, 18d
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?	■	☐	☐	☐	☐	2, 3, 4
10.	Result in an increase in pollutant discharges to receiving waters?	☐	☐	■	☐	☐	
11.	Be located in an area of special water quality concern (e.g., Los Gatos or Guadalupe Watershed)?	☐	☐	■	☐	☐	4, 6a,
12.	Result in use of well water previously contaminated by nitrates, mercury, asbestos, etc. existing in the groundwater supply?	■	☐	☐	☐	☐	10e,23
13.	Result in a septic field being constructed on soil with severe septic drain field limitations or where a high water table extends close to the natural land surface?	■	☐	☐	☐	☐	10e,11b,12d, 20,21,22,24
14.	Result in a septic field being located within 50 feet of a drainage swale; 100 feet of any well, water course or water body or 200 feet of a reservoir at capacity?	■	☐	☐	☐	☐	1,2,3,4
15.	Conflict with Water Resources Protection Collaborative Guidelines and Standards for Land Uses near Streams?	☐	■	☐	☐	☐	22, 51
16.	Result in extensions of a sewer trunk line with capacity to serve new development?	■	☐	☐	☐	☐	3
17.	Require a NPDES permit for construction [Does it disturb one (1) acre or more]?	■	☐	☐	☐	☐	3, 46
18.	Result in significant changes to receiving waters quality during or following construction?	☐	☐	■	☐	☐	46,47
19.	Is the project a tributary to an already impaired water body? If so will the project result in an increase in any existing pollutants?	☐	☐	■	☐	☐	46,47
20.	Substantially change the direction, rate of flow, or quantity, or quality of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	■	☐	☐	☐	☐	1,3,46
21.	Interfere substantially with ground water recharge or reduce the amount of groundwater otherwise available for public water supplies?	■	☐	☐	☐	☐	3,10e,11b
22.	Involve a surface water body, natural drainage channel, streambed or water course such as to alter the amount, location, course, or flow of its waters?	☐	☐	■	☐	☐	1,3,11c,28,45

DISCUSSION

Surface Water

Alamitos Creek flows through the Project area, eventually flowing into the Guadalupe River, which empties into southern San Francisco Bay. The Almaden Reservoir is upstream a few miles from the Hacienda Furnace Yard on Alamitos Creek. Alamitos Creek is a perennial stream with summertime flows maintained by releases from the Almaden Reservoir (SCVWD, 2003). In the Hacienda Furnace Yard Area, the Alamitos Creek stream gradient is relatively steep characterized by pool-riffle morphology. The Deep Gulch drainage

is tributary to Alamitos Creek and in the project area is dry or nearly so during the summer months. This drainage is characterized by step-pool stream morphology" (CH2M Hill, 2009). These are the primary surface waters in the project area.

The project is in a Mediterranean climate zone and rainfall occurs predominantly from October through March. However, rain can occur into June and thunderstorms can cause summer and fall precipitation. At the nearby Jacques Gulch watershed, an average of 34 inches of rain falls per year. Much of the project is in the Alamitos Creek floodplain. During rainfall events, water can cause erosion of slopes and substantial sediment and other material can be transported downstream There are no structures in or near the floodplain that would be at risk. However, revegetation and post-construction erosion control measures will need to factor in the power of floodwaters in Alamitos Creek in the rainy season.

Regulations and Agencies
The Clean Water Act (CWA), administered by the U.S. Environmental Protection Agency (EPA), is the overarching law protecting surface water quality. Under CWA Section 303(d), the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards are required to list bodies of water as impaired when the traditional permitting processes for waste discharges have failed to maintain designated water quality objectives and standards. CWA Section 303(d) also requires preparation of a Total Maximum Daily Load (TMDL) program for waters identified by the state as impaired. Guadalupe River is listed as a 303(d) impaired water body.

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program. In California, the SWRCB is authorized by the EPA to oversee the NPDES program through the Regional Water Quality Control Boards (RWQCB). The RWQCB has the primary responsibility for protecting surface- and groundwater resources from degradation and administers the NPDES permitting and Section 401 water quality certification processes.

Under CWA Section 404, the U.S. Army Corps of Engineers (USACE) and the EPA regulate the discharge of dredged and fill materials into waters of the United States. Under CWA Section 230.10(a), Section 404 and other permits may be issued only for the "least environmentally damaging" alternative. For regulatory purposes, the project area falls within the jurisdiction of the USACE, San Francisco District.

Streambed Alteration Agreements, as defined in Section 1602 of the California Fish and Game Code, protect the natural flow, bed, channel, and bank of any river, stream, or lake designated by the California Department of Fish and Game (CDFG) in which there is, at any time, an existing fish or wildlife resource, or benefit for the resource. Section 1602 requires an agreement between the CDFG and a public agency proposing a project that would:

- Divert, obstruct, or change a streambed
- Use material from the streambed
- Result in the disposal, or deposition of debris, waste, or other material containing crumbed, flaked, or ground pavement where it can flow into a stream.

IMPACTS AND MITIGATION

1. Violate any water quality standards or waste discharge requirements?
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on or off site?
6. Degrade surface or ground water quality or public water supply?
10. Result in an increase in pollutant discharges to receiving waters?

11. Be located in an area of special water quality concern (e.g., Los Gatos or Guadalupe Watershed)?
18. Result in significant changes to receiving waters quality during or following construction?
19. Is the project a tributary to an already impaired water body? If so will the project result in an increase in any existing pollutants?

Each of these seven questions focuses on the potential for pollutants or discharges to enter Alamitos Creek at any level or at a level that violates water quality standards and/or which could have a negative effect on water quality in the Guadalupe River. This project has the potential to introduce sediments and calcines into Alamitos Creek as a result of the calcine removal process, as a result of stockpiling excavated materials, and as a result of temporary fill to create creek crossings during construction. The introduction of calcines and sediment could increase sediment and mercury levels in Alamitos Creek and the Guadalupe River, a 303(d) impaired water body. Sediments and calcines will be prevented from entering Alamitos Creek waters with a variety of project design features and mitigation measures. The project design includes dewatering Alamitos Creek where calcines and sediment must be removed directly adjacent to or in the creek. Any material falling into the creek channel will be removed while the creek is dry and will be removed before waters are restored to their course. All materials required for temporary construction crossings will be placed in the creek bed while it is dewatered and will be removed before the stream is returned to its course. Thus, these materials will not be able to enter stream waters. A Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented that ensures material that is removed as a result of this project is not transported by water into Alamitos Creek. Incorporating the **HYD-1** measure will reduce this impact to less than significant.

Calcine removal and grading, especially in areas there is substantial tree and vegetation removal, could result in soil erosion into Alamitos Creek after the project is completed. Most of the project area, approximately 51,000 SF (~1.2 acres), will lose much of its vegetation and will be subject to erosion. To reduce this impact to less than significant, the County of Santa Clara will implement tree planting and revegetation measures that will provide significant soil stabilization (See **BIO-8** and **BIO-9**). In addition, the County of Santa Clara will implement other slope and soil stabilization methods as recommended in the Santa Clara Valley Water Resources Protection Collaborative (SCVWRPC, 2006) *Guidelines and Standards for Land Use Near Streams*. For example, biodegradable erosion control blankets will be used where bare soil is exposed and plants are not yet established enough to anchor soil. Incorporating the **HYD-2** measure will reduce this impact to less than significant.

HYD-1 Measures:
Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) that ensures material that is removed as a result of this project is not transported by water into Alamitos Creek. In particular, silt fencing and fiber rolls as appropriate will be placed to ensure that no material enters Alamitos Creek directly or indirectly through drains. Any SWPPP material that will not be completely removed must be composed of all natural and biodegradable material.

The SWPPP will be prepared and submitted in compliance with the requirements of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Discharges of Stormwater Associated with Construction Activity. Suitable stormwater BMPs will be implemented consistent with California Stormwater Quality Association ―Stormwater Best Management Practices Handbook," Construction 2003, which is available at http://www.cabmphandbooks.com.

Implementation: County staff or qualified expert
Timing: During project work monitor for compliance with SWPPP
Monitoring: County of Santa Clara Inspector will report compliance with HYD-1 measures to lead agency and other relevant agencies.

HYD-2 Measures:
Implement measures and techniques for preventing soil erosion as given in the *Guidelines and Standards for Land Use Near Streams*. In particular Chapter 4, pages 4.81-4.84 and 4.92-4.106 provides a range of recommended soil and slope stabilization methods (See Table 6 – Preferred Erosion Repair Methods from Chapter 4). Methods not recommended are given on pages 4.107-4.109 and include concrete crib walls, gabions, concrete block, sacked concrete, and gunite slope protection.

Implementation: County staff or qualified expert
Timing: During project and after calcine removal monitor for compliance with *Guidelines and Standards for Land Use Near Streams*
Monitoring: County of Santa Clara Inspector will report compliance with HYD-2 measures to lead agency and other relevant agencies.

Table 6. Preferred Erosion Repair Methods (from SCVWRPC, 2006)

Preferred Erosion Repair Methods				
Repair Method	**Appropriate Slope**	**Appropriate Water Velocity**	**Environmental Value**	**Cost**
1. Modified Floodplain	Varies	Varies	Positive	Low
2. Slope Grading with Vegetation	2:1 or flatter for vegetation; 1.5:1 or flatter for boulder section	Low – typically up to 6ft/sec	Positive	Low
3. Erosion Mats	2:1 or flatter for erosion mat section; 1.5:1 or flatter if boulders used	Generally, 1-7ft/sec, but can go up to 12ft/sec if vegetated	Positive, if planted	Low
4. Contour Wattling		Low	Positive	Low
5. Brush Mattresses	2:1 or flatter for erosion mat section; 1.5:1 or flatter if boulders used	Low	Positive	Low
6. Brush Layering	2:1	Medium	Positive	Low
7. Vegetated Geogrids or Soil Lifts	Up to 1:1	Medium	Positive	Low
8. Root Wads & Boulders		Medium (≤10ft/sec)	Positive, if planted	High
9. Boulders/rock Revetment	Up to 1:1; preferably 2:1	High: up to 15ft/sec; less where voids in boulders are planted	Negative; Negative to neutral, if planted	Medium
10. Cellular Confinement System	Up to 0.5:1	Medium to High: 5-21ft/sec depending on vegetation	Neutral	Medium
11. Live Log Crib Walls	Up to 0.25:1	Medium: up to 12ft/sec or less	Neutral to high, if planted	High

2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?
20. Substantially change the direction, rate of flow, or quantity, or quality of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

21. Interfere substantially with ground water recharge or reduce the amount of groundwater otherwise available for public water supplies?

This project primarily occurs at ground level and above OHW. No calcine removal or soil regrading will intercept groundwater. The project includes no groundwater extraction, no activities that interfere with groundwater recharge, excavation that would intersect groundwaters or aquifers, or reduce groundwater available for public use. No impact.

4. 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?
5. Create or contribute increased impervious surfaces and associated runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
7. Place a structure 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?
8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
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?

This project will not change the pattern amount of watershed drainage to an extent that could result in flooding on- or off-site. While approximately 1.2 acres of vegetated habitat will be denuded, increasing run-off, a number measures will be implemented, especially revegetation (**BIO-8** and **BIO-9**) and erosion control measures (**HYD-1**) which will prevent significant increases in run-off. No impervious surfaces will be added to the watershed. No structures will be built as part of this project, apart from two erosion protection/riprap walls, one along approximately 250 feet of the stream at Upper Hacienda and one along 140 feet at AC-2. No structures will impede or redirect flood flows. No activities of this project could put people or structures at risk due to a levee or dam failure. No impact.

12. Result in use of well water previously contaminated by nitrates, mercury, asbestos, etc. existing in the groundwater supply?

No well water, beyond that which is part of the County water supply, will be used in this project. The only use of water on-site will be for airborne dust abatement, revegetation watering and, if needed, fire suppression. No impact.

13. Result in a septic field being constructed on soil with severe septic drain field limitations or where a high water table extends close to the natural land surface?
14. Result in a septic field being located within 50 feet of a drainage swale; 100 feet of any well, water course or water body or 200 feet of a reservoir at capacity?
16. Result in extensions of a sewer trunk line with capacity to serve new development?

This project creates no septic fields or sewer line extensions. No impact.

15. Conflict with Water Resources Protection Collaborative Guidelines and Standards for Land Uses near Streams?

As described in **HYD-2**, the project will incorporate methods and techniques given in the ***Guidelines and Standards for Land Uses near Streams*** (SCVWRPC, 2006) to control erosion, stabilize slopes, and whenever feasible. This impact is reduced to less than significant with incorporated mitigation.

17. Require a NPDES permit for construction [Does it disturb one (1) acre or more]?

The entire project area is approximately 1.75 acres (76,000 SF). The area to be disturbed, not including the staging and stockpile area (~25,000), is approximately 1.2 acres (51,000 SF). The County has an NPDES permit with the San Francisco Bay Regional Water Quality Control Board (NPDES Permit No. CAS612008, Order No. R2-2009-0074). The County of Santa Clara shall review the erosion control plans for consistency with local requirements, appropriateness and adequacy of proposed BMPs for each site before commencing with project. County of Santa Clara shall file a Notice of Intent for coverage under the Construction General Permit. No impact.

22. Involve a surface water body, natural drainage channel, streambed or water course such as to alter the amount, location, course, or flow of its waters?

The project will temporarily divert stream water into pipes along approximately 600 ft of Alamitos Creek. These diversions will be temporary, occurring from approximately April 15 to October 15. The County will obtain a CDFG Stream Bed Alteration Agreement. ~~and permits from the RWQCB, related to Clean Water Act Section 402 which regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program~~. The design and operation of the diversion structure will be subject to RWCQB jurisdiction under a Clean Water Act Section 401 certification. Less than significant with mitigations incorporated (**BIO-9**).

K. LAND USE AND PLANNING						
	IMPACT					
WOULD THE PROJECT:	**NO**	**YES**				**SOURCE**
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Physically divide an established community?	■	☐	☐	☐	☐	2, 4
2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	■	☐	☐	☐	☐	1,3,5
3. Conflict with general plan designation or zoning?	☐	☐	■	☐	☐	5,7,9a,10a, 46
4. Conflict with special policies?						
a. San Martin and/or South County	■	☐	☐	☐	☐	6,10a,44,45
b. Los Gatos Specific Plan or Lexington Watershed	■	☐	☐	☐	☐	6,10a,13,14
c. East Foothills Policy Area	■	☐	☐	☐	☐	6,10a
d. New Almaden Historic Area/Guadalupe Watershed	■	☐	☐	☐	☐	6,7,10a

e. Stanford	■	☐	☐	☐	☐	6,15,16
f. San Jose	■	☐	☐	☐	☐	8,10a
5. Be incompatible with existing land use in the vicinity?	■	☐	☐	☐	☐	1,2,3, 2b

DISCUSSION

The project site is within the New Almaden National Historic Landmark District, one of 120 such places in California and only one of five in Santa Clara County recognized as being of such national historical significance. The County of Santa Clara General Plan identifies the project site as having a Regional Park land use designation with special land use policies applying to the New Almaden Historical Area (County of Santa Clara, May 2008). The adjacent community of New Almaden is designated a Rural Residential Area with the New Almaden Historical Area. County of Santa Clara has established a historic preservation zoning district for New Almaden. The boundaries of the zoning district coincide with the boundaries of the National Historic Landmark District described by the National Register listing (See Figure 12 – New Almaden Historical Zoning District Map). The majority of the land area within the National Historic Landmark District is contained within the AQS County Park (Santa Clara County, May 2009). The project site is accessed from Alamitos Road, a County designated scenic road (Santa Clara County, June 2008).

The project site is part of the Final Almaden Quicksilver Restoration Plan and Environmental Assessment (RP/EA) prepared under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as the Superfund Law, which requires remediation and restoration of the former mining lands (USFWS & CDFG, 2008). The goal of the RP/EA is to make the environment and the public whole for injuries to natural resources that resulted from releases of mercury within the Guadalupe River Watershed from sources of mercury, including from the New Almaden Mining District. The specific objectives of the RP/EA are to directly restore stream/aquatic sediments and riparian habitat at two discreet sites of significant releases including Jacques Gulch and Hacienda Furnace Yard.

The project site is within the boundaries of the proposed County of Santa Clara Habitat Conservation Plan/ Natural Community Conservation Plan. This plan has not yet been completed or adopted (See Biological Resources Section).

IMPACTS AND MITIGATION

1) Physically divide an established community?

The project sites, calcine deposits and the consolidation area, are located within AQS County Park, therefore no impacts would occur.

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

The project implements the Final Almaden Quicksilver Restoration Plan and Environmental Assessment (RP/EA) prepared under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as the Superfund Law, which requires remediation and restoration of the former mining lands (USFWS & CDFG, 2008). This is a beneficial outcome of the project.

3) Conflict with general plan designation or zoning?

The project would be in compliance with the County General Plan designation and Special Land Use Area overlay. The project would be in conflict with the County of Santa Clara Historic Preservation Zoning Ordinance § 3.50.080 K. Tree, Shrub and Landscaping Conservation. This ordinance encourages the protection of all trees 6" in diameter within the New Almaden Historical Area (Santa Clara County, May 2009). Trees must be removed to access and excavate the calcine deposits. County parks will secure a tree removal permit from the Santa Clara County Planning Department. Native plant species will be replanted to mitigation this impact (See Mitigation Measure **BIO-8**). The selected trees and shrubs species conform to the ordinance that indicates ~~"n~~ew plantings and landscaping treatments should be native species typical of the hills and riparian areas specific to this district." This impact is considered less than significant with mitigation incorporated.

4) Conflict with special policies?

a) San Martin and/or South County
b) Los Gatos Specific Plan or Lexington Watershed
c) East foothills Policy Area
e) Stanford
f) San Jose

The project site is not located within any of these special policy areas. No impact.

d) New Almaden Historic Area/Guadalupe Watershed

The project would be in compliance with the special land use policies associated with the New Almaden Historic Area. No impact.

5) Be incompatible with existing land use in the vicinity?

The project does not require any changes to the existing land use. The project site will remain a regional park. No impact.

L. MINERAL RESOURCES						
	IMPACTS					
WOULD THE PROJECT:	**NO**	**YES**				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	**SOURCE**
1. Result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the state?	■	☐	☐	☐	☐	1,2,3,19
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?	■	☐	☐	☐	☐	1, 2, 3, 6,8
3. Result in substantial depletion of any non-renewable natural resource?	■	☐	☐	☐	☐	2, 3

DISCUSSION

The project area has not been classified as a Mineral Resource Zone (MRZ) because it is located outside the urbanization lines set by the California Office of Planning and Research. The closest classified mineral

resource zones are located approximately two miles north of the proposed project. Operations related to the mining and processing of the mercury-bearing ore cinnabar (mercury sulfide) were conducted throughout the Mine Hill Area from approximately 1840 to 1970 (USFWS & CDFG, 2008). No impacts.

IMPACTS AND MITIGATION

1) Result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the state?

The project area does not contain any known or locally important mineral resources defined by the County of Santa Clara General Plan (1994). No impact.

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?

The project area is not located within any of eight operational mineral resources recovery operations in County of Santa Clara (1994). No impact.

3) Result in substantial depletion of any non-renewable natural resource?

The will use non-renewable fuel resources in the amounts typically associated with earth moving construction activities. The project would not utilize a substantial amount any non-renewable natural resource. No impact.

M. NOISE						
	IMPACTS					
WOULD THE PROJECT:	**NO**	**YES**				**SOURCE**
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐	☐	1,3,5,6
2. Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐	☐	
3. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	■	☐	☐	☐	☐	1,2,4,3,5,31
4. Result in a substantial temporary increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	■	☐	☐	
5. Increase substantially the ambient noise levels for adjoining areas during and/or after construction?	☐	☐	■	☐	☐	

DISCUSSION

Noise impacts can be significant based on their levels and proximity to sensitive receptors, including schools, hospitals, religious facilities, and parks. AQS County Park is an undeveloped open space with low levels of

ambient noise. The project site is directly adjacent to the Town of New Almaden. Specifically, the north-east end of the project site, which is under the bridge where Alamitos Road crosses Alamitos Creek, is at the edge of town. There are no schools or hospitals in New Almaden. The closest schools (Williams Elementary and Challenger-Almaden) are approximately 3 miles from the end of the project site closest to town and the nearest hospital, Kaiser Permanente, is approximately 5 miles from the project site. Nearest residences and commercial establishments are within 200 feet of the north-east end of the project site, which is located under Alamitos Road.

Ordinances and Regulations

The County of Santa Clara General Plan Noise discussion states that all citizens deserve ―a peaceful and quiet environment, free from unnecessary and annoying levels of noise" and an environment ―free from noise that jeopardizes public health and well-being" (SCC, 1994). The General Plan states that noise levels for residential, commercial uses such as hotels, and parks should not exceed 55 dBA and that noise impacts from projects should be mitigated or eliminated.

The County of Santa Clara Code on Noise and Vibration (sections B11-150 to B11-158) is designed to control unnecessary, excessive and annoying noise and vibration and to prohibit the noise and vibration generated from or by all sources as specified in this chapter. It is also the intent of the County to maintain quiet in those areas that exhibit low noise levels and to implement programs aimed at reducing noise in those areas where noise levels are above acceptable values (http://www.sccgov.org/scc_ordinance/31108000.HTM). Section B11-154(b)(6) lists the following restrictions for construction/demolition:

a. No operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekdays and Saturday hours of 7:00 p.m. and 7:00 a.m., nor at any time on Sundays or holidays, such that the sound creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by variance.

b. Where technically and economically feasible, construction activities will be conducted in a manner that the maximum noise levels at affected properties will not exceed those listed in Table 8.

Table 8. Maximum Allowable Noise Levels for Different Types of Equipment

A. Mobile equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than ten days) of mobile equipment:

Mobile Equipment Maximum Noise Levels			
	Single- and Two-Family Dwelling Residential Area	**Multifamily Dwelling Residential Area**	**Commercial Area**
Daily, except Sundays and legal holidays 7:00 a.m.--7:00 p.m.	75 dBA	80 dBA	85 dBA
Daily, 7:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA

B. Stationary equipment. Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of ten days or more) of stationary equipment are as follows:

Stationary Equipment Maximum Noise Levels			
	Single- and Two-Family Dwelling Residential Area	**Multifamily Dwelling Residential Area**	**Commercial Area**
Daily, except Sundays and legal holidays 7:00 a.m.--7:00 p.m.	60 dBA	65 dBA	70 dBA
Daily, 7:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA

IMPACTS AND MITIGATIONS

1. Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
2. Result in exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?
4. Result in a substantial temporary increase in ambient noise levels in the project vicinity above levels existing without the project?
5. Increase substantially the ambient noise levels for adjoining areas during and/or after construction?

Project activities will require the short-term use (six months) of trucks, excavators, bulldozers, graders, compactors, chainsaws and other equipment for tree cutting, calcine excavation, trucking to the consolidation area, land grading and contouring, restoring slopes, and repairing stream banks and culverts. The project activities would create temporary intermittent and continuous noises. Intermittent noise would result from periodic, short-term equipment operation, and more continuous noise would result from equipment running over longer periods, such as generators. The maximum intermittent equipment noise levels would range from 85 to 92 dBA at 50 feet for pieces of equipment operating simultaneously. Trucks and equipment will come through New Almaden along Almaden Road when they are first brought to the site. Trucks hauling material from the site will not go through town, but will go up Mine Hill Road, which goes north from the southwest end of town. Noise would occur off site from commuting workers and from trucks needed to bring equipment and materials to the project site. The peak noise levels associated with passing trucks and commuting worker vehicles would be approximately 70 to 75 dBA at 50 feet.

Noise would be generated for up to six months (April 15 to October 15) by equipment on-site, by traffic accessing the project site, and by trucking material to the Mine Hill consolidation area. Noise would also be generated for approximately two weeks between November 1 and January 31 for tree removal. Noise levels for typical pieces of equipment (at 50 feet) that would be used for the project are listed in Table 9. The closest work will be approximately 200 feet from the nearest residences and park visitors could be within 200 feet of the construction. Noise attenuation will result in noise levels declining by approximately 10 dBA at 200 feet, 20 dBA at 500 feet, and 26 dBA at 1000 feet from construction equipment.

Table 9. Typical Noise Levels for Construction Equipment

Typical Noise Levels for Construction Equipment

Equipment Type	Typical Noise Levels (dBA, at 50 feet)	Equipment Type	Typical Noise Levels (dBA, at 50 feet)
Front loaders	85	Chainsaws	85-90
Backhoes, excavators	80-85	Pumps	76
Tractors, dozers	83-89	Generators	81
Graders, scrapers	85-89	Compressors	83
Trucks	88	Concrete pumps, mixers	82-85

Sources: Adapted from U.S. EPA, 1972 / U.S. DOT, 1995.

The noise from construction equipment (80-90 dBA) exceeds levels for residential and park uses (55-75 dBA) within 50 feet of the equipment. Park users and nearby residents within 500-1000 feet of the construction zone could be exposed to ground-borne noise levels in excess of applicable standards. These noise levels will be temporary and occur during construction. Less than significant with mitigations incorporated.

NOISE-1 Measures:
The County will implement these practices to minimize disturbances to residential neighborhoods surrounding work sites:

a. No construction on Sundays and legal holidays, or between the hours of 7:00 p.m. and 7:00 a.m. If nighttime construction is required, construction activities should be grouped together so as to avoid continuing periods of high disturbance.

b. If specific noise complaints are received during construction, one or more of the following noise mitigation measures can be implemented in a more rigorous fashion:

i. Use hydraulically or electrically powered impact tools (e.g., jack hammers) when possible. If the use of pneumatically powered tools is unavoidable, use an exhaust muffler on the compressed air exhaust.

ii. Install manufacturer‘s standard noise control devices, such as mufflers, on engine-powered equipment.

iii. Locate stationary construction equipment as far from noise-sensitive properties as possible.

iv. Notify nearby property users whenever extremely noisy work will occur.

v. Utilize stock piles as effective noise barriers when feasible.

c. Work under the Alamitos Bridge will be conducted as quickly and as quietly as possible.

d. Internal combustion engines will be equipped with adequate mufflers.

e. Vehicles will not idle longer than 5 minutes.

f. All construction equipment will be equipped with manufacturer‘s standard noise control devices.

g. The arrival and departure of trucks hauling material will be limited to the hours of construction.

h. The County shall place a sign at the entrance of the site informing surrounding neighbors to call the County of Santa Clara, Department of Parks and Recreation regarding noise complaints.

Implementation: Contractors
Timing: During all phases of project work
Monitoring: County of Santa Clara staff

3. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

This project will not result in a permanent increase in ambient noise levels. After the project is completed, the site will return to its park and recreation land use. No impact.

N. POPULATION AND HOUSING						
	IMPACT					
WOULD THE PROJECT:	NO	YES				SOURCE
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
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)?	■	☐	☐	☐	☐	2, 3, 4
2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	■	☐	☐	☐	☐	
3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	■	☐	☐	☐	☐	

IMPACTS AND MITIGATION

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)?
2) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
3) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The remediation and restoration work for this project will not result in any type of population growth. No new homes, businesses or road will be built for this project. There is no housing in the project area. Neither housing nor people will be displaced by this project. No impact.

N. PUBLIC SERVICES						
	IMPACT					
WOULD THE PROJECT:	NO	YES				SOURCE
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government 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:						

	i) Fire Protection?	■	☐	☐	☐	☐	1, 3, 5
	ii) Police Protection?	■	☐	☐	☐	☐	1, 3, 5
	iii) School facilities?	■	☐	☐	☐	☐	1, 3, 5
	iv) Parks?	■	☐	☐	☐	☐	1, 3, 5
	v) Other public facilities?	■	☐	☐	☐	☐	1, 3, 5
2.	Induce substantial growth or concentration of population? (Growth inducing?)	■	☐	☐	☐	☐	1, 3, 5
3.	Employ equipment which could interfere with existing communications or broadcast systems?	■	☐	☐	☐	☐	1, 3, 5
4.	Increase the need for new systems or supplies, or cause substantial alterations to the following utilities:						
	a. Electricity or Natural gas	■	☐	☐	☐	☐	1, 3, 5
	b. Local or regional water treatment or distribution facilities	■	☐	☐	☐	☐	1, 3, 5
	c. Local or regional water supplies	■	☐	☐	☐	☐	1, 3, 5
	d. Sewage disposal	■	☐	☐	☐	☐	1, 3, 5
	e. Storm water drainage	■	☐	☐	☐	☐	1, 3, 5
	f. Solid waste or litter	■	☐	☐	☐	☐	1, 3, 5

DISCUSSION

The County Parks Rangers and Maintenance staff service AQS County Park. County of Santa Clara Fire Department provides fire protection and is supported by the California Department of Forestry and Fire Protection. Police services are provided by the County of Santa Clara Sheriff's Department.

IMPACTS AND MITIGATION

1) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government 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) School facilities?
d) Parks?
e) Other public facilities?

The project is an earth moving and mercury remediation undertaking that would not impact public services. The project would not create a need for new or physically altered governmental or public facilities. No impact.

2) Induce substantial growth or concentration of population? (Growth inducing?)

The project is a mercury remediation undertaking within AQS County Park. This project is intended to improve the health of the environment for humans and wildlife, but will not create infrastructure to support growth or the movement of the human population to a new areas. No impact.

3) Employ equipment which could interfere with existing communications or broadcast systems?

There are no broadcast systems in the project area. No impact.

4) Increase the need for new systems or supplies, or cause substantial alterations to the following utilities:

a) ***Electricity or Natural gas***
b) ***Local or regional water treatment or distribution facilities***
c) ***Local or regional water supplies***
d) ***Sewage disposal***
e) ***Storm water drainage***
f) ***Solid waste or litter***

The project will not change the use of AQS County Park. Thus, there will be no new demand for natural resources or the treatment of these resources. No impact.

P. RECREATION						
	IMPACT					
WOULD THE PROJECT:	**NO**	**YES**				**SOURCE**
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. 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?	☐	■	☐	☐	☐	1, 2, 3, 4, 5, 50
2. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	■	☐	☐	☐	☐	1, 2, 3, 4, 5, 50
3. Be on, within or near a public or private park, wildlife reserve, or trail (includes those proposed for the future) or affect existing or future recreational opportunities?	☐	■	☐	☐	☐	2,4,9d,10h, 50
4. Result in loss of open space rated as high priority for acquisition in the ~~P~~reservation 20/20" report?	■	☐	☐	☐	☐	38

DISCUSSION

The project will use the Mine Hill Trail at the Hacienda entrance to AQS County Park as a haul route to the calcine consolidation area at Mine Hill (See Figure 7 – Construction Haul Routes and Figure 13 – Almaden Quicksilver County Park Trail Map). The use of the trail will require temporary closures (See Transportation/ Traffic Section). The Hacienda entrance to the park is busiest on weekends. On a weekend in April 2010, 44 cars and 5 horse trailers were observed at this parking area nearly filling the site to capacity. During weekdays it is unusual to observe more than 10 cars at the parking area during what would be typical construction hours.

IMPACTS AND MITIGATION

1) 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?

3) Be on, within or near a public or private park, wildlife reserve, or trail (includes those proposed for the future) or affect existing or future recreational opportunities?

The temporary closures of the Mine Hill Trail and the construction noise, dust and traffic may encourage park users to access alternate park entrances and/or alternate trails during the construction. Construction is planned to occur on the weekdays when park use is at its lowest. Parking at the Hacienda entrance may be restricted to a smaller portion of the parking lot to facilitate the movement of trucks in and out of parking area that provides access to the Mine Hill Trail. During the temporary Mine Hill Trail closures, equestrians and hikers will be directed to use the Deep Gulch Trail as an alternative recreation route. Mountain bicyclists will be directed to other park entrances. Appropriate signs will be placed at trailheads and trail junctions warning the public of construction vehicles and providing information on the project status. Displaced park users who elect to use alternate park entrances would not unduly burden other areas of the park during this temporary construction. This is a less than significant impact.

Hauling of the calcine to the consolidation site may also restrict traffic on Wood Road, Hicks Road and Alamitos Road if the optional loop route for hauling is used by the County and its contractor. Traffic volume on these park access roads is low and any traffic delay would be temporary and short in duration at the time of the delay. The project will not substantially impact the recreational opportunities at AQS County Park. This is a less than significant impact.

2) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?
4) Result in loss of open space rated as high priority for acquisition in the "Preservation 20/20" report?

The project remediates mercury contamination within an existing regional park. No impact.

Q. TRANSPORTATION / TRAFFIC							
	IMPACT						
WOULD THE PROJECT:	**NO**	**YES**				**SOURCE**
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
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 freeway, pedestrian and bicycle paths and mass transit.	☐	☐	■	☐	☐	4,6a,26,27 ,28, 29,43
2. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	■	☐	☐	☐	6, 49, 50, 53
3. 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?	■	☐	☐	☐	☐	5, 6, 7, 53
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	■	☐	☐	☐	3, 5, 6,7, 53

5.	Result in inadequate emergency access?	☐	☐	■	☐	☐	1, 3, 5, 48, 53
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.	☐	■	☐	☐	☐	8a, 21a
7.	Not provide safe access, obstruct access to nearby uses or fail to provide for future street right of way?	☐	■	☐	☐	☐	1,3,30
8.	Increase traffic hazards to pedestrians, bicyclists and vehicles?	☐	■	☐	☐	☐	3,4
9.	Cause increases in demand for existing on or off-street parking because of inadequate project parking?	☐	■	☐	☐	☐	1,3,30

DISCUSSION

The project would involve work in unincorporated Santa Clara County within the AQS County Park. Construction would involve the excavation and removal of approximately 9,000 CY of calcine deposits and associated soils. The project also calls for the placement of approximately 250 CY of riprap to create erosion protection riprap walls extending along the toe of Upper Hacienda and Alamitos Creek (AC-2). Areas where calcines are removed would be graded to match existing slopes and to create stabile slopes along Alamitos Creek and Deep Gulch. Clean fill may be needed in some locations for revegetation and for capping the 1998-2000 remediation site that will be breached during this remediation. All of these activities would require hauling materials through AQS County Park. In addition, equipment, haul trucks and personnel vehicles will be driven to the project site.

Construction staging including equipment and materials storage, temporary calcine stockpiling and personnel parking would be accommodated within two designated areas within AQS County Park (See Figure 6 – Site Access and Temporary Culvert Placements). No parking will occur outside the boundaries of the construction site. No lane or road closures would occur on any roadways as a result of implementation of the proposed project.

Local Roads

The calcine deposits proposed for removal are located along Alamitos Road and Mine Hill Trail within the park. The ―SanFrancisco Open Cut" consolidation site is located at Mine Hill in AQS County Park and would be accessed via the Mine Hill Trail and Alamitos Road. Hicks Road and Wood Road may be used as a return route from the Mine Hill consolidation area to avoid the need for two-way traffic control on the Mine Hill Trail. Trucks will either make a) round-trips traveling on Alamitos Road and the Mine Hill Trail to reach the consolidation area or b) loop trips carrying full loads along Alamitos Road and the Mine Hill Trail and returning to the project site with empty trucks via Wood Road, Hicks Road and Alamitos Road (See Figure 7 – Construction Haul Routes). These two haul routes have been used in the previous remediation efforts in the area including the 1998-2000 Hacienda Furnace Yard Remediation and the 2009 Jacques Gulch Remediation.

Beyond the project site, Alamitos Road and Hicks Road are rural, paved two-lane roads that provide access to remote properties and Almaden Reservoir. Traffic volumes on these roads are low. Wood Road is an unpaved single-lane road within the park designated for multiple use. Mine Hill Trail is an unpaved single-lane road designated for pedestrian, equestrian, horse-cart and bicycle use. Portions of the Mine Trail and Wood Road serve as the Juan Bautista de Anza National Historic Trail and Bay Area Ridge Trail (Santa Clara County, 1995).

Regional Access
Regional access to the project site is provided by U.S. Highway 101, State Route 85 (SR 85) and State Route 17 (SR 17). These routes are within approximately five to eight miles of the project site. Alamitos Road may be reached from Highway 101 or SR 85 by traveling along streets in the southern portion of the City of San Jose to Almaden Road and through the community of New Almaden. The primary access is via either SR 85 and Almaden Expressway or McKean Road, which connects to Highway 101 east of the project site. Alternate access can also be provided by SR 17 through Los Gatos. Urban streets in the jurisdiction of the Town of Los Gatos lead from SR 17 to Shannon Road, which can be used to access the rural Hicks Road, or Camden Avenue in the City of San Jose may also be used to access Hicks Road from SR 85.

Transit and Rail Service
The Santa Clara Valley Transportation Authority (VTA) operates bus and light rail transit routes throughout the county. Bus lines occur along Camden Avenue between the intersection of Hicks Road and SR 85, along the Almaden Expressway, and in the Los Gatos town center. The nearest rail facility is the VTA light rail Almaden Station about four miles north of the project site. The VTA does not provide direct transit service to any location within the AQS County Park.

Pedestrian, Bicycle and Equestrian Facilities
AQS County Park offers a variety of trails and roads that provide open space access to pedestrian, equestrian, horse-cart and bicycle users. Many of these trails intersect the Mine Hill Trail and Wood Road.

Regulations, Plans, and Standards
County of Santa Clara Roads and Airports Department. Operation and maintenance of local roads in the project area is the responsibility of the County of Santa Clara Roads and Airports Department. County of Santa Clara transportation policies and standards for roadways are discussed in the General Plan. The proposed project would involve work along and beneath Alamitos Road and possibly hauling along Hicks Road, two County road facilities. The construction contractor would be required to obtain encroachment permits from the County of Santa Clara Roads and Airports Department.

IMPACTS AND MITIGATION

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 freeway, pedestrian and bicycle paths and mass transit.

Project activities may increase traffic on Hicks Road, Alamitos Road, and the unpaved single lane Wood Road within the park. Traffic would arrive on Alamitos Roads after traveling through the Town of New Almaden and along the more urban city streets and highways that provide regional access. Delivery of heavy equipment and construction employee traffic would occur on these roads and potentially increase traffic congestion for up to eight months of construction activities. Trucks for hauling water for dust control and construction materials would also access the site daily.

Construction is anticipated to occur in two phases. Tree and vegetation removal is proposed to occur between November 1 and January 31, prior to calcine removal. Dewatering, calcine excavation, grading and off hauling is proposed to occur between April 15 and October 15. Revegetation work would follow the grading and continue through the following January, as required by rainfall. Tree removal is anticipated to take no more than 2 weeks. The calcine removal and regrading is anticipated to take no more than 20 weeks. Revegetation is likely to take no more than 4 weeks. Construction work hours are planned for 7 AM through 5 PM. It is estimated that during peak work operations up to 15 construction workers may be on-site each day.

The number of personnel will vary between 2 and 15 during the construction. Assuming single-occupancy per vehicle the project would generate a maximum 30 personnel trips per day to the site (15 trips to the job site, 15 trips leaving the job site).

The project would also generate local hauling trips to the consolidation site that would either be confined within AQS Park or may use Alamitos Road, Hicks Road and Wood Road. It is estimated that approximately 9,000 CY of calcine and associated soils will be brought to the consolidation site. It is anticipated that off haul will be carried by dump trucks with a 10-CY capacity resulting in 900 round trips or 1,800 one-way to the consolidation site over the total work period. The majority of the off hauling is estimated to occur over three months or a 60-work day period. Using these assumptions, the peak work operations of the project may generate up to 60 truck trips per day (30 trips in, 30 trips out) for a maximum of 10 trips per hour. The total project construction traffic may reach 90 trips per day (30 personnel trips and 60 truck trips) during peak work operations.

Local roadways in the project area have relatively low traffic volumes. Project related traffic would not increase traffic on the local roads to a level that is substantial in relation to the existing traffic load and capacity of the street system. Therefore, congestion caused by construction vehicles accessing the work areas from local roads would be minimal and limited to the short-term duration of the project. This impact is less than significant with the implementation of County Roads and Airports BMPs.

TRA-1 Measures:
Implement County Roads and Airports BMPs requiring the installation of fences, barriers, lights, flagging, guards, and signs will be installed as determined appropriate by the public agency having jurisdiction, to give adequate warning to the public of the construction and of any dangerous condition to be encountered as a result thereof.

Implementation: Contractor and County of Santa Clara
Timing: During construction
Monitoring: County of Santa Clara

2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

The traffic levels for local roadways in the project area have low traffic volumes and operate at acceptable levels of service. Therefore, impacts would be less than significant.

3) 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?

No operating airports or heliports are located within two miles of the proposed project. Helicopters would not be used during project construction. The proposed project would not include any features that would disrupt or affect air traffic. No impact.

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

The project does not include any roadway design features. Truck hauling to the consolidation site at Mine Hill has been successfully undertaken in previous remediation projects. Although this is not a typical use of the

Mine Hill Trail and Wood Road both one lane access routes can accommodate ranger vehicles and dump trucks. Trails will be temporary closed during hauling and traffic control measures including signing, flagmen with radios and a possible loop haul route would be implemented to reduce the potential for travel conflict. This is a less than significant impact with the construction methods specified in the construction documents.

5) Result in inadequate emergency access?

Construction activities adjacent to Alamitos Road and increased truck and vehicle traffic along haul routes could temporarily increase response times for emergency response providers along affected roadways. This impact could occur on the public roads, but only very briefly during the movement of construction equipment. Truck traffic would fully occupy this single lane of Wood Road and the Mine Hill Trail during trips to the consolidation site. To the extent these routes are used for emergency services, the presence of haul trucks on these facilities could temporarily disrupt response to wildfires or other emergencies within the park. This impact is less than significant with mitigation incorporated.

TRA-2 Measures:
Prior to the start of the project, County of Santa Clara will develop and communicate to the contractor an emergency response procedure for emergency access to Wood Road and the Mine Hill Trail

Implementation: County of Santa Clara
Timing: Prior to construction
Monitoring: County of Santa Clara

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.
7) Not provide safe access, obstruct access to nearby uses or fail to provide for future street right of way?
8) Increase traffic hazards to pedestrians, bicyclists and vehicles?

The use of the Mine Hill Trail and Wood Road as haul routes to the consolidation area will reduce the recreation use of these trails during construction. The Mine Hill Trail is the primary access into the park from the Hacienda park entrance and is a popular hiking, biking and equestrian route. The adjacent Deep Gulch Trail serves only hikers and equestrians. The curves in these routes would result in safety hazards for trail uses if trucks were also operating on the facilities. As a consequence, Mine Hill Trail and Wood Road would be closed to users during hauling. Hauling would be limited to weekdays when park use is the lower compared to weekends. Hikers and equestrians will be directed to the nearby Deep Gulch Trail. Bicyclists and horsecart users will be directed to the Mockingbird Hill park entrance and trails during these periods. This is a less than significant impact with the construction methods specified in the construction documents.

9) Cause increases in demand for existing on or off-street parking because of inadequate project parking?

Transport of calcine to the Mine Hill consolidation site would involve short-term, heavy use of the Hacienda and Hicks/Wood Road park entrances. The parking area there would be affected by turning movements, idling and temporary parking of construction trucks or equipment at these entrances. The proposed project would largely involve weekday activity when the park entry would be lightly used. Construction activities would not normally occur on weekends when parking is at capacity on fair weather days. This would be a less than significant impact confined to the limited duration of construction.

R. UTILITIES AND SERVICE SYSTEMS						
	IMPACT					SOURCE
WOULD THE PROJECT:	NO	YES				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	■	☐	☐	☐	☐	1, 3, 5,
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?	■	☐	☐	☐	☐	1, 3, 5, 21, 38
3. 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?	■	☐	☐	☐	☐	1, 3, 5
4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	■	☐	☐	☐	☐	1, 3, 5, 21,
5. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	■	☐	☐	☐	☐	1, 3, 5
6. Not be able to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	■	☐	☐	☐	☐	1, 3, 5
7. Comply with federal, state, and local statutes and regulations related to solid waste?	■	☐	☐	☐	☐	5, 6

IMPACTS AND MITIGATION

1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
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?
5) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The project would not discharge wastewater. Thus, the project will not create a demand for new or expanded wastewater treatment facilities. No impact.

The project will use on-site potable water for dust control and short-term establishment irrigation of the native revegetation plantings. These are modest water uses that would not result in the need for new water treatment facilities. No impact.

3) 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?

The project will repair an existing storm water culvert that drains hillside and roadway runoff from Alamitos Road into Alamitos Creek. The existing culvert has created erosion of the slope below Alamitos Road. This erosion area will be graded and riprap placed on the soil to act as an energy dissipater. No new storm water drainage facilities are planned. No impact.

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

The project will use on-site potable water for dust control and short-term establishment irrigation of the native revegetation plantings. Over the long term the project would rely on naturally occurring sources of water including precipitation, groundwater flowing toward Alamitos Creek and local flooding events to support the native riparian and oak woodland revegetation plantings. The project would not result in impacts to water supplies. No impact.

6) Not be able to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
7) Comply with federal, state, and local statutes and regulations related to solid waste?

The excavated calcine will be consolidated and capped within AQS County Park. Therefore, the project would not contribute material to area landfills. The project would not require use of landfill for solid waste needs and complies with regulations related to solid waste. No impact.

DOES THE PROJECT:	NO	YES
S. MANDATORY FINDINGS OF SIGNIFICANCE		
a. Have the potential to substantially 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? This project is designed to benefit the environment by removing calcines remaining from former mercury mining operations, and thereby, reduce mercury loads to Alamitos Creek, Guadalupe River and the San Francisco Bay. A number of biological resources, such as oak and riparian woodlands, steelhead and red-legged frogs, will or could potentially be impacted by the work. The Initial Study/Environmental Checklist includes mitigations to prevent take of and impacts to species, to limit impacts to natural communities, and to restore natural communities that will be temporarily impacted by the remediation project. All potentially significant impacts are reduced to less than significant.	X	
b. Have the potential to achieve short-term environmental goals, to the disadvantage of long-term environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.) This project is designed provide long-term benefits to the environment, especially water quality and stream and riparian species along Alamitos Creek, Guadalupe River and the San Francisco Bay.	X	
c. Have environmental impacts which are individually limited, but cumulatively considerable? (~~C~~umulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probably future projects.) There are no cumulative negative impacts of the project.	X	
d. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? Humans will benefit from the removal of calcines and reduction of mercury in the San Francisco Bay. Short-term potential impacts to workers, park visitors and residents that could arise from mercury on air-borne dust particles are reduced to less than significant with mitigations provided in the Initial Study/Environmental Checklist.	X	
DISCUSSION OF ENVIRONMENTAL EVALUATION Discuss on attached sheet(s) all ~~y~~es" answers and any ~~n~~o" answers that are potentially controversial or require clarification. (Must be TYPED). Describe any potential impacts and discuss possible mitigations. For source, refer to attached ~~I~~nitial Study Source List". When a source is used that is not listed on the form or an individual is contacted, that source and/or individual should be cited in the discussion.		

DETERMINATION On the basis of this initial evaluation:	
I find that the proposed project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.	☐
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on the attached are included as part of the proposed project. A **MITIGATED NEGATIVE DECLARATION** will be prepared.	■
I find 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.	☐

Signature: M Assaf date 7/13/10

Print name & title: Mohamed Assaf, Sr. Facilities Engineer

INITIAL STUDY SOURCE LIST

1. Field Inspection
2. Project Plans
3. Planner‘s Knowledge of Area
4. Experience With Other Project of This Size and Nature
5. County General Plan
6. The South County Joint Area Plan
7. County Zoning Regulations (Ordinance)
8. Second Amendment to Agreement [with San Jose] for Allocation of Tax Increment Funds
9. MAPS (various scales)
   a. County Zoning (500' or 1,000')
   b. ABAG –On Shaky Ground”-Santa Clara County Map Set (2 miles)
   c. Barclay‘s Santa Clara County Locaide Street Atlas (2631')
   d. County Regional Parks, Trails and Scenic Highways Map (10,000')
10. 5000' or one mile Scale MAPS
    a. County General Plan Land Use
    b. Natural Habitat Areas
    c. Relative Seismic Stability
    d. Archaeological Resources
    e. Water Resources & Water Problems
    f. Viewshed and Scenic Road
    g. Fire Hazard
    h. Parks and Public Open Space
    i. Heritage Resources
    j. Slope Constraint
    k. Serpentine soils
11. 2000' Scale MAPS
    a. State of California, Special Studies Zones [Revised Official Map]
    b. Water Problem/Resource
    c. USGS Topo Quad (7-1/2 minutes)
    d. Dept. of Fish & Game, Natural Diversity Data Base Map Overlays & Textual Reports
    e. Natural Resources [Key to map found in: Natural Resource Sensitivity Areas-Locality Data, Harvey & Stanley Associates-Contact County staff]
12. 1000' Scale MAPS/Air Photos
    a. Geologic Hazards
    b. Color Air Photos (MPSI)
    c. Santa Clara valley Water District-Maps of Flood Control Facilities & Limits of 1% Flooding
    d. Soils Overlay Air Photos
    e. –Future Width Line” map set
13. County Lexington Basin Ordinance Relating to Sewage Disposal
14. Los Gatos Hillsides Specific Area Plan
15. Stanford University General Use Permit and Environmental Impact Report [EIR]
16. Stanford Protocol and Land Use Policy Agreement
17. County Geologist
18. Site Specific Geologic Report
19. State Department of Mines and Geology, Special Report #146
20. USDA, SCS, –Soils of Santa Clara County”
21. USDA, SCS, –Soil Survey of Eastern Santa Clara County”
22. County Environmental Health/Septic Tank Sewage Disposal System - Bulletin –A”
23. San Martin Water Quality Study
24. County Environmental Health Department Tests and Reports
25. Santa Clara County Heritage Resource (including Trees) Inventory [computer database]
26. Official County Road Book
27. County Transportation Agency
28. County Standards and Policies Manual (Vol. I - Land Development)
29. Public Works Departments of Individual Cities
30. County Off-street Parking Standards
31. ALUC Land Use Plan for Areas Surrounding Airports [1992 version]
32. County Fire Marshal
33. California Department of Forestry
34. BAAQMD Annual Summary of Contaminant Excesses & BAAQMD, –Air Quality & Urban Development-Guidelines for Assessing Impacts of Projects & Plans”
35. Architectural and Site Approval Committee Secretary
36. County Guidelines for Architecture and Site Approval
37. County Development Guidelines for Design Review
38. Open Space Preservation, Report of the Preservation 2020 Task Force, April 1987 (Chapter IV)
39. Riparian Inventory of Santa Clara County, Greenbelt Coalition, November 1988.
40. Section 21151.4 of California Public Resources Code.
41. Site Specific Archaeological Reconnaissance Report
42. State Archaeological Clearinghouse, Sonoma State University
43. Transportation Research Board, –Highway Capacity Manual”, Special Report 209, 1985
44. Design Guidelines for Non-residential Development in San Martin.
45. Southwest San Martin Area Interim Development Guidelines
46. 2009 NPDES Storm Water Discharge Permit
47. 2002 Clean Water Act Section 303(d)
48. California Building Code (2007)
49. County of Santa Clara Ordinance Code
50. Santa Clara Countywide Trails Master Plan Update, November 1995
51. Santa Clara Valley Water District Water Resources Protection Collaborative Guidelines and Standards for Land Use Near Streams

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Section 5: Report Preparation

This section lists those individuals who contributed to the preparation of the Initial Study.

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Section 7: Figures

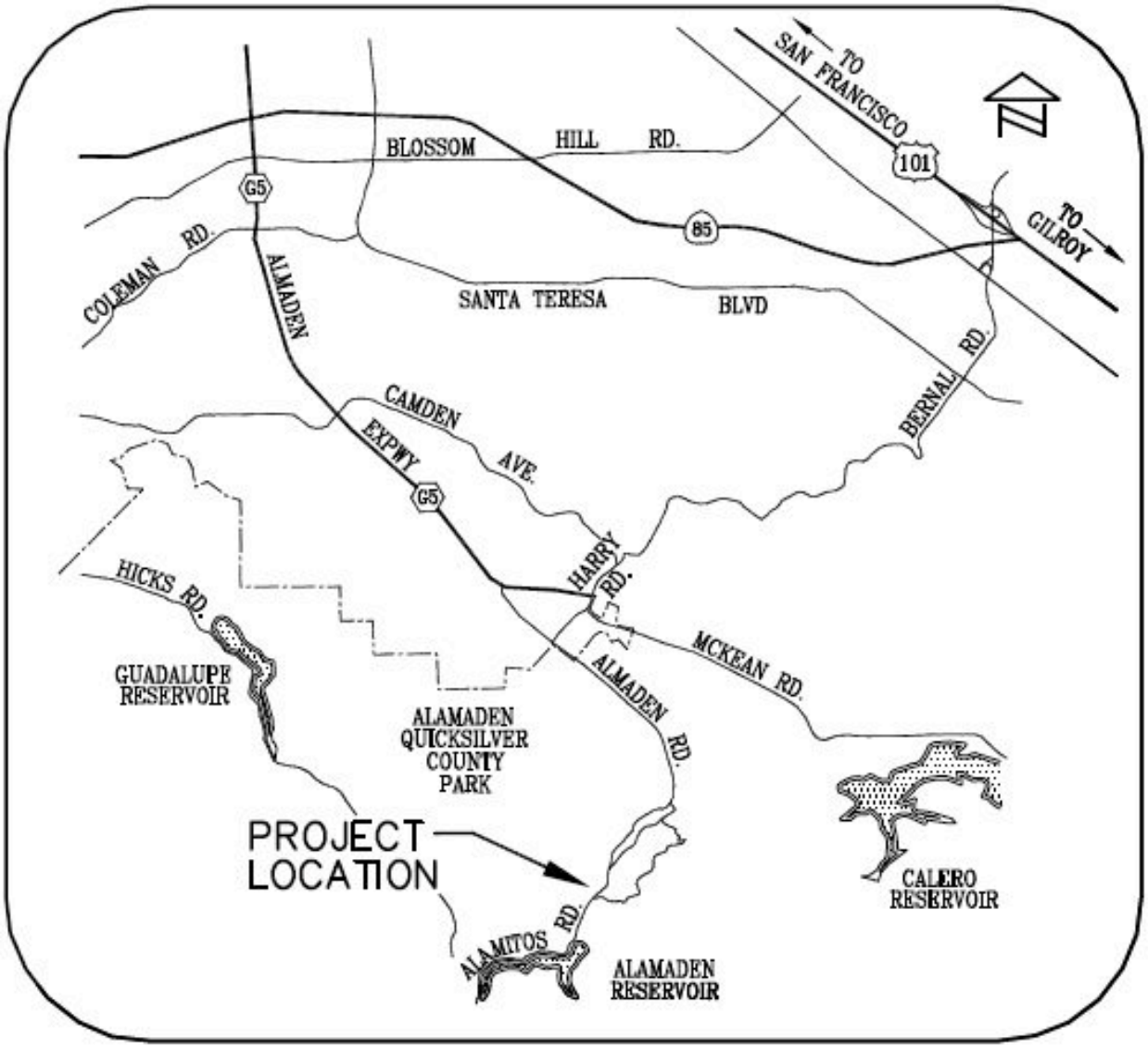


Figure 1 – Vicinity Map (Courtesy of CH2M Hill)

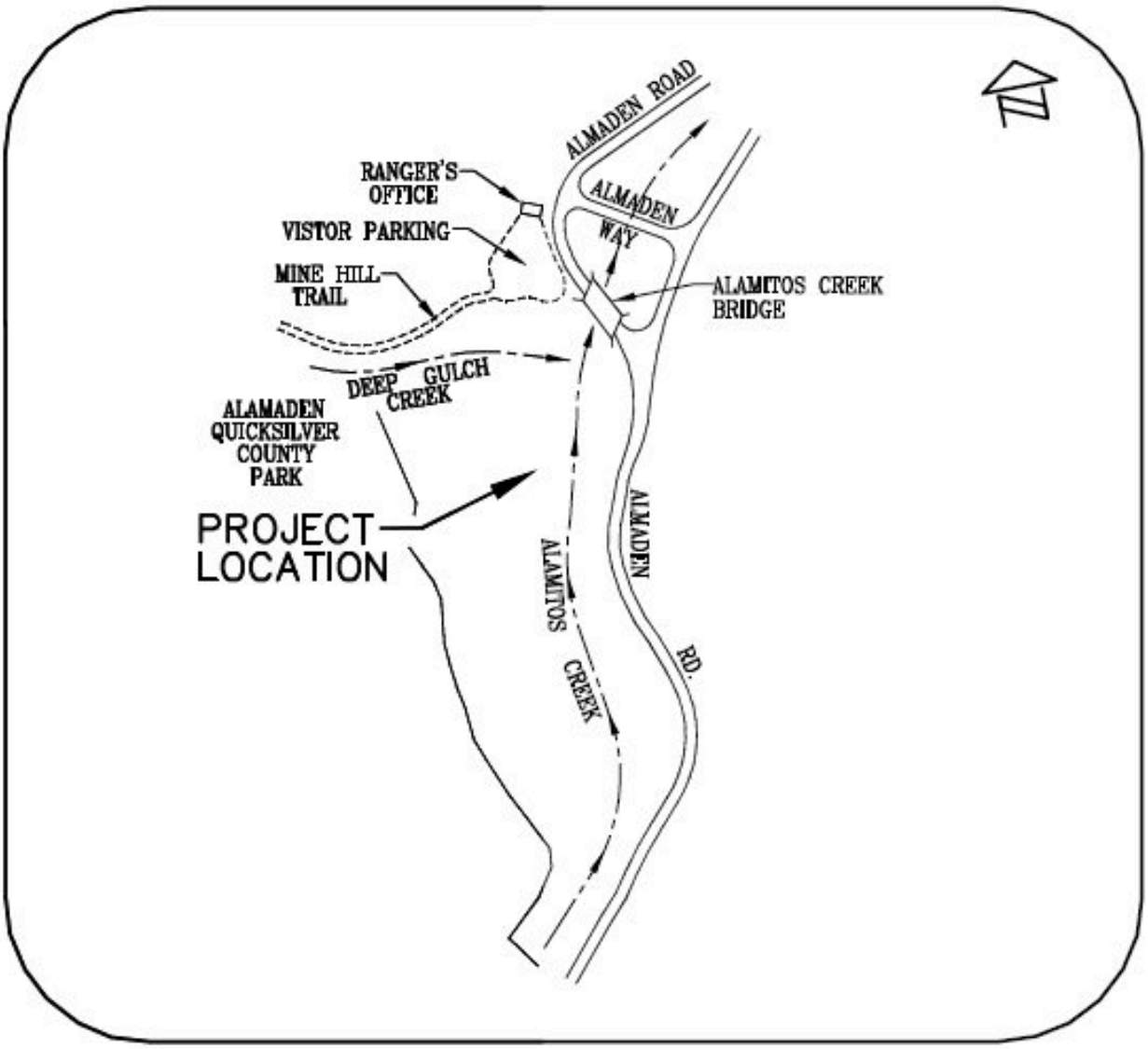


Figure 2 – Location Map (Courtesy of CH2M Hill)

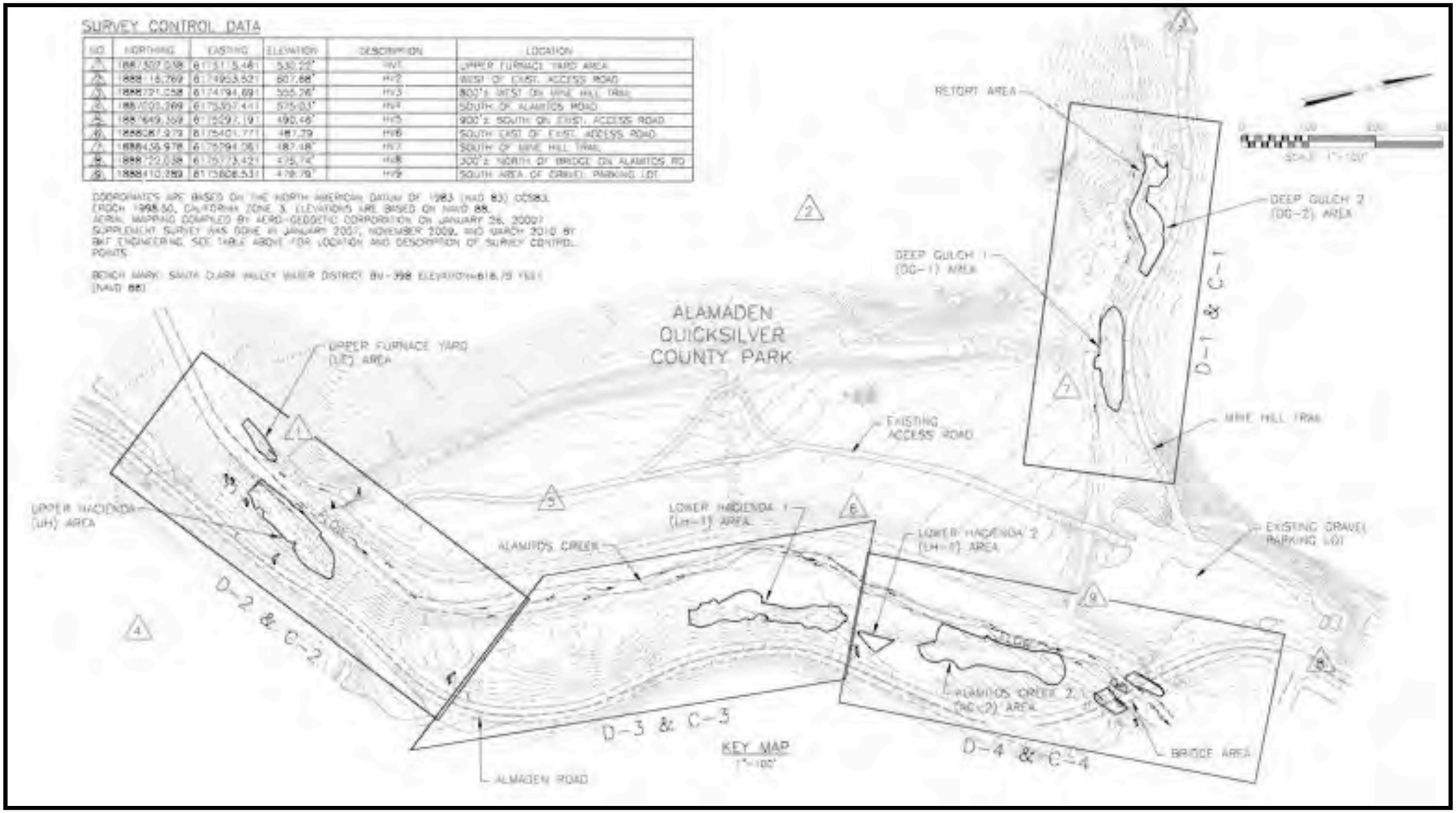


Figure 3 – Site Map (Courtesy of CH2M Hill)

Upper Hacienda calcine deposits on the banks of Alamitos Creek.

Upper Hacienda oaks growing from calcine deposits.

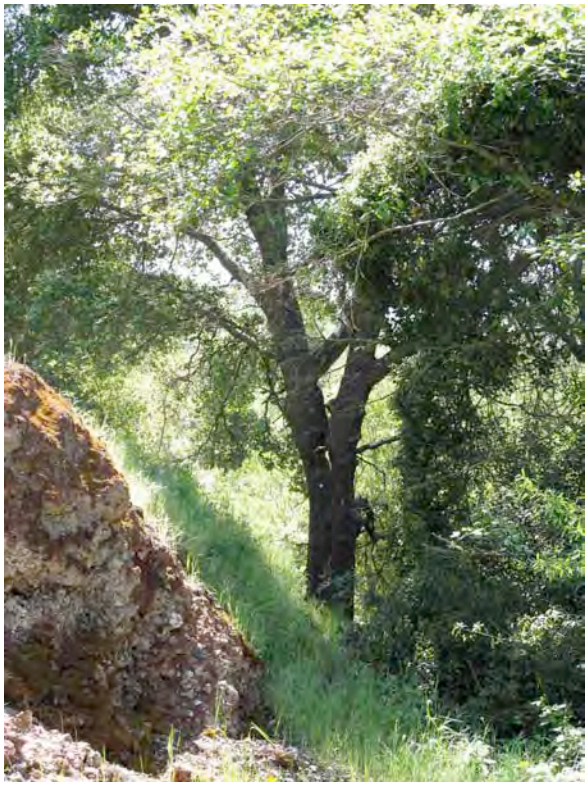
Figure 4A – Site Photos

Upper Hacienda cluster of larege oaks growing above and within calcine.

Alamitos Creek California Bay and valley oak to be removed.

Figure 4B – Site Photos

Lower Hacienda CA bay to be removed.



Lower Hacienda live oak at base of calcine.

Figure 4C – Site Photos

Deep Gulch valley oak to be removed.

Deep Gulch valley oak to be removed.

Figure 4D – Site Photos

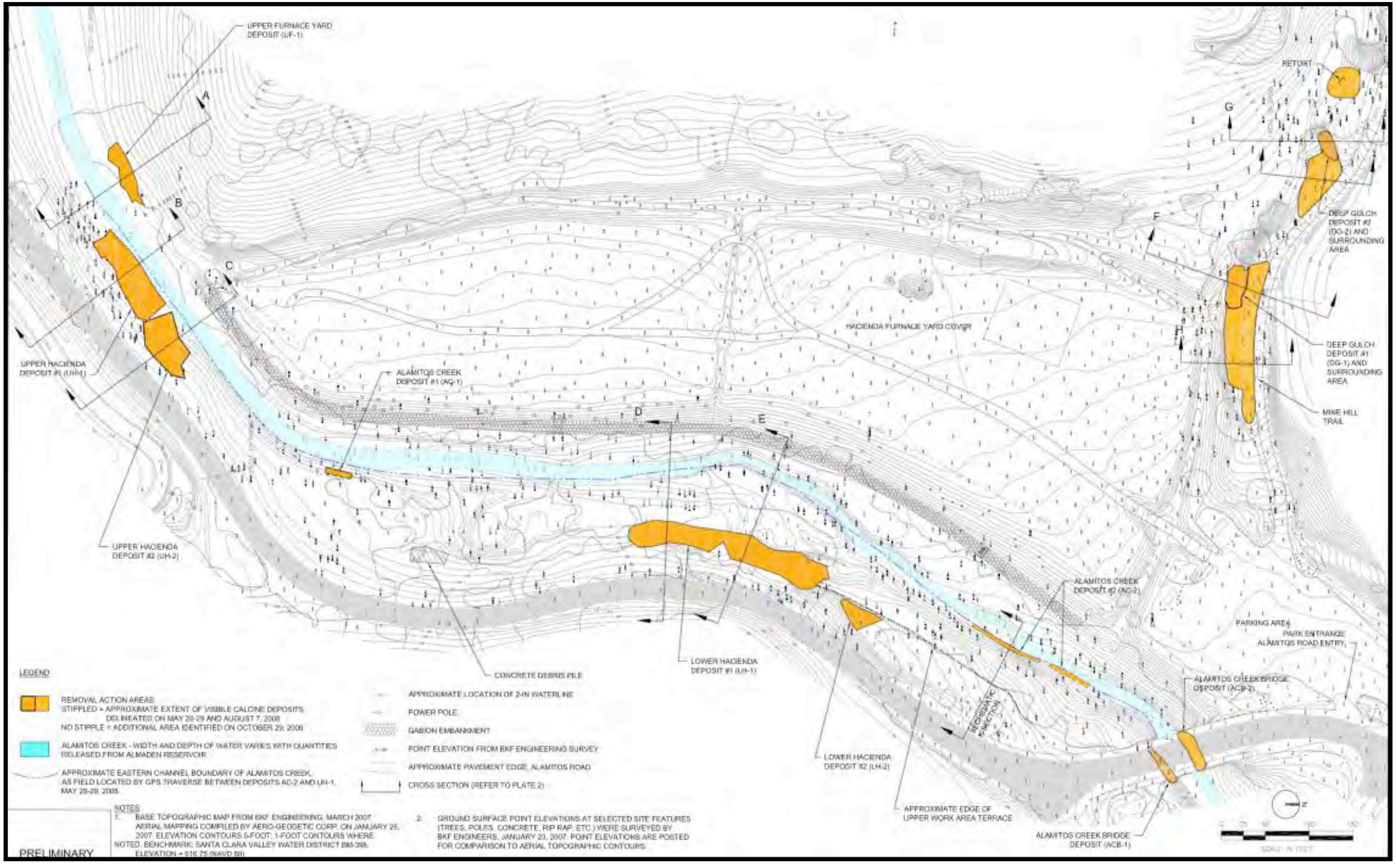


Figure 5 – Mapped Calcine Deposits (Courtesy of CH2M Hill)

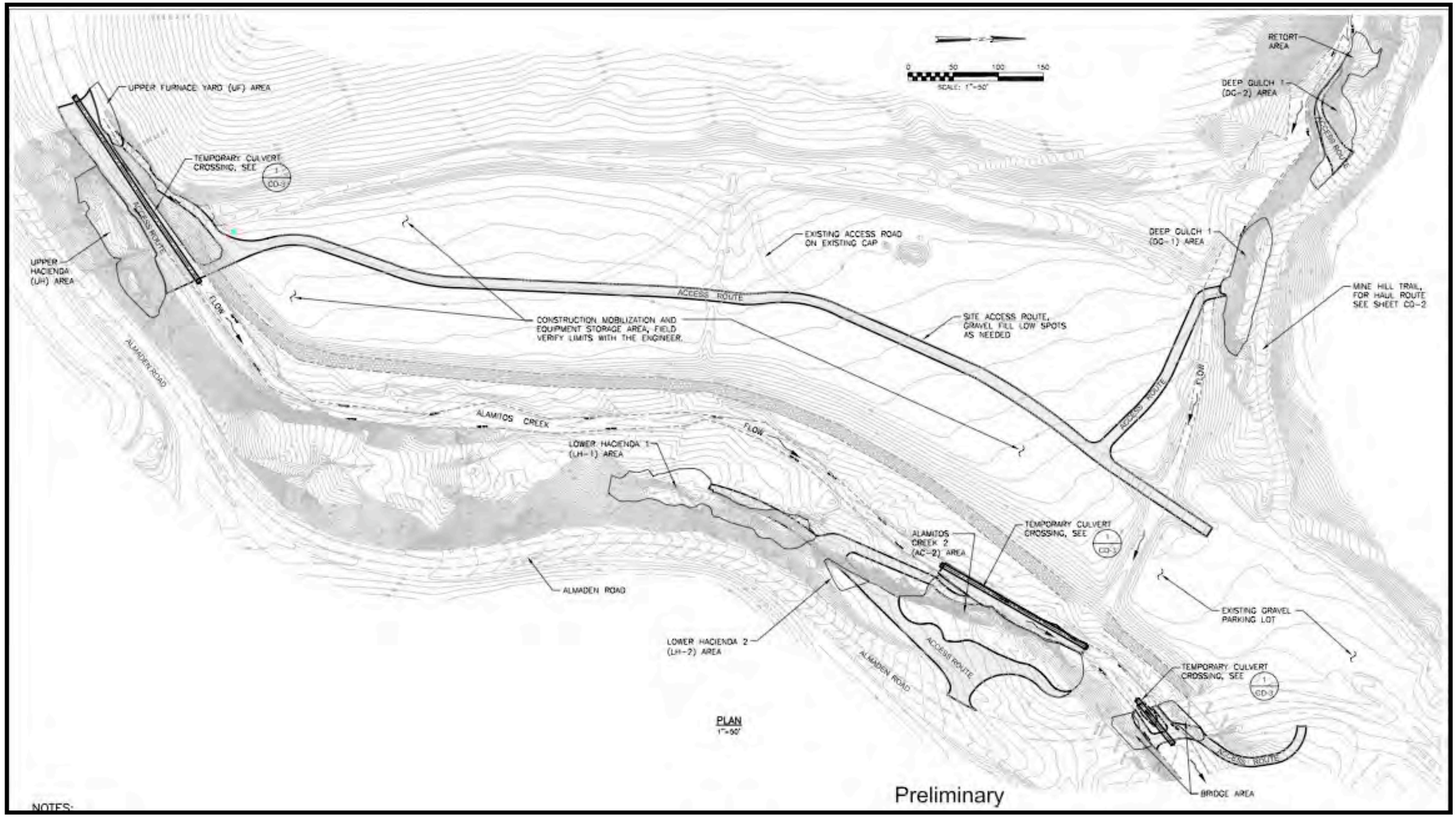


Figure 6 – Site Access and Temporary Culvert Placements (Courtesy of CH2M Hill)

Figure 7 – Construction Haul Routes

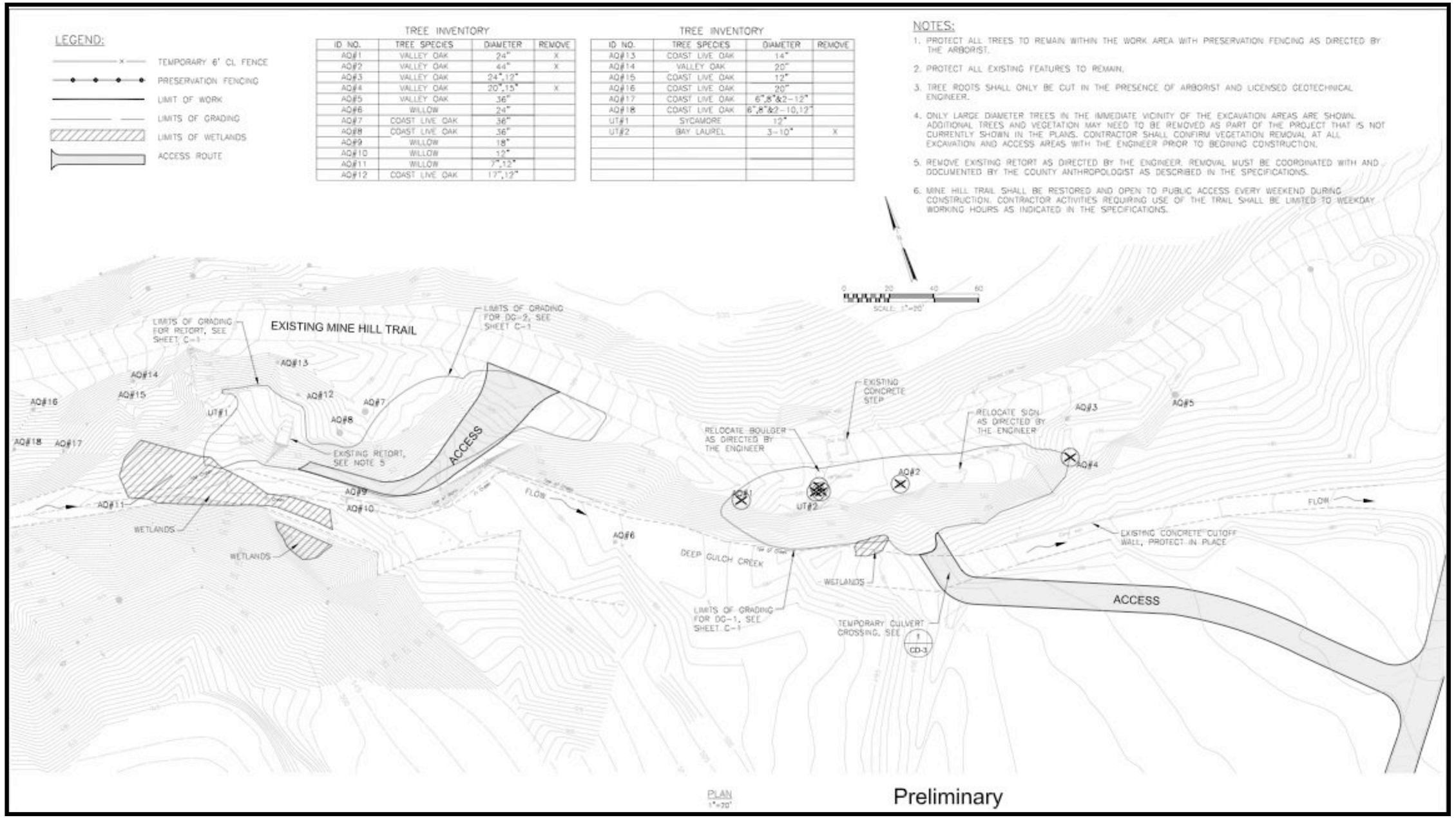


Figure 8 – Tree Removal Plan - Deep Gulch (Courtesy of CH2M Hill)

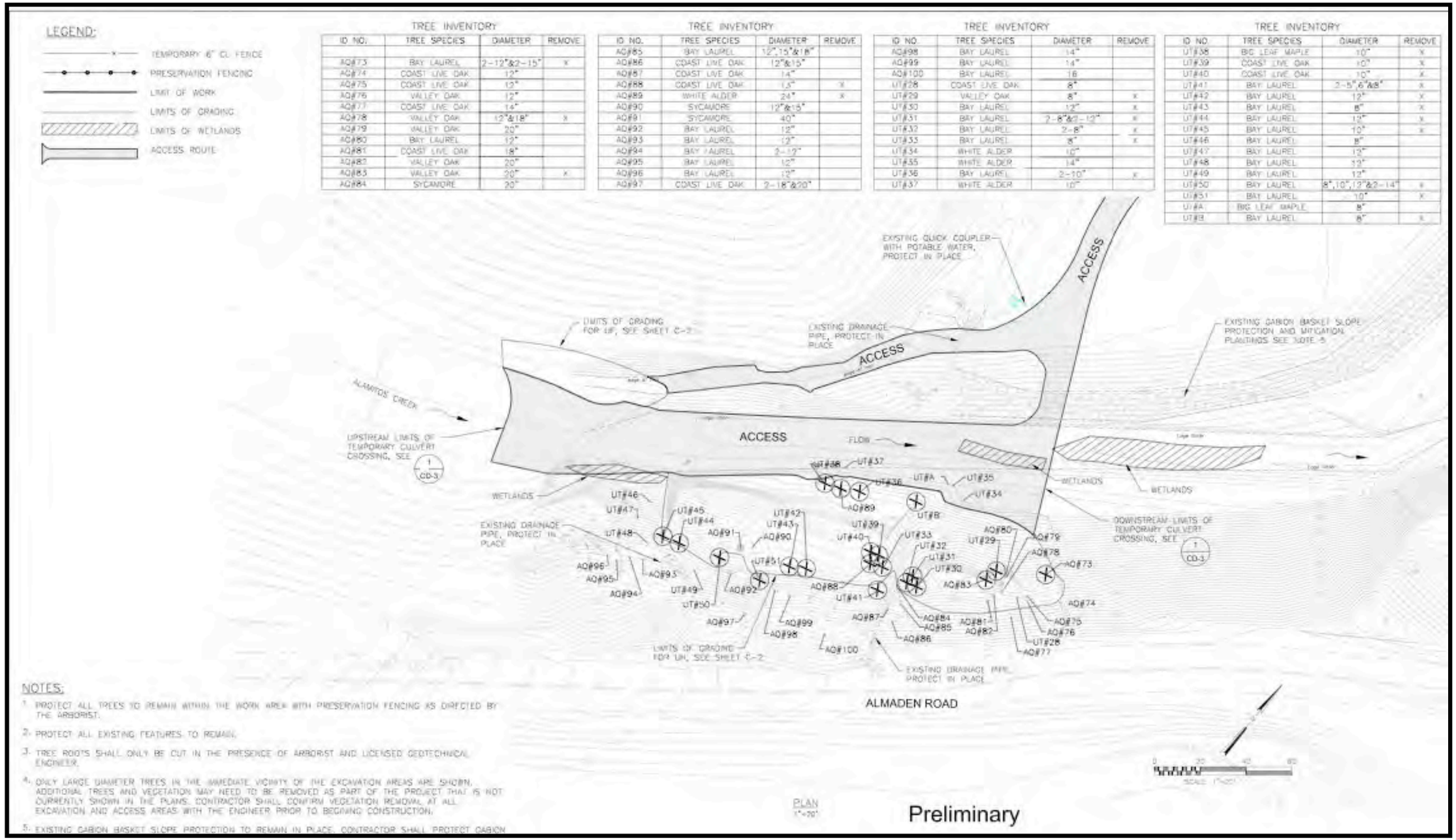


Figure 9 – Tree Removal Plan - Upper Hacienda (Courtesy of CH2M Hill)

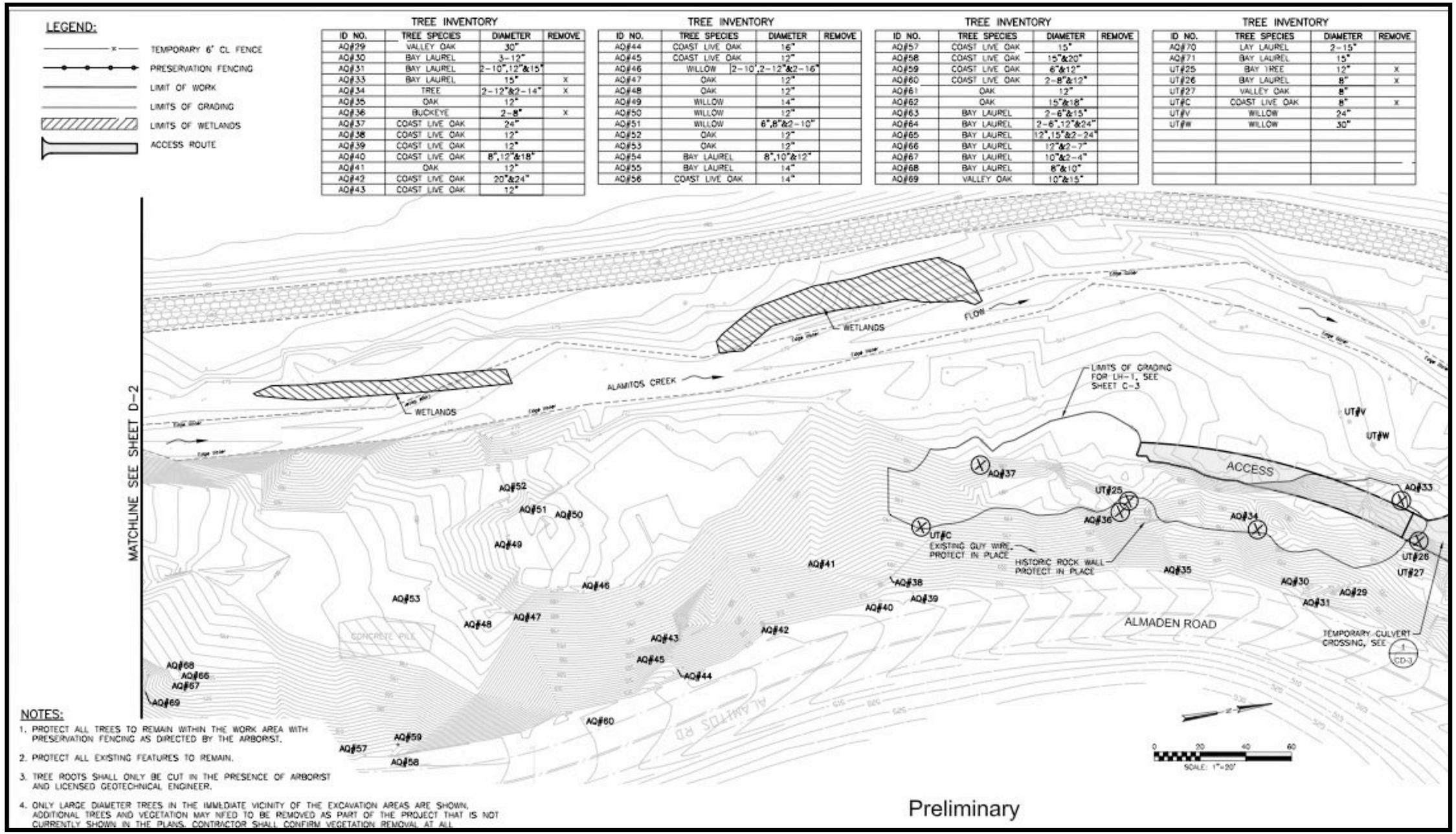


Figure 10 – Tree Removal Plan - Lower Hacienda (Courtesy of CH2M Hill)

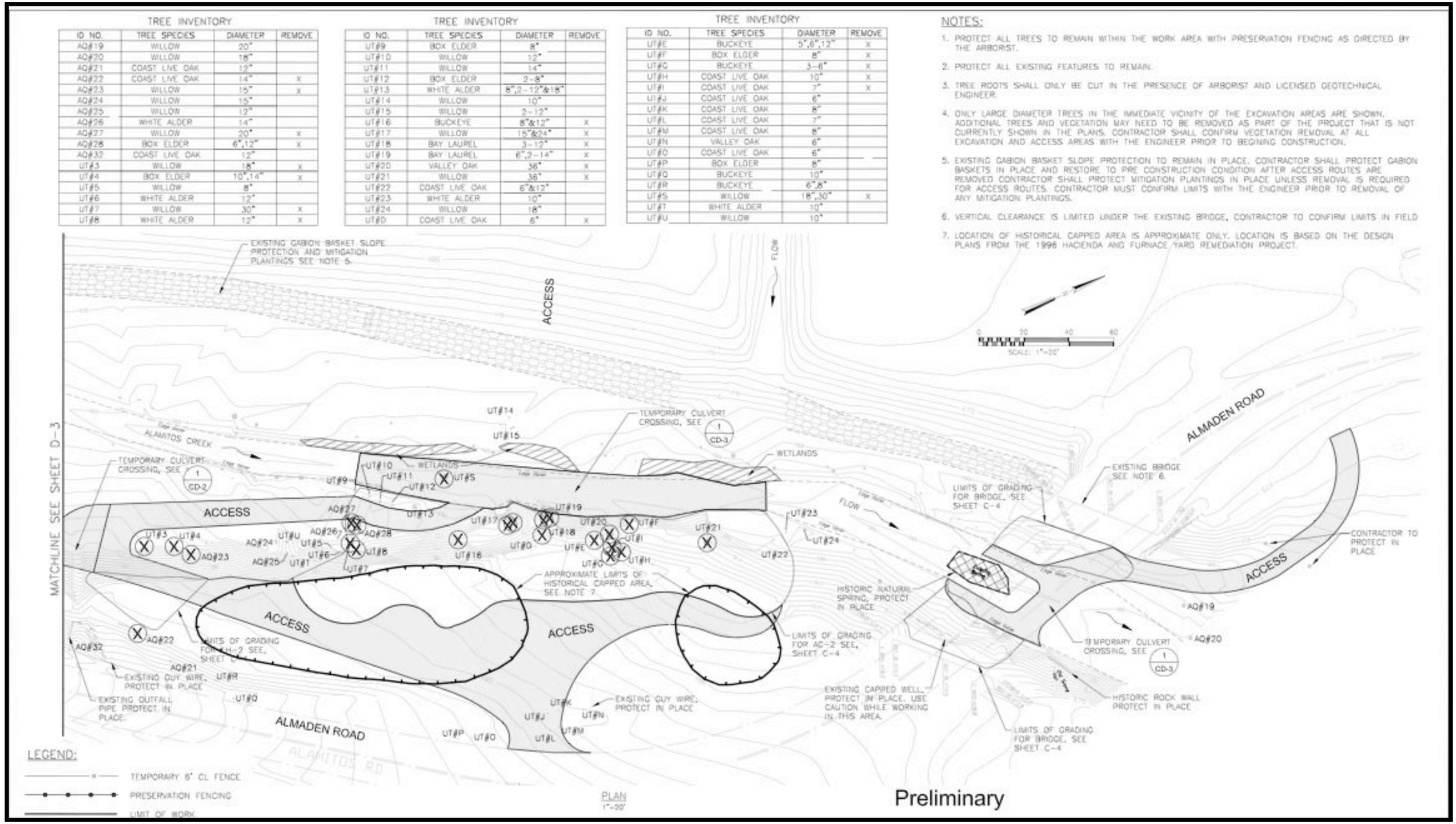


Figure 11 – Tree Removal Plan – Alamitos Creek (Courtesy of CH2M Hill)

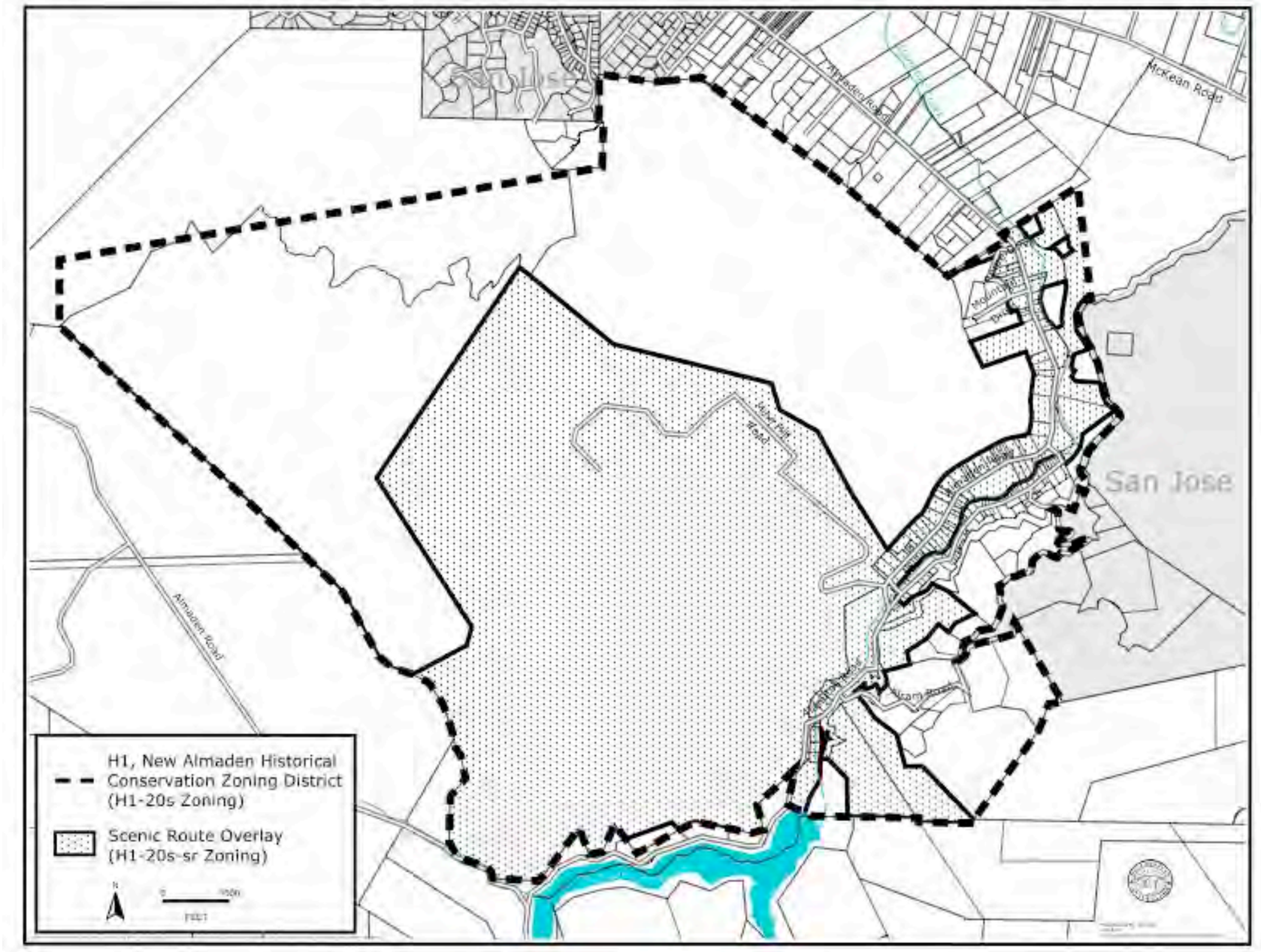


Figure 12 – New Almaden Historical Conservation Zoning District Map

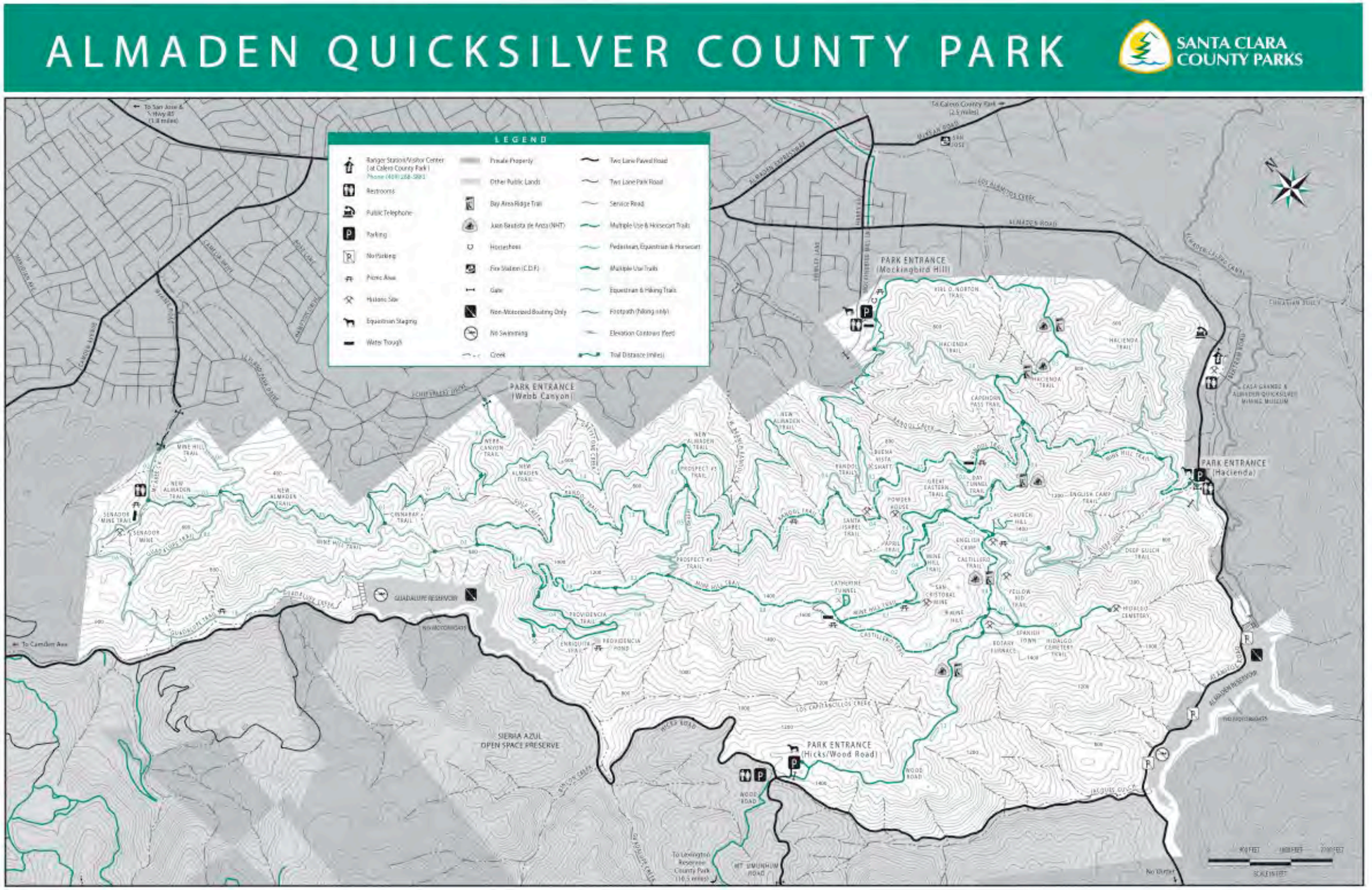


Figure 13 – Almaden Quicksilver County Park Trail Map

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
Aesthetics ***2) Create an aesthetically offensive site open to public view?***	The permanent loss of up to 75 trees, including some large oaks along Mine Hill Trail next to Deep Gulch, will degrade the quality of the park site for visitors. Impact reduced to less than significant with **BIO-8** and **BIO-9** mitigation measures that require planting 3 native trees to each 1 removed and planting attractive native understory and ground cover species along the affected trail.	Less than significant	County staff, Qualified biologist, and Certified arborist
Air Quality ***2) Violate any air quality standard or contribute to an existing or projected air quality violation?***	Project activities would generate emissions consisting of exhaust emissions from construction equipment (e.g., ozone precursors, NOx and VOC, other criteria pollutants, such as CO and PM_{10}, and toxic exhaust emissions) and dust from earthmoving activities and travel, but not near land uses that would be considered sensitive to air quality impacts. Implement the following BAAQMD BMPs to reduce this impact to less than significant. **AIR-1 Measures:** a. Bay Area Air Quality Management District Basic Dust Control Measures (all construction sites) b. Bay Area Air Quality Management District Enhanced Dust Control Measures (sites greater > 4 acres in size) c. Bay Area Air Quality Management District Optional Dust Control Measures	Less than significant	County staff
Biotics ***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,***	**BIO IMPACT 1**. The project will temporarily or permanently remove an estimated 1.2 acres of habitat and could directly impact sensitive species including red-legged frog, steelhead, dusky-footed woodrats, bats, and/or nesting migratory birds and raptors. These species and resources, such as stream quality, can be easily damaged by construction activities and personnel who are not aware of their presence, importance and methods to protect them. **BIO-1 Measures** (General): a. Implement an Employee and Contractor Education Program.	Less than significant	BIO-1a & c: County staff BIO-1b: Qualified biologist

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
or by the California Department of Fish and Game, U.S. Fish and Wildlife Service, or NOAA - Fisheries?	b. Implement Daily Monitoring to check the site each morning prior to construction activities for rare and sensitive species within the work area. c. Vehicle speed limited 5 miles per hour within the construction area. If any animal is seen in the path of a vehicle, the vehicle shall stop until the animal is out of the path. **BIO IMPACT 2**. Steelhead could be present in Alamitos Creek as adults or juveniles between April 15 and October 15 when this project will occur. **BIO-2 Measures** (Steelhead): a. Develop a dewatering and fish relocation plan in consultation with NMFS. Participate in a Section 7 consultation with the NMFS through the Army Corps of Engineers (Corps), if required. Implement all dewatering and fish protection measures required by agencies. b. Implement BMPs from Santa Clara Valley Water District (District) 2005 BMP Handbook and Stream Maintenance Program during project. c. Implement a Stormwater Pollution Prevention Plan (See **HYD-1**) for sediment impacts during construction. d. Implement *Guidelines and Standards for Land Use Near Streams* for sediment impacts after construction (See **HYD-2**). **BIO IMPACT 3**. Protected amphibians and reptile species that have the potential to occur on the project site include California red-legged frogs, western pond turtles, and silvery legless lizard. **BIO-3 Measures** (Herptofauna): a. Conduct pre-construction in the project area in order to detect sensitive herpetofauna and to coordinate with wildlife agencies.		BIO-2a: Qualified biologist BIO-2b: County staff BIO-2c & d: County staff BIO-3a & b: Qualified biologist

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
	b. 2. Conduct during project surveys to determine if any wildlife species are found within the project area and to implement species protections, if needed. **BIO IMPACT 4**. The project will remove up to 75 trees and 51,000 SF of oak woodland and riparian vegetation. Birds and their nests in trees, tree cavities, and understory vegetation in riparian and oak woodlands could be destroyed. Regrading banks could destroy nests of bank nesting birds, especially kingfishers. **BIO-4 Measures** (Nesting birds): a. Remove vegetation and trees within the project area outside of the nesting season (February 1 to August 31), in advance of calcine removal activities. b. For all trees and vegetation that remain after clearing, a qualified biologist shall conduct a pre-construction survey for nesting raptors and other birds, including kingfishers, approximately a month before and 3 days before construction begins. If active nests are detected, a qualified biologist shall determine the appropriate buffer around the nest and will monitor the nest until the fledging or until it has been determined to be inactive. c. To mitigate for the loss of riparian and oak woodland habitat, an area equivalent in size to the area degraded will be revegetated with native species, maintained and monitored for success (See **BIO-8** and **BIO-9)**. **BIO IMPACT 5**. Maternal or day-time bat roosts could occur in trees in the project area.		BIO-4a-c: Qualified biologist BIO-4c: Certified arborist BIO-5: Qualified biologist

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
	BIO-5 Measures (Bats): a. Conduct a survey for bats and their roosts prior to any construction or large tree removal. A pre-construction maternity roost survey the summer before construction is highly recommended. b. If a roost is found, the roost shall be avoided as determined by a qualified biologist in conjunction with wildlife agency guidance. Measures may include delaying work until young are flying, implementing a buffer zone, or excluding animals from the roost (not applicable to maternal roosts with young). **BIO IMPACT 6**. Woodrat houses have been found in the project area, in moderately-dense to dense riparian habitats. An estimated 32,000 SF of riparian habitats will be removed; any woodrats or their houses located in the impacted riparian zone could be harmed or destroyed. **BIO-6 Measures** (Woodrats): a. Conduct a pre-construction survey for San Francisco dusky-footed woodrat houses. b. If any are detected, implement avoidance/minimization measures as required by the wildlife agencies potentially including a buffer zone or capturing animals and relocated them to a near by artificial house. **BIO IMPACT 7**. The Loma Prieta hoita, a special status plant (CNPS List 1B), could occur in the project area. This plant was found growing on calcine deposits at the Jacques Gulch Restoration Project. **BIO-7 Measures** (Loma Prieta hoita): Conduct a pre-construction survey for the plant during a season when plants are most obvious. If any are found, develop and implement a transplanting and monitoring plan acceptable to CDFG.		BIO-6: Qualified biologist BIO-7: Qualified biologist

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
	BIO IMPACT 8. Calcine access and removal will result in the loss of, at most, 75 trees with diameters greater than 6 inches in foothill oak and foothill riparian woodlands; 23 are oaks and some are old, very mature trees. **BIO-8 Measures** (Oaks and Large Trees): a. A certified arborist will be on-site during all construction phases during which trees are affected to make decisions, in consultation with the Project Manager, on tree pruning, removal, and preservation. Whenever possible, mature trees will be preserved while still achieving the calcine removal goals of the project. b. Develop an oak community revegetation plan with success criteria, monitoring and contingency measures, which will require: i. replacing removed trees on a 3:1 basis with trees of the same species. ii. planting and maintaining a palette of understory and ground cover species native to oak woodlands, covering an area not less than equal to the size of the area impacted (a total of approximately 19,000 SF of foothill oak woodlands). c. Monitor and report on vegetation health as required by agencies.		BIO-8: Qualified biologist and Certified arborist
Biotics ***2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and***	**BIO IMPACT 9**. Calcine removal and access to the calcine deposits will result in the loss or degradation of approximately 76,000 SF of habitat. An estimated 32,000 SF (~0.74 acres) of this is foothill riparian community, which will be mitigated with measures in **BIO-9**. .Approximately 19,000 SF (0.44 acres) is foothill oak woodland community, whose impacts are mitigated with **BIO-8** measures. The project will also temporarily impact 400 SF of freshwater wetland and will permanently remove 500 SF of wetland (see Question 3, below). **BIO-9 Measures** (Foothill Riparian Community): a. Protect all riparian vegetation outside the construction area from any direct or	Less than significant	BIO-9a and c: County staff BIO-9b and c: Qualified biologist

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
Wildlife Service? ***4) Have a substantial adverse effect on oak woodland habitat as defined by Oak Woodlands Conservation Law (conversion/loss of oak woodlands) – Public Resource Code 21083.4?***	indirect impacts of construction. b. Develop a Riparian Mitigation and Monitoring Plan as part of the Streambed Alteration Agreement. The plan will mitigate tree loss on a 3:1 basis and will restore the riparian understory and ground cover on at least a 1:1 area (SF) basis. The plan will be developed by a qualified biologist and must be approved by the CDFG. c. Maintain, monitor and report on the success of the Riparian Mitigation and Monitoring Plan as required by CDFG.		
Biotics ***3) 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) through direct removal, filling, hydrological interruption, or other means?***	**BIO IMPACT 10**. The project will also temporarily impact 500 SF of freshwater wetland due to grading in Alamitos Creek and Deep Gulch. **BIO-10 Measures**: a. If possible, create a bench at AC-2 to allow at least 500 SF of wetlands to restore in this new area. b. Ensure that the cross-sectional area of Alamitos Creek and Deep Gulch are not reduced from pre-project conditions, allowing natural wetland restoration in areas of disturbance.		Qualified biologist
Biotics ***4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors?***	**BIO IMPACT 11**. Steelhead will temporarily be prevented from moving thorough the stream during the dewatering period which will last up to 12 weeks. Impacts to steelhead are reduced to less than significant with **BIO-2** measures.	Less than significant	Qualified biologist

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
Biotics ***7. Impact a local natural community, such as a fresh water marsh, oak forest or salt water tide land?*** ***8. Impact a watercourse, aquatic, wetland, or riparian area or habitat?***	**BIO IMPACT 12**. Impacts to natural communities on site, including oak woodlands, riparian woodlands, freshwater wetlands, and aquatic habitats are given above in Questions 2, 3 and 4. **BIO-8** and **BIO-9**, and **BIO-10** mitigation measures will reduce these impacts to less than significant. **BIO IMPACT 13**. Impacts to oak woodland communities may occur as a result of Sudden Oak Death (SOD) introduction to AQS County Park or may impact other areas if SOD were to establish in AQS County Park and be transported offsite by construction equipment. Mitigation measures adopted by the California Oak Mortality Task Force are incorporated in BIO-13.	Less than significant	Contractor and County staff
Biotics ***9. Adversely impact unique or heritage trees or a large number of trees over 12" in diameter?***	**BIO IMPACT 14**. Removal of calcine deposits and access routes to the deposits will result in the removal of 75 trees, 47 of which have diameters >12 inches. As described in **BIO-8**, all trees will be replanted on a 3:1 ratio, which will reduce this impact to less than significant.	Less than significant	Qualified biologist and Certified arborist
Biotics ***10. Conflict with any local policies or ordinances protecting biological resources:*** ***i) Tree Preservation Ordinance?*** ***ii) Wetland Habitat?*** ***iii) Riparian Habitat?***	**BIO IMPACT 15**. AQS Park is located in the New Almaden Historical Zoning District. The ordinance requires trees six (6) inches in diameter or greater be protected. Trees, subject to the relevant provisions of the County's "Tree Preservation Up to 75 trees 6 inches or greater in diameter will be removed. As per **BIO-8**, all trees with diameters 6 inches or greater will be replanted on a 3:1 ratio with trees of the same species. **BIO IMPACT 16**. The Resource Conservation Element of the Santa Clara County General Plan states "riparian habitats in rural lands must be preserved through protection of native vegetation, development setback, regulation of tree and vegetation removal, and control and design of grading, road construction, and bridges." Impacts to riparian habitat from the project will be mitigated as per the measures in **BIO-9**.	Less than significant	Qualified biologist and Certified arborist

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
Cultural ***1) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5 of the CEQA Guidelines, or the County's Historic Preservation Ordinance (i.e. relocation, alterations or demolition of historic resources)?*** ***2) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5 of the CEQA Guidelines?*** ***6) Disturb potential archaeological resources?***	Removal of the calcine deposits in the project will include both deposit and sediment removal around two historic architectural and archaeological features that could affect the cultural materials: a) Historic Resource #y44 Retort. b) Former Vichy Spring water bottling complex operating from 1867 to 1880/1882 were noted during the field inventory of the Alamitos Creek Bridge Deposit (ACB-1) under Bridge No. 37C0160 on Almaden Road. Surface and subsurface disturbances or calcines removal activities may result in the loss of integrity of cultural deposits, loss of information, and the alteration of a site setting. **CUL-1 Measures:** Conduct a pre-construction meeting to inform all construction personnel of the potential for exposing subsurface cultural resources and to inform them of the procedures that will be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains and their treatment. **CUL-2 Measures:** Further investigate and evaluate identified resources (Historic Resource #y44 – Retort and Vichy Spring Water – Former Bottling Complex) prior to project construction and during project construction is recommended to determine their potential for inclusion on the California Register of Historical Resources. Specific mitigation measures apply to each resource.	Less than significant	Santa Clara County staff, qualified archeologist and architectural historian, as required
Cultural ***3) Disturb any human remains, including those***	There is potential to discover buried human remains, including potential Native American skeletal remains, in the process of excavation and grading.	Less than significant	Construction monitoring by the County of Santa

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interred outside of formal cemeteries?	**CUL-3** Measures: Upon discovery of possible buried human remains, work within 100-feet of the find shall be halted and the Santa Clara County's Project Manager shall be notified. The Project Manager shall retain a qualified archaeologist to review and evaluate the find. Construction work shall not begin again until the archaeological or cultural resources consultant has been allowed to examine the remains.		Clara
Geology and Soils ***1) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*** ***vi) Landslides?***	Project calcine removal in areas of steep slopes has the potential to result in adverse slope stability impacts. Current project design recommendations are sufficient to address potential slope instability impacts. Appropriate geotechnical inspection and preparation of supplemental design recommendations (if needed) during project grading and the following geotechnical construction inspection services would reduce impacts to less than significant: **GEO-1 Measures:** a. Conduct geotechnical inspection of all final slopes of 2:1 (horizontal:vertical) or steeper in areas of calcine removal. Exposed slopes should be inspected by the Geotechnical Consultant prior to application of erosion control measures. b. Conduct full time geotechnical inspection during calcine removal in the Upper Hacienda area (this removal site is anticipated to be underlain by Qls materials). c. Excavation of first segment of rock slope foundation at Upper Hacienda to be observed by a County staff.	Less than significant	GEO-1a & b: Geotechnical consultant GEO-1c: County staff
Geology and Soils ***2) Would the project result in substantial soil erosion or the loss of topsoil?***	During construction would involve temporary ground disturbing activities that could increase erosion. These impacts will be reduced to less than significance with Stormwater Pollution Prevention Plan implementation (See **HYD-1**). Vegetation removal and regrading will expose areas to rain, wind and stream flow erosion after construction ends. These addressed will be	Less than significant	County staff

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	revegetation with trees and native understory and ground cover to mitigate this impact to less than significant (See **BIO-8** and **BIO-9**). Measures given in the *Guidelines and Standards for Land Use Near Streams* (SCVWRPC, 2006), such as natural fiber netting/erosion control blankets, will also reduce erosion impacts. (See **HYD-2**). The existing drainage pipe discharging above the Upper Hacienda area is to be extended or the flow path below the pipe outlet is to be armored to prevent erosion of steep slopes in this vicinity. All erosion protection mitigation measures are to be completed prior to initiation of seasonal rainfall (October 15). These BMPs will reduce the impact to less than significant: **GEO-2 Measures:** a. Stormwater Pollution Prevention Plan b. Surface Erosion Control Treatments (Hydroseeding and/or Fiber Netting) c. Replacement Planting d. Placement of rip-rap (rock slope protection) over calcine removal areas beneath Alamitos bridge e. Placement of rip-rap at the toe of slopes within the Upper Hacienda and Alamitos Creek removal areas to protect from scour under high flow conditions f. Drainage control improvements to mitigate the potential for erosion resulting from culvert discharge above the Upper Hacienda area.		
Geology and Soils 7) ***Would the project cause substantial change in topography or unstable soil conditions from excavation, grading, or fill?***	The project includes isolated areas of change in topography. These changes result from removal of artificial fill material and restoration of grades that match with adjoining native slopes. Substantial grading (beyond calcine removal) is not part of the project and negative impacts to native slopes are not anticipated. Less than significant with mitigations incorporated (**GEO-1** and **GEO-2**).	Less than significant	Geotechnical consultant and County staff

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
Geology and Soils 8) ***Would the project be located in an area designated as having a potential for major geologic hazard?***	The channel of Alamitos Creek and immediately adjoining flood plains are located within State mapped liquefaction hazard zones. Moderate to steep slopes located on both sides of the creek corridor are uniformly located within State mapped earthquake-induced landslide hazard zones (Santa Teresa Hills Quadrangle Hazard Zone Map, CGS 2003). Less than significant with mitigations incorporated (**GEO-1** and **GEO-2**).	Less than significant	Geotechnical consultant and County staff
Geology and Soils *10)* ***Would the project be located in a Geologic Study Zone?***	The site is not located within the State's Special Fault Study Zone. Comments about the local mapped liquefaction and earthquake-induced landslide hazard zones are addressed in Item 8 above. Less than significant with mitigations incorporated (**GEO-1** and **GEO-2**).	Less than significant	Geotechnical consultant and County staff
Hazards and Hazardous Materials ***1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*** ***13) Create any health hazard?*** ***14) Expose people to existing sources of potential health hazards?***	Excavation work could increase the potential for dust inhalation. Construction workers, park visitors, and local residents could be exposed to levels of mercury above current conditions. **HAZ-1** and **HAZ-2** measures will reduce this potential impact to less than significant. Sediment could enter Alamitos Creek as a result of calcine removal, stockpiling and transport activities as well as from erosion of denuded areas. To reduce this impact to less than significant, implement measures in **HAZ-3** below, which includes a Stormwater Pollution Prevention Plan (See **HYD-1**), and follow the measures given in the *Guidelines and Standards for Land Use Near Streams* (See **HYD-2**). **HAZ-1 Measures:** A worker safety and health program, as required by CalOSHA will be implemented during calcine and soil removal, transport, and consolidation. **HAZ-2 Measures:** The contractor will develop and implement a fugitive dust control program, as approved by the County. This program shall include an onsite Air Quality Monitor (AQM), a Dust Control Plan (DCP), monitoring of the project sites and the transport route for visible dust plumes.	Less than significant	County staff or Qualified expert

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
	HAZ-3 Measures: Sediments will be stored and transported in a manner that minimizes water quality impacts as follows: a. Wet sediments will be stockpiled in a manner that prevents any material or water from draining into Alamitos Creek. b. Water will not drain directly into public streets without providing water quality control measures. c. Streets will be cleared of mud and/or dirt by street sweeping, as necessary, and not by hosing down the street. d. Follow measures in **HYD-1** and **HYD-2** for construction and post-construction control of sediments and prevention of soil erosion.		
Hazards and Hazardous Materials ***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?***	Potential routes by which hazardous materials could accidentally be released into the environment are through equipment leaking fluids onto soils or into Alamitos Creek. The contractor will implement standard BMPs (**HAZ-4**), which will reduce this impact to less than significant. Also, materials stockpiled on site could be washed into Alamitos Creek. Reduce this impact to less than significant with **HAZ-3** measures. Finally, calcines and materials from steep hillside excavations at Upper Hacienda and Alamitos Creek (AC-2) could fall into Alamitos Creek. Construction methods will reduce this impact to less than significant and areas where materials could potentially reach the stream will be protected with SWPP Plan and erosion prevention measures. **HAZ-4 Measures:** Implement standard Santa Clara County BMPs for controlling oil, grease and fuel from construction vehicles.	Less than significant	County staff or Qualified expert
Hazards and Hazardous Materials ***5) Impair implementation of or***	Construction activities adjacent to Alamitos Road and increased truck and vehicle traffic along haul routes could temporarily increase response times for emergency response providers along affected roadways. This impact could occur on the public roads, but only very briefly during the movement	Less than significant	County staff or Qualified expert

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
physically interfere with an adopted emergency response plan or emergency evacuation plan?	of construction equipment. **TRA-2** measures will reduce this impact to less than significant.		
Hazards and Hazardous Materials ***6) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*** *16) Increase fire hazard in an area already involving extreme fire hazard?*	The project area is in a "high" Fire Severity Zone (Cal FIRE, 2007). The project would be conducted during the summer and fall when fire danger non-native grasses and weeds dry out and fire danger increases. **HAZ-5** measures will be implemented to ensure this impact is less than significant. **HAZ-5 Measures:** a. A water truck will remain on site equipped with a hose that can be used to spray water on fires. b. Each construction vehicle will be equipped with a fire extinguisher. c. Workers will be instructed in the need to stay alert to the start of fires and will be given instruction in using fire extinguishers; the construction manager will be informed immediately if a fire starts. d. SWPPP measures will ensure that water and chemicals required to stop fires will not enter Alamitos Creek.	Less than significant	County staff or Qualified expert
Hydrology ***1. Violate any water quality standards or waste discharge requirements?*** ***3. Substantially alter the existing drainage pattern of the site or area, including through the***	Each question focuses on the potential for pollutants or discharges to enter Alamitos Creek at any level or at a level that violates water quality standards and/or which could have a negative effect on water quality in the Guadalupe River. This project has the potential to introduce sediments and calcines into Alamitos Creek as a result of the calcine removal process, of stockpiling excavated materials, and of temporary fill placed to create creek crossings during construction. **HYD-1** Measures, below, reduce this impact to less than significant.	Less than significant	County staff or Qualified expert

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Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on or off site? ***6. Degrade surface or ground water quality or public water supply?*** ***10. Result in an increase in pollutant discharges to receiving waters?*** ***11. Be located in an area of special water quality concern (e.g., Los Gatos or Guadalupe Watershed)?*** ***18. Result in significant changes to receiving waters quality during or following construction?*** ***19. Is the project a tributary to an already impaired water body? If so will the project result in an increase in any existing pollutants?***	Calcine removal and grading, especially in areas of substantial tree and vegetation removal, could result in soil erosion into Alamitos Creek after the project is completed. To reduce this impact to less than significant, the County will implement tree planting and revegetation measures that will provide significant soil stabilization (See **BIO-8** and **BIO-9**). The County will also implement other slope and soil stabilization methods as recommended in the Santa Clara Valley Water Resources Protection Collaborative (SCVWRPC, 2006) *Guidelines and Standards for Land Use Near Streams* (**HYD-2** Measures below). **HYD-1 Measures:** Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) that ensures material that is removed as a result of this project is not transported by water into Alamitos Creek. **HYD-2 Measures:** Implement measures and techniques for preventing soil erosion as given in the *Guidelines and Standards for Land Use Near Streams*. In particular, Chapter 4 provides recommended soil and slope stabilization methods.		
Hydrology ***15. Conflict with Water Resources Protection Guidelines & Standards?***	As described in **HYD-2**, the project will incorporate methods and techniques given in the ***Guidelines and Standards for Land Uses near Streams*** (SCVWRPC, 2006) to control erosion, stabilize slopes, and whenever feasible, to ensure this impact is less than significant.	Less than significant	County staff or Qualified expert

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Hydrology ***22. Involve a surface water body, natural drainage channel, streambed or water course such as to alter the amount, location, course, or flow of its waters?***	The project will temporarily divert stream water into pipes along approximately 600 ft of Alamitos Creek. These diversions will be temporary, occurring from approximately April 15 to October 15. A CDFG Stream Bed Alteration Agreement (see **BIO-9**) and permits from the RWQCB (Clean Water Act Section 402) will be required.	Less than significant	Qualified biologist
Land Use ***3) Conflict with general plan designation or zoning?***	The project would be in conflict with the County of Santa Clara Historic Preservation Zoning Ordinance § 3.50.080 K - Tree, Shrub and Landscaping Conservation. Trees must be removed to access and excavate the calcine deposits. County will apply for a Santa Clara County Planning Department Tree Removal Permit and native plant species will be replanted as per Mitigation **BIO-8**.	Less than significant	County staff
Noise ***1. Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*** ***2. Result in exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?*** ***4. Result in a substantial***	Project activities will require the short-term use (six months) of trucks, excavators, bulldozers, graders, compactors, chain saws and other equipment for tree cutting, calcine excavation, trucking to the San Francisco Open Cut, land grading and contouring, restoring slopes, and repairing stream banks and culverts. The project activities would create temporary intermittent and continuous noises. Intermittent noise would result from periodic, short-term equipment operation, and more continuous noise would result from equipment running over longer periods, such as generators. The maximum intermittent equipment noise levels would range from 85 to 92 dBA at 50 feet for pieces of equipment operating simultaneously. The closest work will be approximately 200 feet from the nearest residences and park visitors could be within 200 feet of the construction. **NOISE-1 Measures:** The County will implement these practices to minimize disturbances to residential neighborhoods surrounding work sites:	Less than significant	County staff

Appendix A – Mitigation Monitoring and Reporting Program Summary

Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
temporary increase in ambient noise levels in the project vicinity above levels existing without the project? ***5. Increase substantially the ambient noise levels for adjoining areas during and/or after construction?***	a. No construction on Sundays and legal holidays, or between the hours of 7:00 p.m. and 7:00 a.m. If nighttime construction is required, construction activities should be grouped together so as to avoid continuing periods of high disturbance. b. If specific noise complaints are received during construction, one or more of the following noise mitigation measures can be implemented in a more rigorous fashion: i. Use hydraulically or electrically powered impact tools (e.g., jack hammers) when possible. If the use of pneumatically powered tools is unavoidable, use an exhaust muffler on the compressed air exhaust. ii. Install manufacturer's standard noise control devices, such as mufflers, on engine-powered equipment. iii. Locate stationary construction equipment as far from noise-sensitive properties as possible. iv. Notify nearby property users whenever extremely noisy work will occur. v. Utilize stockpiles as effective noise barriers when feasible. c. Work under the Alamitos Bridge will be conducted as quickly and as quietly as possible. d. Internal combustion engines will be equipped with adequate mufflers. e. Vehicles will not idle longer than 5 minutes. f. All construction equipment will be equipped with manufacturer's standard noise control devices. g. The arrival and departure of trucks hauling material will be limited to the hours of construction. h. The County shall place a sign at the entrance of the site informing surrounding neighbors to call the County of Santa Clara, Department of Parks and Recreation regarding noise complaints.		

Appendix A – Mitigation Monitoring and Reporting Program Summary

Potential Impact	Impact Description and Mitigation Measures	Level of Significance After Mitigation	Monitoring Responsibility
Transportation/Traffic ***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 freeway, pedestrian and bicycle paths and mass transit.***	Project activities would increase traffic on Hicks Road, Alamitos Road, and the unpaved single lane Wood Road within the park. Traffic would arrive on Alamitos Roads after traveling through the community of New Almaden and along the more urban city streets and highways that provide regional access. Delivery of heavy equipment and construction employee traffic would occur on these roads and potentially increase traffic congestion for up to eight months of construction activities. Trucks for hauling water for dust control and construction materials would also access the site daily. **TRA-1 Measures:** Implement County Roads and Airports BMPs requiring the installation of fences, barriers, lights, flagging, guards, and signs as determined appropriate by the public agency having jurisdiction, to give adequate warning to the public of the construction and of any dangerous condition to be encountered as a result thereof.	Less than significant	County staff
Transportation/Traffic *5. Result in inadequate emergency access?*	Construction activities adjacent to Alamitos Road and increased truck and vehicle traffic along haul routes could temporarily increase response times for emergency response providers along affected roadways. This impact could occur on the public roads, but only very briefly during the movement of construction equipment when truck traffic would fully occupy this single lane of Wood Road and the Mine Hill Trail. **TRA-2 Measures:** Prior to the start of the project, County Parks will develop and communicate to the contractor an emergency response procedure for emergency access to Wood Road and the Mine Hill Trail.	Less than significant	County staff

Appendix B: Identification of Waters and Wetlands of the United States

TRA Environmental Sciences

Almaden Quicksilver County Park
Hacienda Deep Gulch Restoration

Identification of Wetlands and Waters of the U.S.

November 2009

Prepared for:

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1.0 INTRODUCTION

1.1 OBJECTIVE

This report was prepared to determine the extent of jurisdictional waters of the United States, including jurisdictional wetlands and water associated habitats that occur in the Hacienda/Deep Gulch Restoration project area within Almaden Quicksilver County Park, Santa Clara County. The restoration area includes portions of Alamitos Creek, a perennial creek that flows to Guadalupe River, and Deep Gulch, an intermittent tributary to Alamitos Creek.

1.2 RESPONSIBLE PARTIES

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1.3 PROJECT DESCRIPTION

The Hacienda/Deep Gulch Restoration is a remediation and restoration project in the Hacienda Furnace Yard Area, the site of a former mercury sulfide (cinnabar) mine that operated from 1865 to 1971. Hacienda Furnace Yard is part of the Almaden Quicksilver (AQS) County Park, owned and operated by Santa Clara County.

Almaden Quicksilver County Park was the site of cinnabar mining from approximately 1845 to 1971. The cinnabar ore was heated to release the mercury and what remained were piles of calcines or "roasted ore" tailings. Some of these rocks were cooked multiple times to release more mercury. After mining ended, what remained were piles of calcines in the Hacienda Furnace Yard and lining the slopes of Deep Gulch and Alamitos Creek.

Mercury occurs naturally in this area and continues to seep from the calcines into Alamitos Creek and then into the Guadalupe River. Mercury mining and the remaining tailings have delivered high levels of mercury to the local rivers in the watershed and have ultimately contaminated the South San Francisco Bay. The elevated mercury levels and the highly detrimental effect of methylated mercury on wildlife and humans have been well documented. Because the tailings in AQS County Park are part of this mercury pollution problem, remediation at the County Park is required ~~under federal law, CERCLA, also known as the Superfund Law~~.

The Hacienda/Deep Gulch Restoration project aims to remove calcine deposits from various areas, including along Deep Gulch and Alamitos Creek. The following wetland delineation does not calculate project impacts, but does map and measure potential waters of the U.S. for later determination of possible impacts resulting from restoration activities.

An Identification of Waters of the U.S. report was prepared in 1995 (H.T. Harvey) for the Hacienda/Deep Gulch Restoration project, with a similar Study Area as this current report. However, since that time, rock gabions were installed along portions of Alamitos Creek, thus altering the high water mark and requiring a new wetland delineation, rather than a re-verification of the older report.

The Hacienda/Deep Gulch Restoration Plan and Environmental Assessment (RP/EA) was prepared in October, 2008 (USFWS). The RP/EA provides a detailed review of the project purpose, affected environment, and restoration planning.

1.4 DEFINITIONS

"Waters of the United States" as defined in Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]) includes: (1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural basins, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters which are or could be used by interstate or foreign travelers for recreational or other purposes; or from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or which are used or could be used for industrial purposes by industries in interstate commerce; (4) All impoundments of waters otherwise defined as waters of the United States under the definition; (5) Tributaries of waters identified in paragraphs (1) through (4); (6) Territorial seas; and (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6). The term “other waters of the United States” is used to characterize waterbodies, such as intermittent streams, that do not meet the full criteria for wetlands designation.

Wetlands and other water resources, e.g., rivers, streams and natural basins, are a subset of “waters of the United States” and receive protection under Section 404 of the Clean Water Act (CWA). The Army Corps of Engineers (the Corps) has primary federal responsibility for administering regulations that concern waters and wetlands. In this regard, the Corps acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters," and the Clean Water Act (Section 404), which governs specified activities in "waters of the United States," including wetlands. Navigable waters of the United States are defined as those waters that are subject to the ebb and flow of the tide or are presently used, or have been used in the past, were so designated, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the water body, and is not superceded by later actions or events that impede or destroy navigable capacity. (33 CFR 329.4)

The Corps and the Environmental Protection Agency (EPA) define wetlands as, “Those areas that are saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for

the life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

In 2003, the Corps and EPA determined that field staff should not assert Clean Water Act jurisdiction over isolated waters or wetlands, in response to a court case known as SWANCC (Supreme Court of the United States 2001). Isolated waters are those which have no connection to navigable waters, and are not immediately adjacent to waters of the U.S.

On December 2, 2008, the Corps issued guidance titled, "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States" (US Army Corps of Engineers 2008). In response to this court case, the guidance is that the Corps and EPA will generally not assert jurisdiction over:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); or
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

2.0 PROJECT AREA DESCRIPTION

Almaden Quicksilver County Park is located along a northeast ridge of the Santa Cruz Mountains, approximately 12 miles south of downtown San Jose, California (Figures 1 and 2). The park encompasses 4,152 acres, occupying a majority of Capitancillos Ridge. The Study Area for this wetland delineation is located in the eastern section of the park and is accessed from the Hacienda Park Entrance on Almaden Road. The wetland delineation includes portions of the lower reach of Deep Gulch and Alamitos Creek south of the Hacienda entrance (Figures 2 and 3).

Elevations in the Study Area vary from approximately 490 feet to 550 feet. Almaden Quicksilver County Park is within the Guadalupe River watershed.

2.1 CLIMATE AND TOPOGRAPHY

The study area has a Mediterranean-type climate, with moist mild winters and dry summers. Average precipitation at the nearby Los Gatos and San Jose rain stations are 25.2 in and 14.1 in, respectively (worldclimate.org). The site occurs in the foothills and is surrounded by hilly terrain and deep gulches. Temperatures range from below freezing in the mountains for a few days in winter to nearly 100 degrees in the hottest parts of the valley in the summer.

Figure 1. Regional Location Map

Figure 2. View of Project Area within Almaden Quicksilver County Park

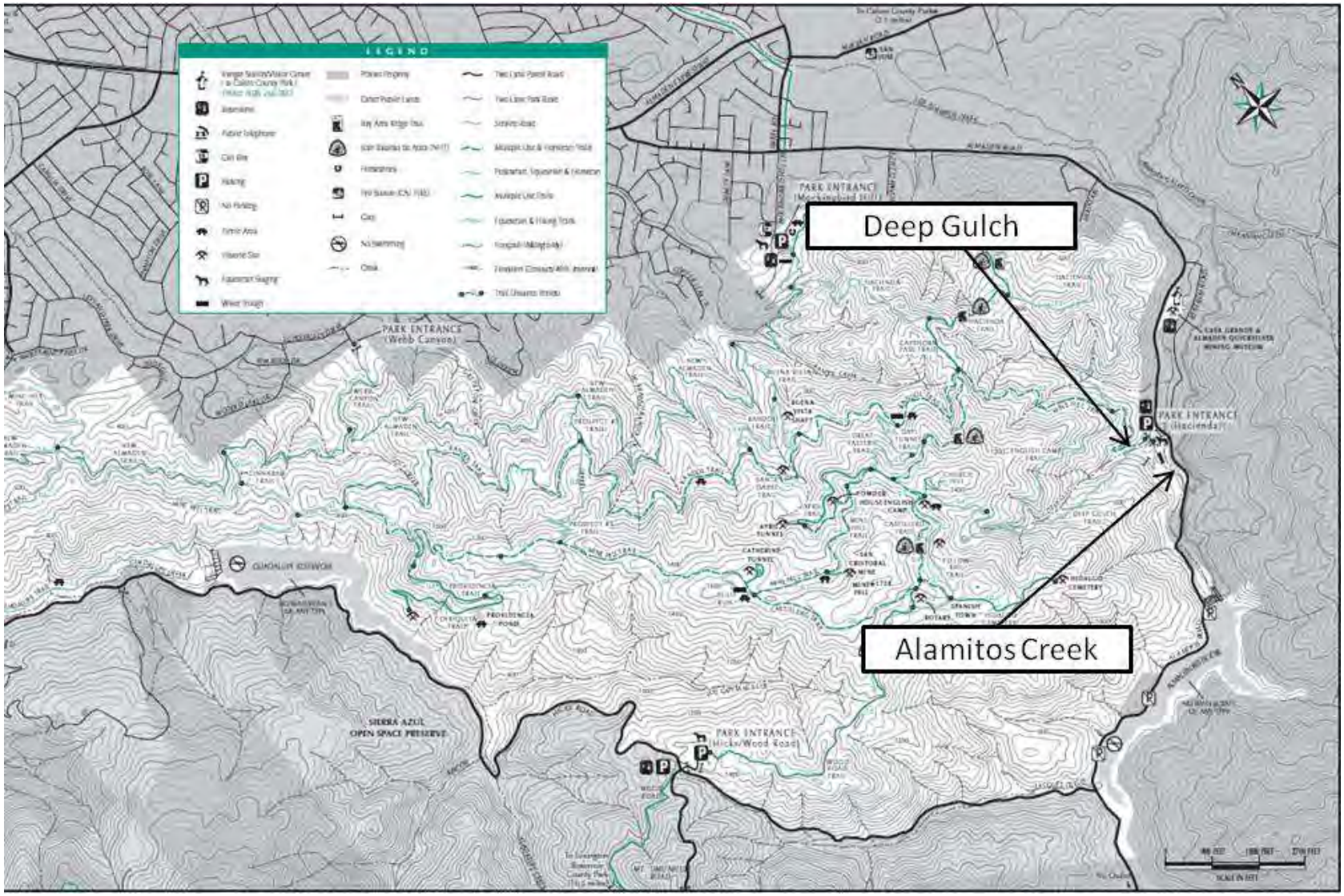


Figure 3. Aerial View of the Study Area

Brackets show approximate boundaries of Study Area.

2.2 SOILS

The Engineer's Report (CH2M Hill 2009) and the H.T. Harvey Mitigation and Monitoring Plan (an appendix to the Engineer's Report) state that in the project area, the soils are classified as Los Gatos and Maymen series, "which are gravelly loams to a rocky fine sandy loam that are relatively shallow (14 to 35 inches average thickness) (USDA 1968). The bedrock geology in the project area is complex consisting of marine sedimentary, igneous and metamorphic rocks of the Franciscan Complex (USGS McLaughlin and others 2001). These formations are prone to landslides and erosion and can contribute large amounts of sediment to waterways (SCVWD 2003)" (CH2M Hill, 2009). Mercury is a naturally occurring element in the local rocks and occurs as cinnabar in soil and rocks at the surface and below ground. "Mining activities in the Furnace Yard area resulted in processing waste materials (calcines) from which mercury was removed, but residual mercury remains. These calcine materials tend to be gravel to cobble-sized, cemented deposits on slopes adjacent to Alamitos Creek and Deep Gulch" (CH2M Hill 2009). The terrain in the area includes almost vertical drops from the road edge or other benches to Alamitos Creek as well as more shallow terrace areas (CH2M Hill 2009).

2.3 HYDROLOGY

Alamitos Creek drains the surrounding hillsides, flowing north through the project area and discharging into Guadalupe River. Guadalupe River flows north into southern San Francisco Bay. Almaden Reservoir is located on Alamitos Creek 0.4 miles south (upstream) of the Hacienda Furnace Yard. Alamitos Creek is a perennial stream with summertime flows maintained by releases from the Almaden Reservoir. In the Hacienda Furnace Yard Area, the Alamitos Creek stream gradient is relatively steep and characterized by pool-riffle morphology. The Deep Gulch Drainage is a seasonal stream that drains the hillside directly west of the project site and is tributary to Alamitos Creek. This drainage is characterized by step-pool stream morphology (CH2M Hill 2009).

2.4 VEGETATION

The Almaden Quicksilver Restoration Plan and Environmental Assessment (2008) notes that "foothill woodland species are the dominant vegetation in Almaden Quicksilver Park and surrounding areas". H.T. Harvey (2009) lists 3 primary vegetation types in the Project area:

- Foothill oak woodland in the Deep Gulch area, dominated by coast live oaks (*Quercus agrifolia*), valley oak (*Quercus lobata*), California bay laurel (*Umbellularia californica*) and California buckeye (*Aesculus californica*);
- Foothill riparian woodland, which lines Alamitos Creek and Deep Gulch, dominated by coast live oaks, valley oak, California bay laurel, California sycamore (*Platanus racemosa*), willows (*Salix spp*.), Fremont cottonwood (*Populus fremontii*) and big-leaf maple (*Acer macrophyllum*).
- Chaparral on the hillsides in drier areas dominated by chamise (*Adenostoma fasciulatum*), buckbrush (*Ceanothus cuneatus*), California sagebrush (*Artemesia californica*), and California buckwheat (*Eriogonum fasciculatum*).

Other habitats include the in-stream Alamitos Creek channel and Deep Gulch, when water is present, as well as non-native grasslands in disturbed areas and open areas upland from Alamitos Creek.

2.5 WILDLIFE

A wide range of animal species are found or could be found in the project area, and common species to be expected are discussed in the Final Almaden Quicksilver Restoration Plan and Environmental Assessment (USFWS 2008) and 1995 wetland delineation (H.T. Harvey 1995).

The Guadalupe River drainage supports several special-status species, including California red-legged frog (*Rana aurora*, federal threatened), foothill yellow-legged frog (*Rana boylii*, California species of special concern), western pond turtle (*Clemmys marmorata*), steelhead trout (*Onchorynchus mykiss*, federal threatened), and California tiger salamanders (*Ambystoma californiense*, federal threatened) (USFWS 2008). Nests of the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a California species of special concern, have been found in the Deep Gulch riparian zones. A number of bat species—all state species of special concern—have potential to occur in the watershed (CNDDB 2009).

3.0 DELINEATION METHODOLOGY

TRA conducted the following tasks as part of this survey: (1) a review of literature, maps, and aerial photos to determine existing conditions of the project site; and, (2) a focused delineation of wetlands and other waters of the United States in the Study Area.

3.1 LITERATURE REVIEW

TRA reviewed the following sources for information relevant to this delineation:

- Aerial photographs of the project site and vicinity.
- Standard biological references and field guides including the Jepson Manual (Hickman, 1996), and the Manual of California Vegetation.
- Identification of Waters of the U.S. Almaden Quicksilver County Park Hacienda Furnace Yard Area- Identifications of Waters of the U.S. (H.T. Harvey and Associates 1995).
- Engineer's Report, Hacienda and Deep Gulch Restoration Plan, Almaden Quicksilver County Park (CH2MHill. 2009).

3.2 FIELD SURVEY AND DELINEATION

TRA Biologists Jessica Shors, Sara Krier, and Taylor Peterson conducted a formal wetland delineation in the Study Area along Deep Gulch on September 14, 2009. Data on vegetation, soils, and hydrology were collected at three data points, and data on vegetation and hydrology were collected at one additional point. TRA Biologists Sara Kier and Brian Williams conducted a formal wetland delineation in the Study Area along Alamitos Creek on September 17. Data on vegetation, soil, and hydrology were collected at two data points. Mr. Williams completed the

wetland delineation in the Study Area along Alamitos Creek on September 22. Data on vegetation, soil and hydrology were collected at two data points.
The streambeds of Deep Gulch and Alamitos Creek were defined by the cross-sectional elevation gradient, the presence of wetland-associated vegetation and other hydrological indicators.

Data sheets used in this study present information suitable for determination of waters of the United States subject to Corps jurisdiction under Section 404 of the Clean Water Act and California Department of Fish and Game (CDFG) jurisdiction under Sections 1600-1607 of the California Fish and Game Code. At each data point, the dominant plant species were recorded within an approximate five-foot radius. The indicator status of each species was confirmed with the *National List of Plant Species That Occur in Wetlands* (USFWS, 1988). For species not listed by the USFWS, taxonomic literature was used to determine if the species is associated with wetland or non-wetland conditions. Assessment of the hydrologic criterion on-site was based on direct and indirect indicators.

Hydric soils were surveyed in accordance with the Corps' *Manual* (1987). Soil pits at data points were excavated to a depth of approximately 12 inches when possible and soil color was matched against a *Munsell* color chart.

4.0 RESULTS

Within the Study Area, 0.11 acres of potential waters of the U.S. were delineated within the Deep Gulch drainage, and 0.93 acres of potential waters of the U.S. were delineated within Alamitos Creek (Figure 4). This includes a total of 0.07 acres of stream and 0.04 acres of wetlands at Deep Gulch, and 0.83 acres of stream and 0.10 acres of wetlands at Alamitos Creek (Table 1). Locations of data points are shown on the Wetland Delineation Map (Figure 4). Photos of the Study Area are provided in Appendix A, and copies of the data sheets for the Routine and Arid West wetland determinations are provided in Appendix B.

Table 1. Potential Waters of the U.S. within the Study Area

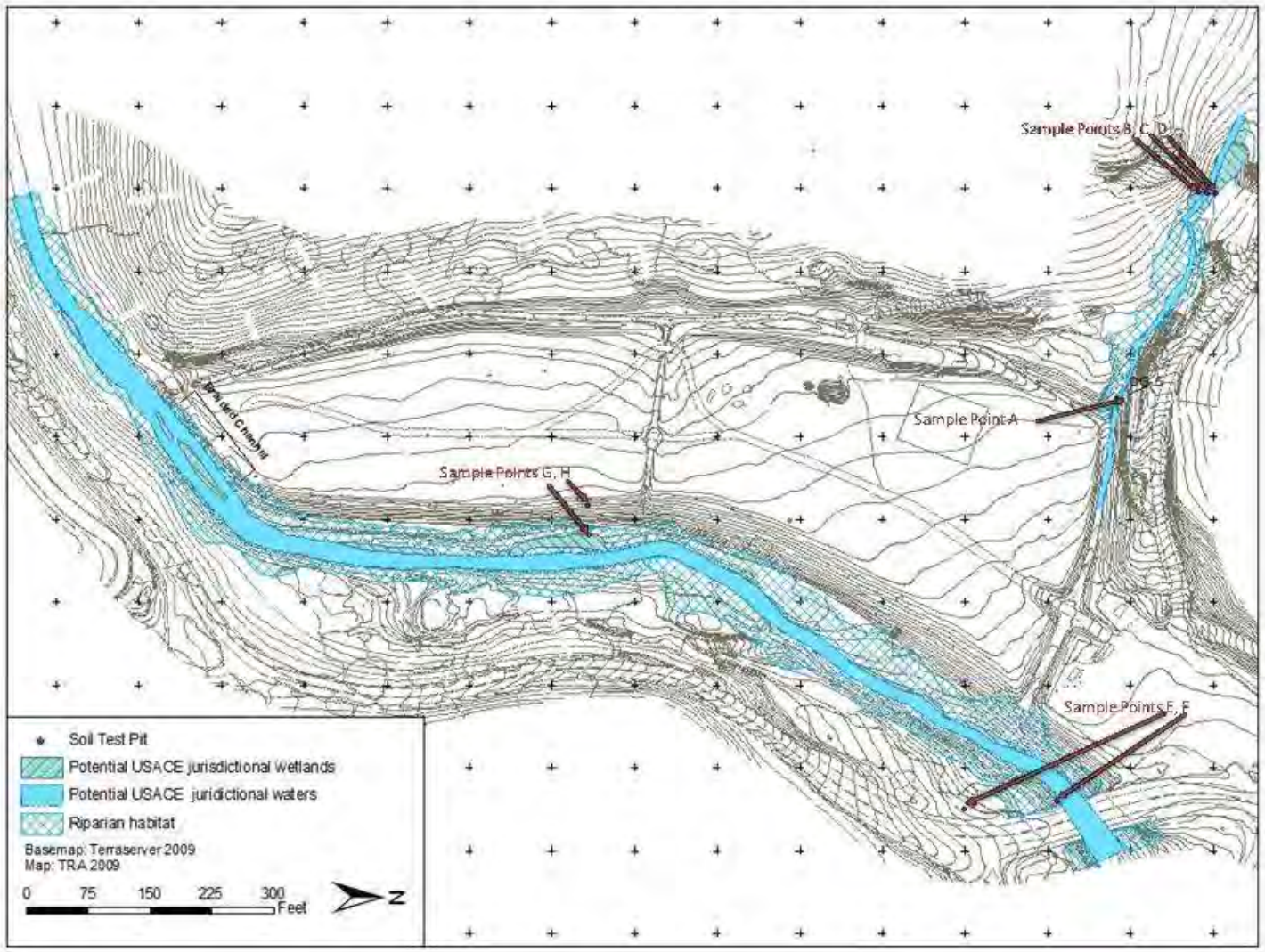
Waters of the U.S.	Stream	Wetlands	Total
Deep Gulch	0.07	0.04	**0.11**
Alamitos Creek	0.83	0.10	**0.93**
TOTAL	**0.90**	**0.14**	**1.04**

Wetland habitat along Deep Gulch consists primarily of California blackberry (*Rubus ursinus*, FACW) and Himalayan blackberry (*Rubus discolor*, FACW) rooted in saturated soils in the channel. Along Alamitos Creek, emergent wetland vegetation is found primarily on the west side of the creek and consists of umbrella sedge (*Cyperus eragrostis*) and cattail (*Typha latifolia*) rooted in saturated soils in the channel, not in the bank, although above the ordinary high water (OHW) mark. Wetland habitat dominated by blackberry is also found along Alamitos Creek.

In addition to waters, we mapped 0.19 and 1.89 acres of riparian habitat along Deep Gulch and Alamitos Creek, respectively. Riparian habitat along Deep Gulch and Alamitos Creek includes Himalayan blackberry (rooted in the bank, above both OHW and the higher high water mark), arroyo willow (*Salix lasiolepis*, FACW), mugwort (*Artemisia douglasiana*), California bay laurel

(*Umbellularia californica*, FAC), and box elder (*Acer negundo*, FACW). Of these woody species, arroyo willow is dominant. Also present is valley oak (*Quercus lobata*, FAC), California buckeye (*Aesculus californica*, not on 1988 list), coast live oak (*Quercus agrifolia*, not on 1988 list), poison oak (*Toxicodendron diversilobum*, not on 1988 list), white alder (*Alnus rhombifloia*, FACW) and big-leaf maple (*Acer macrophyllum*, FAC).

Figure 4. Determination of Potential Waters of the U.S.



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Appendix A. Wetland Delineation Field Forms

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

mapped as: Sample Point A

Project/Site:	Deep Gulch	Date:	9/14/09
Applicant/Owner:	Santa Clara Co. Parks	County:	Santa Clara
Investigator:	S. Krier, J. Shors, T. Peterson	State:	CA

Do Normal Circumstances exist on the site?	(Yes)	No	Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)	Transect ID:
Is the area a potential Problem Area?	Yes	(No)	Plot ID: DG Wetland 1
(If needed, explain on reverse.)			Close to DG 5 transect

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Agrostis avenacea	Herb	FACW	9.		
2. Cytisus striatus	shrub	N.O.L.	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

"Percent of Dominant Species that are OBL, FACW or FAC" (excluding FAC-). 50%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- ____ No Recorded Data Available

Field Observations:
- Depth of Surface Water: Ø (in.)
- Depth to Free Water in Pit: N/A (in.)
- Depth to Saturated Soil: N/A (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ✓ Water Marks
- ✓ Drift Lines
- ✓ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks:

SOILS Mapped as Sample Pt for DG Wetland 1

Map Unit Name
(Series and Phase): _____ Drainage Class _____

Field Observations

Taxonomy (Subgroup) _____ Confirm Mapped Type? Yes No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
Gleyed or Low-Chroma Colors
_____ Concretions
_____ High Organic Content in Surface Layer in Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
Other (Explain in Remarks)

Remarks

No pit dug. Stream bed colluvium & hydric is assumed b/c of hydrology & plants

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No assumed

Is this Sampling Point Within a Wetland? (Yes) No (Circle)

Remarks

Approved by HQUSACE 3/92

WETLAND DETERMINATION DATA FORM - Arid West Region

Mapped as Sample Point A

Project/Site: Deep Gulch / Hacienda City/County: Santa Clara Sampling Date: 9/14/09

Applicant/Owner: Santa Clara Co. Parks State: Sampling Point: DG Wetland 1

Investigator(s): S. Krier, J. Skarr, T. Peterson Section, Township, Range:

Landform (hillslope, terrace, etc.): Creek Local relief (concave, convex, none): concave Slope (%): 5%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: 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 ( )	
Hydric Soil Present? assumed	Yes (✓)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No ( )
Wetland Hydrology Present?	Yes (✓)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover: %			
Sapling/Shrub Stratum			
1. Cytisus striatus	10	Y	N.O.L
2.			
3.			
4.			
5.			
Total Cover: 10 %			
Herb Stratum			
1. Agrostis avenacea	85	Y	FACW
2. Elymus glaucus	5	N	FACU
3. Artemisia douglasiana	5	N	OBL
4.			
5.			
6.			
7.			
8.			
Total Cover: 95 %			
Woody Vine Stratum			
1. None			
2.			
Total Cover: Ø %			

% Bare Ground in Herb Stratum None% % Cover of Biotic Crust Ø %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	85	x 2 =	170
FAC species		x 3 =	
FACU species	5	x 4 =	20
UPL species	10	x 5 =	50
Column Totals:	105 (A)		245 (B)

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50% No
- [✓] 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:

SOIL

Mapped as Sample Point A Sampling Point: DG Wetland 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[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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:[4]

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

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

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ○

Remarks:

Pit not dug; colluvium

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):

Water Table Present? Yes ○ No ☑ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ☑ Depth (inches):

Wetland Hydrology Present? Yes ☑ No ○

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

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Mapped as Sample Point 13

Project/Site:	Hacienda / Deep Gulch	Date:	9/14/09
Applicant/Owner:		County:	Santa Clara
Investigator:	J. Shors S. Krier T. Peterson	State:	CA

Do Normal Circumstances exist on the site?	(Yes)	No	Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes	(No)	Transect ID: Near DG waters Transect 10
Is the area a potential Problem Area? (If needed, explain on reverse.)	Yes	(No)	Plot ID: DG Wetland 2 Soil Pit #1

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Aesculus californica	Tree	N.O.L	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

"Percent of Dominant Species that are OBL, FACW or FAC" (excluding FAC-). 0%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- ✓ No Recorded Data Available

Field Observations:
- Depth of Surface Water: Ø (in.)
- Depth to Free Water in Pit: Ø (in.)
- Depth to Saturated Soil: Ø (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks:

Mapped as Sample Pt B; DG Wetland 2 Soil Pit #1.

SOILS

Map Unit Name
(Series and Phase): _____ Drainage Class _____

Field Observations

Taxonomy (Subgroup) _____ Confirm Mapped Type? Yes No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12		2.5Y 2.5/1			gravelly

Hydric Soil Indicators:

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
Gleyed or Low-Chroma Colors

_____ Concretions
_____ High Organic Content in Surface Layer in Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
Other (Explain in Remarks)

Remarks

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

Is this Sampling Point Within a Wetland? Yes (No) (Circle)

Remarks

Approved by HQUSACE 3/92

WETLAND DETERMINATION DATA FORM – Arid West Region

mapped as Sample Point B

Project/Site: Hacienda / Deep Gulch City/County: San Jose Sampling Date: 9/14/09

Applicant/Owner: State: CA Sampling Point: DG, Wetland 2 Soil Pit #1

Investigator(s): Sara Krier Jessica Shors Tay Peterson Section, Township, Range:

Landform (hillslope, terrace, etc.): Creek Local relief (concave, convex, none): Slope (%): 5

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: 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:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus agrifolia	10	N	N,O,C
2. Buckeye (Aesculus californica)	80	Y	N,O,C
3.			
4.			
Total Cover:	90%		
Sapling/Shrub Stratum			
1. N/A			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Rubus ursinus	10%	N	FACW
2. Duff	90%		
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1. N/A			
2.			
Total Cover:			

(Duff fine) % Bare Ground in Herb Stratum 90% % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 0	x 1 =	
FACW species 10	x 2 =	20
FAC species 0	x 3 =	
FACU species 0	x 4 =	
UPL species 90	x 5 =	450
Column Totals: 10 (A)		470 (B)

Prevalence Index = B/A = 47

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:

SOIL Mapped as Sample Point B Sampling Point: DG Wetland 2 Soil pit #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
0-12	2.5Y 2.5/1	100%	None				grains	

[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): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

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): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Hacienda / Deep Gulch	Date:	9/14/09
Applicant/Owner:		County:	Santa Clara
Investigator:	S. Krier, J. Shacs, T. Peterson	State:	CA

Do Normal Circumstances exist on the site?	(Yes)	No	Community ID:
Is the site significantly disturbed (Atypical Situation)?	(Yes)	No	Transect ID: Near DG1 Waters Transect 10
Is the area a potential Problem Area? (If needed, explain on reverse.)	(Yes)	No	Plot ID: DG1 wetland 2 Soil Pit 2 Mapped as Sample Point C

VEGETATION

Dominant Plant Species	Stratum	Indicator
1. Hoita macrostachya	shrub	OBL
2. Rubus ursinus	herb	FACW
3.		
4.		
5.		
6.		
7.		
8.		

Dominant Plant Species	Stratum	Indicator
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		

"Percent of Dominant Species that are OBL, FACW or FAC" (excluding FAC-). 100%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other
- ✓ No Recorded Data Available

Field Observations:
- Depth of Surface Water: _____ (in.)
- Depth to Free Water in Pit: 5 (in.)
- Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ___ Inundated
- ✓ Saturated in Upper 12 Inches
- ✓ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 Inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

SOILS Mapped as Sample Point C DG Wetland 2 soil pit 2

Map Unit Name
(Series and Phase): _____ Drainage Class _____

Taxonomy (Subgroup) _____ Field Observations
Confirm Mapped Type? Yes No

Profile Descriptions: color value/chroma = 2.5/1

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-1	A	10YR 3/2			
1-12	B	Gley 1 2.5 5G			

Hydric Soil Indicators:

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
✓ Gleyed or Low-Chroma Colors
_____ Concretions
_____ High Organic Content in Surface Layer in Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
_____ Other (Explain in Remarks)

Remarks

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is this Sampling Point Within a Wetland? (Circle) (Yes) No

Remarks

Approved by HQUSACE 3/92

WETLAND DETERMINATION DATA FORM – Arid West Region

Mapped as Sample Point C

Project/Site: Hacienda / Deep Gulch City/County: San Jose Sampling Date: 9/14/09

Applicant/Owner: State: CA Sampling Point: DG Wetland 2 So pit 2

Investigator(s): S. Krier, J. Shorr, T. Peterson Section, Township, Range:

Landform (hillslope, terrace, etc.): Creek Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: 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:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. [illegible]			
2. [illegible]			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. [illegible] Ribes macrostachya	20%	Y	OBL
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Rubus ursinus	50%	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 50% % 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:

Willow arroyo & live oak are not rooted in representative soil.

SOIL

Mapped as Sample Point C Sampling Point: DG Wetland 2 Soil Pit 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
~~0-12~~	~~2.5Y 2.5/1~~	~~100~~	~~None~~				~~Sandy~~	
~~0-1~~	~~10YR 3/2~~		~~Gley 2.5 5G~~				~~Sandy/Clay~~	
0-1	10YR 3/2	100%					Sandy/Clay	
1-12	Gley 1 2.5 5G	70%					Sandy/Clay	color value/chroma = 2.5/1

[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**)
- X 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): ___

Hydric Soil Present? Yes ✓ No ~~X~~

Remarks:
At first, looked like depletions were intermixed with matrix but determined it's a depleted matrix below a darker matrix.

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): ___
Water Table Present?	Yes ___	No ✓	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ~~X~~

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

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual) Mapped as Sample Point D

Project/Site: Hacienda / Deep Gulch	Date: 9/14/09
Applicant/Owner:	County: Santa Clara
Investigator: S. Krier, J. Shoris, T. Peterson	State: CA

Do Normal Circumstances exist on the site?	Yes	No	Community ID:
Is the site significantly disturbed (Atypical Situation)?	Yes	No	Transect ID: Near DG wetlands Transect 10
Is the area a potential Problem Area?	Yes	No	Plot ID: DG wetland 2 Soil Pit 3
(If needed, explain on reverse.)			

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Quercus agrifolia	Tree	N.O.L	9.		
2. Rubus ursinus	Herb	FACW	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

"Percent of Dominant Species that are OBL, FACW or FAC" (excluding FAC-). 50%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- ____ No Recorded Data Available

Field Observations:
- Depth of Surface Water: _____ (in.)
- Depth to Free Water in Pit: _____ (in.)
- Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 Inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ____ Oxidized Root Channels in Upper 12 Inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks:

SOILS Mapped as Sample Point D DS Wetland 1 Soil Pit 3

Map Unit Name (Series and Phase): _____ Drainage Class _____

Taxonomy (Subgroup) _____ Field Observations Confirm Mapped Type? Yes No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 2/2	None		

Hydric Soil Indicators:

_____ Histosol
_____ Histic Epipedon
_____ Sulfidic Odor
_____ Aquic Moisture Regime
Gleyed or Low-Chroma Colors
_____ Concretions
_____ High Organic Content in Surface Layer in Sandy Soils
_____ Organic Streaking in Sandy Soils
_____ Listed on Local Hydric Soils List
Other (Explain in Remarks)

Remarks

Possibly underlined with calcines

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

Is this Sampling Point Within a Wetland? Yes (No) (Circle)

Remarks

Approved by HQUSACE 3/92

WETLAND DETERMINATION DATA FORM – Arid West Region

Mapped as Sample Point D

Project/Site: Hacienda / Deep Gulch City/County: San Jose Sampling Date: 9/14/09

Applicant/Owner: State: CA Sampling Point: DG Wetland 2 Soil pit #3

Investigator(s): S.Krier, J.Shors, T.Peterson Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 5

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: 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:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Oak (Quercus agrifolia)	90%	Y	N.O.L
2. Buckeye (Aesculus californica)	10%	N	N.O.L
3.			
4.			
Total Cover: 100%			
Sapling/Shrub Stratum			
1. None			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Rubus ursinus	15%	Y	FACW
2. Stachys bullata	5%	N	N.O.L
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover: 20%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 85% % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 15	x 2 =	30
FAC species	x 3 =	
FACU species 10	x 4 =	40
UPL species 105	x 5 =	525
Column Totals: 120 (A)		555 (B)

Prevalence Index = B/A = 4.625

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:

No wetland 2 soil pit #3

SOIL

Mapped as Sample Point D

Sampling Point: N/A

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
0-10	10YR 2/2	100	N/A				Grainy/Gravelly	Possibly underlined w/calcines
10-12	Parent							

[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): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:

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): ___

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

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

Wetland Hydrology Present? Yes ___ No ✓

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

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Hacienda Deep Gulch	Date:	9/17/09
Applicant/Owner:	SCC Parks	County:	SCC
Investigator:	B. Williams / S. Enna	State:	CA
Do Normal Circumstances exist on the site?	☒ Yes ☐ No	Community ID:	
Is the site significantly disturbed (Atypical Situation)?	☒ Yes ☐ No	Transect ID:	
Is the area a potential Problem Area?	☒ Yes ☐ No	Plot ID:	ALI - upland upstream of bridge
(If needed, explain on reverse.)			Mapped as Sample Point E

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Salix lasiolepis	Tree	NOL FACW	9.		
2. Rubus discolor	herb	FACW	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%.

Remarks: mostly bare ground

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

AL1 - upland Mapped on Sample Point E

Map Unit Name (Series and Phase): _____ Drainage Class: _____

Field Observations

Taxonomy (Subgroup): _____ Confirm Mapped Type? ☐Yes ☐No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
5	A	2.5YR	4/6		sandy clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒Yes ☐No (Check)	(Check)
Wetland Hydrology Present?	☐Yes ☒No	
Hydric Soils Present?	☐Yes ☒No	Is this Sampling Point Within a Wetland? ☐Yes ☒No

Remarks

Approved by HQUSACE 3/92

Forms version 1/02

WETLAND DETERMINATION DATA FORM – Arid West Region

Mapped as Sample Point E

Project/Site: Hacienda Deep Gulch City/County: San Jose Sampling Date: 9/17/09

Applicant/Owner: SCC Parks State: Sampling Point: ALT upland

Investigator(s): S. Kuhn / B. Williams Section, Township, Range:

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

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: 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? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (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 X No	Is the Sampled Area within a Wetland? Yes ____ No ____
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Buckeye (Aesculus californica)	15	N	NOL
2. Arroyo Willow (Salix lasiolepis)	35	Y	FACW
3.			
4.			
5.			
Total Cover:	50		
Herb Stratum			
1. Rubus discolor	10	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	10%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 90 % 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 X No ____

Remarks:

SOIL Mapped as Sample Point E Sampling Point: Page A-21 upland

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
9	2.5 yr	100	4/6				sandy clay	

[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): _____

Hydric Soil Present? Yes _____ No X

Remarks:

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): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Hacienda / Deep Gulch			Date: 9/17/09
Applicant/Owner: SCC Parks			County: SCC
Investigator: S. Corren / B. Williams			State: CA
Do Normal Circumstances exist on the site?	☒ Yes	☐ No	Community ID:
Is the site significantly disturbed (Atypical Situation)?	☐ Yes	☒ No	Transect ID:
Is the area a potential Problem Area?	☐ Yes	☒ No	Plot ID: AL 1 center
(If needed, explain on reverse.)			Mapped as Sample Point F

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Rubus discolor	Herb	FacW	9.		
2. Salix (radiolep.?)	Shrub	FacW	10.		
3. Echinochloa crus-galli grass		FacW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: _____ (in.)

Depth to Free Water in Pit: _____ (in.)

Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS Mapped as Sample Point F

Map Unit Name (Series and Phase): AL I center

Drainage Class:

Field Observations

Taxonomy (Subgroup):

Confirm Mapped Type? ☐Yes ☐No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
5	A	7.5yr 3/1			Sandy clay
5	B	2.5y 3/1			Sandy clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Redox features' color not measured; definitely rust colored

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒Yes ☐No (Check)	(Check)
Wetland Hydrology Present?	☐Yes ☒No	
Hydric Soils Present?	☒Yes ☐No	Is this Sampling Point Within a Wetland? ☐Yes ☒No

Remarks

Approved by HQUSACE 3/92

Forms version 1/02

WETLAND DETERMINATION DATA FORM – Arid West Region

Mapped Page A Sample Point F

Project/Site: Hacienda City/County: SCC Sampling Date: 9/17/09

Applicant/Owner: SCC Parks State: CA Sampling Point: AL 1 Center

Investigator(s): SCruter / B Williams Section, Township, Range:

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

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: 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? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (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 X	No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Salix lasiolepis	40%	Y	FACW
2.			
3.			
4.			
5.			
Total Cover: 40%			
Herb Stratum			
1. Rubus d. s. colon	70	Y	FACW
2. Echinochloa crusgalli	10%	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover: 80%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust 0

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 X No ____

Remarks:

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
0-5	7.5YR 3/1	100%					sandy clay	
6-10	2.5Y 3/1	100%					sandy clay	

[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)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X 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): _____

Hydric Soil Present? Yes X No ____

Remarks:

Redox features color not measured, definitely rust colored

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 X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): 5

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Hacienda Deep Gulch	Date:	9/22/09
Applicant/Owner:	SCC Parks	County:	SCC
Investigator:	Brian Williams	State:	CA
Do Normal Circumstances exist on the site?	☑ Yes ☐ No	Community ID:	
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☑ No	Transect ID:	
Is the area a potential Problem Area?	☐ Yes ☑ No	Plot ID: W2 (Center)	Wetland - center adjacent to Alamitos
(If needed, explain on reverse.)			

Mapped as Sample Point G

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Arroyo Willow (Salix lasiolepis)	Tree	FACW	9.		
2. Alder, White (Alnus rhombifolia)	Tree	FACW	10.		
3. Himalayan Blackberry (Rubus discolor)	herb	FACW	11.		
4. Umbrella Sedge	herb	FACW	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100 %

Remarks: Wetland has duckweed in water

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1 - 24 (in.)

Depth to Free Water in Pit: _____ (in.)

Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☑ Inundated
- ☑ Saturated in Upper 12 Inches
- ☑ Water Marks
- ☐ Drift Lines
- ☑ Sediment Deposits
- ☑ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: We are near end of dry season - denoting this is not most of year

SOILS

Mapped as Sample Point G AL 2 center

Map Unit Name (Series and Phase): _____ Drainage Class: _____

Field Observations

Taxonomy (Subgroup): _____ Confirm Mapped Type? ☐Yes ☐No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
12	A	2.5 y			Sandy / Clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☑ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

As noted on arid west form, redox features were not measured, but definitely rust colored.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☑Yes ☐No (Check)	(Check)
Wetland Hydrology Present?	☑Yes ☐No	
Hydric Soils Present?	☑Yes ☐No	Is this Sampling Point Within a Wetland? ☑Yes ☐No

Remarks

Approved by HQUSACE 3/92

Forms version 1/02

WETLAND DETERMINATION DATA FORM – Arid West Region

Mapped Sample Point G

Project/Site: Hacienda / Deep Gulch City/County: SCC Sampling Date: 9/22/09

Applicant/Owner: SCC Parks State: CA Sampling Point: Wetland - Center AL 2

Investigator(s): Brian Williams Section, Township, Range:

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

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: 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? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (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: Site is adjacent to Los Alamitos Creek

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Salix lasiolepis (Arroyo Willow)	30%	Y	FACW
2. Alnus rhombifolia (White Alder)	15%	N	FACW
3.			
4.			
5.			
Total Cover:	45%		
Herb Stratum			
1. Rubus discolor (Blackberry)	60%	Y	FACW
2. Cyperus eragrostis (Tall Sedge)	20%	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	80%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 10 % % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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 125	x 2 =	250
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: 125 (A)		250 (B)

Prevalence Index = B/A = 2

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: Area wet and covered w/ duckweed

 Mapped as Sample Point G1 Sampling Point: AA-292 center

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
0-12	2.5 y 3/1	100					Sandy/Clay	

[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): _____

Hydric Soil Present? Yes X No ____

Remarks:

Redox features color not measured, definitely rust colored

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): 24

Water Table Present? Yes ____ No ____ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Hacienda Rep Gulch	Date:	9/22/09
Applicant/Owner:	SCC Parks	County:	Santa Clara
Investigator:	Brian Williams	State:	CA
Do Normal Circumstances exist on the site?	☑ Yes ☐ No	Community ID:	
Is the site significantly disturbed (Atypical Situation)?	☐ Yes ☑ No	Transect ID:	
Is the area a potential Problem Area? (If needed, explain on reverse.)	☐ Yes ☑ No	Plot ID:	AL2 Upland – Upland – Wetland

Mapped as Sample Point H

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Coyote Brush (Baccharis pilaris)	Shrub	NL	9.		
2. Ripgut Brome (Bromus diandrus)	herb	NI	10.		
3. Yellow Star Thistle	herb	NI	11.		
4. *Centaurea solstitialis*			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

Field Observations:

Depth of Surface Water: _____ (in.)

Depth to Free Water in Pit: _____ (in.)

Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: No Wetland hydrology present

SOILS Mapped as Sample Point H ALT upland

Map Unit Name (Series and Phase): _____ Drainage Class: _____

Field Observations

Taxonomy (Subgroup): _____ Confirm Mapped Type? ☐Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
5	A	2.5yr	4/6		Sandy Clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☐Yes ☑No (Check)

Wetland Hydrology Present? ☐Yes ☑No

Hydric Soils Present? ☐Yes ☑No

(Check)

Is this Sampling Point Within a Wetland? ☐Yes ☑No

Remarks

Approved by HQUSACE 3/92

Forms version 1/02

WETLAND DETERMINATION DATA FORM – Arid West Region

Mapped as Sample Point

Project/Site: Hacienda Deep Gulch City/County: _____ Sampling Date: 9/22/09 H

Applicant/Owner: SCC Parks State: _____ Sampling Point: AL 2 upland

Investigator(s): Brian Williams Section, Township, Range: _____

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

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (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 X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Baccharis pilularis (Coyote Brush)	10	Y	NI
2.			
3.			
4.			
5.			
Total Cover: 10			
Herb Stratum			
1. Bromus diandrus (Ripgut Brome)	70	Y	NI
2. Centaurea solstitialis (Yellow star thistle)	10	N	NI
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover: 80			
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: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (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 90	x 5 = 450	
Column Totals: 90 (A)	450 (B)	

Prevalence Index = B/A = 5

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:

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
0-5	2.5 yr		4/6				Sandy Clay	

[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): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

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): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

Appendix B. Study Area Photos

Photo 1. At sample point A, located in the channel of Deep Gulch

Photo 2. Facing upstream at sample point A, located in the channel of Deep Gulch

Photo 3. In riparian area in Deep Gulch between sample points A and B

Photo 4. Sample point C, facing upstream in Deep Gulch

Photo 5. Sample point F, under bridge at Alamitos Creek

Photo 6. Alamitos Creek between sample points F and G

Photo 7. Near sample point G at Alamitos Creek

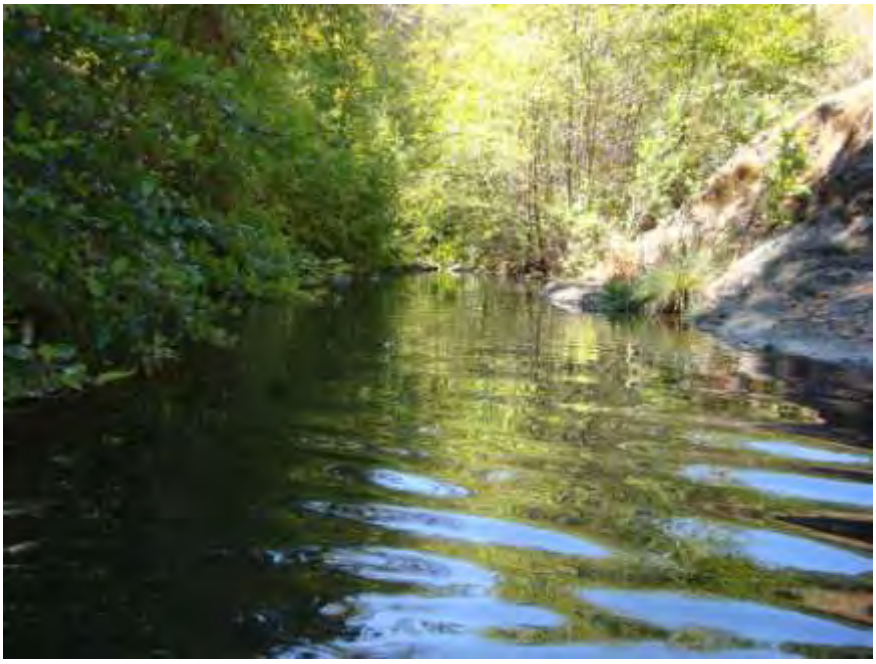

Photo 8. Downstream, and adjacent to, braided channel, Alamitos Creek

Appendix C: Technical Report for Cultural Resources

Basin Research Associates

TECHNICAL REPORT FOR CULTURAL RESOURCES INITIAL STUDY

HACIENDA AND DEEP GULCH RESTORATION PLAN
ALMADEN QUICKSILVER COUNTY PARK
SANTA CLARA COUNTY

FOR

ENVIRONMENTAL PLANNING
7788 Hazelnut Drive
Newark, CA 94560

ATTN: Ms. Jana Sokale

BY

BASIN RESEARCH ASSOCIATES
1933 Davis Street, Suite 210
San Leandro, CA 94577

JUNE 2010

TABLE OF CONTENTS

ATTACHMENTS

FIGURES

CORRESPONDENCE

1.0 INTRODUCTION

This Technical Report for Cultural Resources[1] has been prepared for three areas within the *Hacienda and Deep Gulch Restoration Plan* located within the Almaden Quicksilver County Park in Santa Clara County. The report was undertaken to identify both prehistoric and historic resources in order to meet the legal requirements of the California Environmental Quality Act (CEQA) (Public Resources Code 21000 et seq.) 1970, as amended and planning directives of the County of Santa Clara.

The proposed project consists of the removal/stabilization of mine-waste calcine dumps[2] and mercury impacted soils and vegetation restoration in the Deep Gulch, Lower Hacienda, and Upper Hacienda areas within "New Almaden," a National Historic Landmark District (NHL;[3] No. 66000236) formally recorded as CA-SCl-405H (P-43-000411). The County of Santa Clara Almaden Quicksilver County Park includes most of the NHL. New Almaden was ". . . one of the four major sources of the world's supply of quicksilver" important prior to the discovery of the cyanide processing (1887) of gold and silver, and was ". . . the oldest and most productive quicksilver mine in the United States ... and California's first capital-intensive mining venture." Cinnabar, a distinctive bright red ore of mercury, was mined and heated in furnaces to extract mercury (a heavy, silvery-white, liquid metal). After the mercury was removed, the processed ores called "calcines" was dumped near the processing areas. These residues may have been a source of mercury contamination of soil and downstream locations. Remediation and restoration may reduce further release of mercury load from calcines deposits into the Guadalupe River Watershed (including Alamitos Creek and intermittent Deep Gulch Creek).

This report has been completed to support a CEQA Initial Study/Mitigated Negative Declaration (IS/MND). Santa Clara County Parks and Recreation Department (SCCPR) is the lead agency. CEQA requires a lead agency to determine potential impacts on both historical and archaeological cultural resources eligible for the California Register of Historical Resources (California Register or CRHR) and mitigate impacts on historically or culturally significant resources affected by a development project.

Under CEQA, a project is considered to have a significant effect if it would disrupt or adversely affect one or more properties of historic or cultural significance to the community (CEQA Section 21084.1 and CEQA *Guidelines*). CEQA requires a Lead

---

1. Cultural Resource. See Historical Resource (CAL/OHP 2001:83).
   Historical Resource. *Any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or which is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural history of California* (CAL/OHP 2001:84).

2. Calcines or "roasted ore materials" result from the heating of cinnabar to extract mercury. Mercury was used to recovered gold and silver from ores.

3. National Historic Landmark (NHL) - *a historic property evaluated and found to have significance at the national level and designated as such by the Secretary of the Interior* (USNPS/IRD 1991:16A:IV:3).

Agency to determine if a project will have a significant effect on the environment and to assess possible impacts.

2.0 LOCATION AND DESCRIPTION

The project area consists of discontiguous areas located within the Hacienda Furnace Yard Area of Almaden Quicksilver County Park located at 21785 Almaden Road, San Jose, Santa Clara County (CAL/DTSC 2006:Fact Sheet; Environmental Planning 2009; United States Geological Survey [hereafter USGS] Santa Teresa Hills, Calif. 1980, Township 9 South, Range 1 East [T9S R1E], Mount Diablo Meridian, unsectioned) [Figs. 1-3].

In April 2000 County of Santa Clara with other local municipalities and companies was identified as potentially responsible party (PRP) by the U.S Department of Interior and the State of California (the Trustees) for natural resources damages act (NRDA). In July 2005 a Consent Decree settlement was reached between PRP and the Trustees. The County primary responsibility in accordance the CD is to restore Hacienda Furnace Yard and remove/consolidate and/or stabilize the remaining visible calcine materials, thereby restoring this area to baseline conditions. ~~The Trustees documented and issued t~~ The Almaden Quicksilver Restoration Plan and Environmental Assessment (RP/EA) in October 2008 as a guideline for the area restoration. Both the Consent Decree and RP/EA specifically named Upper Hacienda, Lower Hacienda and Deep Gulch areas at Hacienda Furnace Yard area for restoration. The County engaged CH2M Hill to investigate these sites, identify and document calcines deposits and provide restoration alternates. The product was the Engineer's Report for Hacienda and Deep Gulch Restoration Plan, dated March 2009. The County entered in another contract with CH2M Hill to provide project contract documents (CDs) for Hacienda and Deep Gulch Restoration Project.

The construction plans call for all visible calcine deposits at Hacienda and Deep Gulch areas to be removed, consolidated, and capped in the "San Francisco Open Cut" portion of the Mine Hill area of the Almaden Quicksilver County Park. The calcines will be either stocked piled temporarily at the flat area in Hacienda then transported or directly transported on the existing Mine Hill Trail. The Mine Hill Trail will be closed to public during transportation of the calcines to the consolidation site (CAL/DTSC 2006:*Fact Sheet*; CH2M Hill 2009:1-1/*Engineer's Report*). Appropriate signs will be placed at trail heads and trail junctions warning the public of construction vehicles and informing the public of the project status. During Mine Hill Trail closure, park visitors will be directed to use the Deep Gulch Trail. Alamitos Creek will be temporarily diverted to facilitate construction access across the creek and removal of calcines in the creek proper or in the creek bank. Creek diversion will be accomplished by using temporary check dams, culverts and earthen fill (CH2M Hill 2009a:6-2, 6-7, Table 4-1/*Engineer's Report*).

The discontiguous project subareas include [see Fig. 3]:

- The ***Upper Hacienda*** area involves an area on a steep slope that has exposed soil with minimal non-native grass cover due to dense trees and to native soil and rock

formations at the site. The calcine deposits extend approximately 150 feet along Alamitos Creek form the creek bottom upslope to Alamitos Road and at certain locations calcines material is the creek bank (APN 58-20-004).

UH-1/Deposit #1 consists of an estimated 3,150 square foot (SF) area with an estimated average thickness of 18 feet. The calcine deposit is moderately-cemented, medium to very coarse calcine gravels and cobbles with minor fines; with minor soil cover and largely exposed.

UH-2/Deposit #2 consists of an estimated 2,250 SF area with an estimated average thickness of 8 feet. The calcine deposit is moderately-cemented, medium to very coarse calcine gravel with minor fines; with minor soil cover and largely exposed.

- The ***Lower Hacienda*** area involves an area on a steep slope between Alamitos Creek and Alamitos Road downstream of the Upper Hacienda area and also extends approximately 150 feet along Alamitos Creek (APN 58-20-004).

  LH-1/Deposit #1 consists of an estimated 6,000 SF with an estimated average thickness of 5.5 feet. The calcine deposit is moderately to weakly-cemented, fine to coarse calcine gravel with trace to 30% fines; with moderate soil and grass in places.

  LH-2/Deposit #2 consists of an estimated 750 SF with an assumed estimated average thickness of 2 feet. The calcine deposit is weakly-cemented, fine to medium calcine gravel with trace to 30% fines; with an approximately 1-foot soil cover.

- The ***Alamitos Creek and Alamitos Creek Bridge*** areas involve removal of calcine deposits along localized areas of Alamitos Creek and below the Alamitos Road bridge. The sites include:

  AC-1/Deposit #1 consists of an estimated 170 SF with an assumed estimated average thickness of 0.5 feet. The area contains surficial, loose, calcine gravel and cobbles that occurs as scattered talus over approximately 18 feet along the creek embankment.

  AC-2/Deposit #2 consists of an estimated 600 SF with an assumed estimated average thickness of 3 feet. The calcine deposit is moderate to well-cemented, fine to medium calcine gravel with trace to 40% fines and thick soil and vegetation cover. The outcrop extends approximately 150 feet along the creek embankment from 1 to 3 feet above the active creek channel

  ACB-1/Deposit #1 consists of an estimated 370 SF with an assumed estimated average thickness of 3 feet. The calcine deposit is within the fluvial sediment and contains an estimated 40% calcine 1-2 inch gravel fragments in a reddish sandy matrix,

ACB-2/Deposit #2 consists of an estimated 370 SF with an assumed estimated average thickness of 3 feet. The calcine material is present within the fluvial sediment matrix.

- The ***Deep Gulch*** area involves an area on the north bank of Deep Gulch Creek beginning at about 40 feet from the Mine Hill trail gate and extending approximately 300 feet to the remains of an abandoned retort[4] (APN 583-23-019).

  DG-1/Deposit #1 consists of an estimated 950 SF with an estimated average thickness of three feet. The creek bank is formed of unconsolidated calcines and soil material deposit with fine to medium gravel with trace to 30% fines; with minor soil cover.

  DG-1 adjacent area consists of an estimated 4475 SF with an estimated average thickness of six feet. This slope area is characterized by mixed calcines and colluvial materials.

  DG-2/Deposit #2 consists of an estimated 450 SF with an estimated average thickness of three feet. This creek bank is formed of unconsolidated calcines and soil material deposit with fine to medium calcine gravel with trace to 30% fines; with minor soil cover. DG-2/adjacent area consists of an estimated 1915 SF with an estimated average thickness of six feet. This slope area is characterized by mixed calcines and colluvial materials.

  The Retort Area consists of an estimated 1055 SF with an estimated average thickness of three feet.

3.0 REGULATORY CONTEXT - *California Environmental Quality Act*

The California Environmental Quality Act (CEQA) includes regulatory compliance in regard to historical resources. Under CEQA, public agencies must consider the effects of their actions on both "historical resources" and "unique archaeological resources" - a ". . . project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment" (Public Resources Code, Section 21084.1). The CEQA Guidelines define a significant resources as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) (see Public Resources Code, Section 21084.1 and CEQA Guidelines Section 15064.5 (a) and (b)). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

The CRHR was created to identify resources deemed worthy of preservation on a state level and was modeled closely after the NRHP. The criteria are nearly identical to those of the NRHP which includes resources of local, state, and region or national levels of significance. The CRHR automatically includes properties listed in the National Register, determined eligible for the National Register either by the Keeper of the National Register or through a consensus determination on a project review, or State

4. Historic Resource #y44 Retort in Allen and Crosby (2002).

Historical Landmarks from number 770 onward. In addition, California Points of Interest nominated from January 1998 onward will be jointly listed as Points and in the CRHR. Landmarks prior to 770 and Points of Historical Interest may be listed through an action of the State Historical Resources Commission. These listings are updated as resources are determined eligible and/or are officially listed. Current listings are maintained by the California Historical Resources Information System, Northwest Information Center, Sonoma State University (CHRIS/NWIC) for Santa Clara County.

Historical Resources

Public Resources Code Section (PRC) 21084.1 stipulates that any resource listed in, or eligible for listing in, the CRHR is presumed to be historically or culturally significant.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks register or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be "historical resources" for the purposes of CEQA unless a preponderance of evidence indicates otherwise (Public Resources Code, Section 5024.1g; California Code of Regulations, Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially affected by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts on historical resources (Public Resources Code, Section 21084.1; CEQA Guidelines, Section 15064.5(a)(3)). In general, a historical resource is defined as any object, building, structure, site, area, place, record, or manuscript that:

a) Is historically or archaeologically significant; or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and

b) Meets any of the following criteria:

   (1) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

   (2) is associated with the lives of persons important in our past;

   (3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

   (4) has yielded, or may be likely to yield, information important in prehistory or history.

For historic buildings and structures, CEQA Guidelines Section 15064.5(b)(3) indicates that following the Secretary of the Interior's Standards for the Treatment of Historic

Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), mitigates impacts to a less than significant level. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

Archaeological Resources

When an archaeological resource is listed in or eligible to be listed in the CRHR, Section 21084.1 requires that any substantial adverse effect to that resource be considered a significant environmental effect. Sections 21083.2 and 21084.1 operate independently to ensure that potential effects on archaeological resources are considered as part of a project's environmental analysis. Either of these benchmarks may indicate that a proposal may have a potential adverse effect on archaeological resources.

CEQA also requires lead agencies to consider whether projects will affect "unique archaeological resources" (Public Resources Code, Section 21083.2(g)) which are defined as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Treatment options for unique archaeological resources include preservation in place in an undisturbed state; excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a "unique archaeological resource").

Native American Burials

California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (see Section 7050.5(b) of the California Health and Safety Code; Public Resources Code 5097.8; and, CEQA Guidelines section 15064.5(e)).

4.0 METHODOLOGY

4.1 RESEARCH SOURCES CONSULTED AND RESULTS

4.1A Sources Consulted

A prehistoric and historic site record and literature search was completed by the California Historical Resources Information System, Northwest Information Center, Sonoma State University, Rohnert Park (CHRIS/NWIC File No. 09-0248 dated September 3, 2009).

In addition, a review of pertinent literature and archival records on file at Basin Research Associates and at other repositories including the Bancroft Library, University of California, Berkeley, were consulted. The *Historic Properties Directory* for Santa Clara County (CAL/OHP 2009a) provides the most recent updates of historic property evaluations including the National Register of Historic Places, California Historical Landmarks, and California Points of Historical Interest reviewed by the State of California Office of Historic Preservation (OHP). Other sources consulted include: the *California History Plan* (CAL/OHP 1973); *California Inventory of Historic Resources* (CAL/OHP 1976); *Five Views: An Ethnic Sites Survey for California* (CAL/OHP 1988); *Archeological Determinations of Eligibility* (CAL/OHP 2009b); *Historic Civil Engineering Landmarks of San Francisco and Northern California* (American Society of Civil Engineers 1977); and, other local and regional surveys/inventories and lists (see REFERENCES CITED AND CONSULTED).

4.1B Results - *Recorded and/or Reported Sites*

The project is within the "New Almaden" National Historic Landmark District (NHL; 66000236) (Larew 1978/NR form) and has been formally recorded as CA-SCl-405H (P-43-000411) (Cooper 1978/form). The resource has been documented by the Historic Architectural Building Survey (HABS CA-114, New Almaden Quicksilver Mine; HABS CA-1125 Mine Hill School).[5]

Other formally recorded sites within the district but not located within 0.25 miles of the project include: CA-SCl-147 (P-43-000159), a prehistoric site at 21156 Almaden Road; CA-SCl-271 (P-43-000280), Spanishtown or Mexican Town [Mexican Camp] on "Mine Hill");[6] and P-43-001512 and P-43-001513.

Compliance Reports

Six compliance reports on file with the CHRIS/NWIC include the project or part of the project. These reports include a *National Survey of Historic Sites and Buildings* form and

5. Larew (1978:10/NRform) provides a copy of the New Almaden map in Pace (1975:10-11, 48 [map]) but does not include a USGS topographic map. Cooper's (1978/form) uses the map attached to Everhart (1959/Part S-4665). Larew states that the boundaries of the NHL (CA-SCl-405/H) and the "New Almaden Historic Area Rezoning" are coincident. They are similar (e.g., SClCo/PO 2009 H1, *New Almaden Historical Conservation Zoning District*).

6. The Spanishtown Site is also a designated State of California Ethnic site (CAL/OHP 1988:249-250, Mexican #87).

projects involving transportation pre-planning (mapping of sites throughout Santa Clara County); cultural resources within the City of San Jose and Sphere of influence for City of San Jose General Plan updates;[7] survey, review and evaluations of historic resources within the Almaden Quicksilver County Park; and, a geoarchaeological overview (see following).

> *National Survey of Historic Sites and Buildings* form *for New Almaden* [Mining District], Santa Clara County, California (Everhart 1959, revised Snell 1964/S-4665) summarizes the importance of the district, provides a historic context and "present appearance," along with an extremely short summary of historic structures extant, and includes Von Leicht's 1880 Plat of the Hacienda, New Almaden.
>
> *Cultural Resource Evaluation of The Reduction Works/Mine Office Site and the Mine Manager's House at the New Almaden Quicksilver Park in New Almaden, In The County of Santa Clara* (Cartier and Detlefs 1985/S-7561). The site of the Reduction Works/Mine Office as mapped in this report includes a portion of the Deep Gulch Area. The survey of the reduction works note "extensive disturbance to a possible depth of thirty feet." The Recommendations included mechanical testing to locate foundations; compile a map showing all structures and features at the Reduction Works site including photographs and HABS drawing of the Mine Office [not in the project]; and, archaeological monitoring during construction.
>
> *Cultural Resources Review for the City of San Jose 2020 General Plan Update, Santa Clara County, California* (Garaventa and Guedon 1993/S-15228). The project is shown in an area of archaeological sensitivity.
>
> *Recorded Archaeological Resources in Santa Clara County, California (plotted on the BARCLAY 1993 LoCaide Atlas)* (Basin Research Associates 1994/S-16394). This report maps various archaeological sites and Hendry and Bowman (1940) adobe locations and other buildings schematically. None are shown in or adjacent to the project.
>
> *Preliminary Recordation and Assessment of Historic Resources in New Almaden Quicksilver National Historic Landmark District* (Allen and Crosby 2002/S-29851). This document provides an overview historical context within the district - a Historical Chronology with references to Technical Appendices (appendices not attached to report); locations of known and accessible historic resources recorded during their survey; and, a limited bibliography. The cultural resource data base, the creation of which was a goal of the project is also reviewed. The historic resources locational data for the surveyed area was integrated into the County of Santa Clara GIS system. Historic Resource #y44 Retort[8] near the Hacienda

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7. New Almaden is within the City of San Jose's Sphere of Influence.

8. Retort - *"A device used to roast mercury ore to drive off the mercury as a vapor. The most common type of retort is a 12-inch iron tube with removable but tight-sealing caps at each end. The tube is usually horizontal or set at a slight angle over a fire box. Most retorts are tow-tube; about 8 feet long, and hold about 800 to 1600 pounds of ore. The retort is connected to condensers which trap the hot mercury vapor until it cools back into liquid mercury. With a retort, gases from the burning fuel do not contact the ore directly or mix with the mercury vapor. A retort usually operates intermittently (ore is added or withdrawn between periods of firing)*." (Schneider 1992:166).

entrance[9] is listed on Table 1 *Historic Resources Recorded during the Current Project*, one of 51 Miscellaneous Sites.[10] "Fieldwork focused on those resources that had [been] previously identified by volunteers of the New Almaden Quicksilver Mining Museum and members of the New Almaden Quicksilver County Park Association."

Table 2 *Preliminary Treatment Values Assigned to Historic Resources* ranks #y44 as in fair condition, with medium/high integrity, low accessibility, low/medium interpretive value, and as low priority [for treatment]. The following discussion of treatment approaches does not include the retort specifically. The *Archaeological Site Protection and Monitoring Review* is geared to preservation and monitoring of unauthorized ground disturbance including: erosion, vehicular/pedestrian/animal damage, looting, littering, etc. *Recommendations for Future Studies* includes the statement that "Resources should be considered part of an historic landscape.[11] A Summary of Priorities precedes a limited bibliography.

The copy of the report on file at the CHRIS/NWIC lacks the Recorded Historic Resources Forms, Technical Appendices, and maps with the numbers of individual historic resources recorded (Table 1) and preliminary treatment values (Table 2).

Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4 (Meyer and Rosenthal 2007/S-33600). The study area is shown as pre-Holocene (>11,800 years), undifferentiated sediment (Fig. 7). None of the Selected Buried Archaeological Sites (Fig.5 in report) in the Nine-County Region of District 4 are in the New Almaden area.

Other known information on file at the CHRIS/NWIC consists of the 1978 National Register of Historic Places Nomination Form for the "New Almaden Historic District" (Larew 1978).

Two pamphlets were also consulted: the Santa Clara County Parks and Recreation Department pamphlet for the Almaden Quicksilver County Park (SClCo/P&R 2009) and the Almaden Quicksilver Historic Trail by the Boy Scouts of America, Troop 466, Sunnyvale, California (n.d.).

Listed Historic Properties

The project area is within the "New Almaden" National Historic Landmark District (NHL; 66000236) and has been formally recorded as CA-SCl-405H (P-43-000411).

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9. "Hacienda" subarea map "Retort" conforms to the "Retort" within the western part of the Deep Gulch area as shown on CH2M Hill (2009a:Table 4-1 *Final Engineer's Report*) and other project figures.

10. There is no statement that it is significant and/or a contributor to the district.

11. Cultural landscape - *a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.* There are four general types of cultural landscapes, not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes (USNPS 1994:4).

Portions of the district have been documented by the Historic Architectural Building Survey (HABS CA 114, New Almaden Quicksilver Mine).

Neither the National Survey of Historic Sites and Buildings form (Everhart/Snell 1964/S-4665) nor the National Register of Historic Places Inventory Nomination Form for New Almaden Historic District (Larew 1978) state criteria or explicitly list contributors[12] and/or non-contributors to the district. Within Hacienda the National Register form lists: (1) Casa Grande, (2) the Bulmore and Carson Houses, (3) Miner's Cottages [number not stated], (4) The Toll House "At the point where the Mine Hill road begins" [at Alamitos Road] and, (5) St. Anthony's Church.

Other sources provide the New Almaden Historic District criterion for listing, "a," that is association ". . . with events that have made a significant contribution to the broad patterns of our history"; (e.g., Barker and Huston 1990:Appendix B). As a NHL and listed on the National Register of Historic Places, the district is automatically on the California Register of Historical Resources (CRHR) under CRHR criterion 4.

The district/components of the district are listed on various state, county, and City of San Jose lists.

> The "New Almaden Mine" within the district is California State Historic Landmark #339 and 339-1 (CAL/OHP 1990:232). The New Almaden Mine was located on Mine Hill, approximately 1.1 miles west/slightly northwest of the Deep Gulch Area of the project.
>
> The 1973 *The California History Plan* lists "New Almaden Mine" (CAL/OHP 1973:176) and some of the individual historic properties within the district.
>
> The "New Almaden" [Historic District] and some of the individual historic properties within the district are also listed on the 1976 *California Inventory* (CAL/OHP 1976:266).
>
> "New Almaden" is also a Santa Clara County H1 New Almaden Historical Conservation Zoning District with Scenic Route Overlay. The 1999 *Santa Clara County Heritage Resource Inventory* lists the New Almaden Historic District and Mine and 24 separate properties - mostly buildings - within the district as well as Italian cypress trees at the Hidalgo Cemetery on Bertram Road and the Estate Trees at Casa Grande at 21350 Almaden Road. In addition, the County Zoning ordinance includes lists of Designated Historic Structures of the New Almaden Historical Area (SClCo/PO 2003).
>
> The *City of San Jose Historic Resources Inventory* lists "New Almaden (District)" along with 21 properties within the district on Almaden Road (including Mine Hill Brick Chimney and Vichy Springs) and another four on Bertram Road (including Hacienda Cemetery) (SJHLC/PBE 2009).

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12. Contributing Resource - *a building, site, structure, or object adding to the historic significance of a property* (USNPS/IRD 1991:16A:IV:1).

The *Historic Properties Directory* for Santa Clara County (CAL/OHP 2009a) lists the New "Almaden Mine" on Almaden Road, in New Almaden as a State Landmark and "New Almaden" on New Almaden Road [*sic*], in the vicinity of San Jose [no criteria listed]. CA-SCl-405H (P-43-000411) is not listed on the *Archeological Determinations of Eligibility* (CAL/OHP 2009b).

"Hacienda of New Almaden Historic District," Almaden is listed on the *California Inventory of Historic Resources* theme of Exploration/Settlement. The entry states *"Twenty-one structures including the one story adobe called the Carson House and El Adobe Viejo. Settled and Developed 1848-1858. Active Restoration. First Historic District in County"* (CAL/OHP 1976:137, 265).

No other known city, state and/or federal historically or architecturally significant structures, landmarks or points of interest have been identified in/adjacent or include the project.

4.2 FIELDWORK

An archaeological inventory of the three discontiguous areas of interest within the proposed project was conducted by Stuart A. Guedon (M.A.), Basin Research Associates, on October 12, 2009. An additional inventory of the three Alamitos Creek crossings and the Alamitos Creek Bridge was completed by Mr. Guedon on November 30, 2009.

4.3 AGENCIES, GROUPS AND INDIVIDUAL PARTICIPATION

The State of California Native American Heritage Commission (NAHC) was contacted for a review of the Sacred Lands Inventory (Busby 2009a). This review was negative; letters were sent to nine individuals and groups recommended by the NAHC (Pilas-Treadway 2009). Letters soliciting additional information were sent to the nine Native Americans individuals/groups listed by the NAHC (Busby 2009b-j). Four responses were obtained. No concerns were noted by one individual; one individual recommended contacting more knowledgeable Ohlones; another individual wanted notification if any prehistoric materials were found; and, one individual recommended that if anything was found that standard procedures be followed (see Exhibits).

Past Forward, Inc., the archaeological consulting firm who completed the 2002 review of the New Almaden Quicksilver National Historic Landmark District, was contacted regarding their work and to obtain the technical documents not on file with the CHRIS/NWIC (see Allen and Crosby 2002/S-29851). No response was received. The County of Santa Clara Parks and Recreation Department was also contacted for a copy of the form and/or other data available. No other data were available (Contacts: Mark Fredrick, Jane Mark, and Mohamed Assaf).

No other individuals or groups were contacted for this report.

5.0 SUMMARY BACKGROUND CONTEXT

5.1 NATIVE AMERICAN

5.1A Prehistoric

The project area, located south of the Santa Teresa Hills in the New Almaden area which includes part of Alamitos Creek and the intermittent Deep Gulch Creek, appears to have been within an area favored by Native Americans for occupation, hunting and collecting activities including the procurement of cinnabar. The general area would have provided a favorable environment during the prehistoric period with riparian and inland resources readily available. Native American occupation and use of the general study area appears to extend over 5000-7000 years and may be longer. Occupation sites appear to have been selected in the area for accessibility, protection from seasonal flooding, and the availability of resources. Archaeological information suggests an increase in the prehistoric population over time with an increasing focus on permanent settlements with large populations in later periods. This change from hunter-collectors to an increased sedentary lifestyle is due to more efficient resource procurement with a focus on staple food exploitation, the increased ability to store food at village locations, and the development of increasing complex social and political systems including long-distance trade networks.

General overviews and perspectives on the regional prehistory including chronological sequences can be found in C. King (1978a), Moratto (1984), Elsasser (1978, 1986), Allen (1999), Jones and Klar (2007). See Hylkema (2002) for detail regarding environment and chronology for selected archaeological sites from the southern San Francisco Bay and the peninsula coast and Milliken et al. (2007) for chronological and other data for the San Francisco Bay Area.

No recorded or known prehistoric sites have been identified within, immediately adjacent to the project or within 0.25 miles of the project (CHRIS/NWIC File No. 09-0248). Historic era mining activities have impacted the general study area. The general distribution of recorded sites along Alamitos Creek suggests the presence of a prehistoric and probable ethnographic trail in the area (see Elsasser 1986:48-49, Table 4, Fig. 10).

5.1B Ethnographic

The project area appears to be within Costanoan territory who are also known as the *Ohlone*.[13] The project is within the far southern part of *Tamyen* (*Tamien*) territory with "San Jose Bautista" tribelet located north of the project (Levy 1978:485, Fig. 1, #10. Milliken (1995:229, Map 5, 252) places the *Ritocsi*, with reservation as to name of the group, in the area from downtown San Jose south to New Almaden. The village of "San Juan Bautista" as listed in Mission Santa Clara registers was likely the northernmost village of the tribe. Hylkema (1995:35, #4, 36, Map 6) places the San Juan Bautista along the Guadalupe River near Hillsdale in South San Jose and refers to them as

13. People of Costanoan descent presently residing in the greater San Francisco Bay Area generally prefer to use the term *Ohlone* to Costanoan (see Galvan 1967/1968; Margolin 1978; Bean 1994).

Matalan people.[14] King (1994:203, 205, Fig. 7.1) also places the study area within the territory of the San Carlos Group. One of the San Carlos villages closest to Mission Santa Clara was known as San Juan Bautista (San Jose south of Hillsdale)

Within the subareas, the population was further subdivided into tribelets. In 1770, these tribelets were politically autonomous groups containing some 50-500 individuals, with an average population of 200. Tribelet territories, defined by physiographic features, usually had one or more permanent villages surrounded by a number of temporary camps. The camps were used to exploit seasonally available floral and faunal resources (Levy 1978:485, 487). Although the locations of tribelets and settlements are inexact due to incomplete data, historic accounts suggest that a several of the groups may have had temporary camps within the vicinity of the project area throughout the prehistoric period and into the Hispanic Period.

The New Almaden Quicksilver Mines (Harper's 1863:5) was supposedly known as "Red Cave" during the protohistoric period. Cinnabar, mercury ore, was an important trade item for the Costanoans and groups located as far as Washington and Oregon appear to have received the material. The bright red mineral was used as body paint for ritual and non-ritual purposes by the Costanoans (Swan 1857:313-314; Harrington 1942:17, 18, 44; Heizer and Treganza 1944:312).

> *The Indians of Santa Cruz and Santa Clara (Mission) seem to have always have been in fights about the possession of the cinnabar mine, now the immensely rich New Almaden. The Indians away from the Tulares and Sacramento, were also accustomed to come often to get their share of the 'red paint,' and great battles were often fought in these 'vermillion expeditions. One of them occurred even as late as 1841 or 1842, when several of the intruders were killed by Santa Clara Indians* (Taylor 1860, 1864).

Early visitors to the mine describe an irregular tunnel ca. 50 to 100 feet in length and the presence of crushed Native American human remains due to at least one mining accident (Downer 1854:221).

The Costanoan aboriginal lifeway apparently disappeared by 1810 due to its disruption by new diseases, a declining birth rate, and the impact of the mission system. The Costanoan were transformed from hunters and gatherers into agricultural laborers who lived at the missions and worked with former neighboring groups such as the Esselen, Yokuts, and Miwok. Later, because of the secularization of the Missions by Mexico in 1834, most of the aboriginal population gradually moved to ranchos to work as manual laborers (Levy 1978:486).

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14. C. King has assigned the ". . . Almaden Valley between the Santa Teresa Hills and Coyote Creek and the entire Coyote Valley to the *San Carlos* tribelet or group, also referred to as the *Matalan* tribe, a native term, and places the tribelet's primary village, *Matalan*, at *La Laguna Seca* in Coyote Valley (C. King 1977:36, 38-39, 42, 44, 54/S-4395).

For a more extensive review of the Costanoan see Kroeber (1925:462-473), Harrington (1942), Galvan (1967/1968), King and Hickman (1973), C. King (1974, 1977, 1978b, 1994), Levy (1978:485-495), Bean (1994), Brown (1994), and Milliken (1995).

5.2 HISTORIC ERA

5.2A Hispanic Period

Spanish explorers in the late 1760s and 1770s were the first Europeans to traverse the Santa Clara Valley. The first party, led by Gaspar de Portola and Father Juan Crespi, arrived in the Alviso area in the fall of 1769. Sergeant Jose Francisco Ortega of their party explored the eastern portion of San Francisco Bay and likely forded both the mouth of the Guadalupe River and Coyote Creek. The following year, Pedro Fages led another party through the Santa Clara Valley and in 1772 Fages returned with Crespi. As mapped by Beck and Haase (1974:#17) Rivera-Palou's 1774 and Hezeta-Palou's 1775, and Anza-Font's 1776 expeditions would have passed through the Santa Teresa Hills north of project. The 1776 Juan Bautista de Anza route is a designated National Historic Trail (USNPS 1995).

The favorable reports by Juan Bautista de Anza and Father Pedro Font through the region led to the establishment of both Mission Santa Clara and the Pueblo San Jose de Guadalupe in 1777. *Mission Santa Clara de Asis*, the eighth of the 21 missions founded in California, one of seven missions located within Costanoan territory, would have been the mission with the greatest impact on the aboriginal population living in the project vicinity (Beck and Haase 1974:17; James and McMurry 1933:8; Hart 1987:112-113, 324).

Generally, the Spanish philosophy of government in northwestern New Spain was directed at the founding of presidios, missions and secular towns with the land held by the Crown (1769-1821). The later Mexican policy (1822-1848) stressed individual ownership of the land (Hart 1987).

Throughout the Hispanic Period, the New Almaden Mines gained increasing importance. Hall (1871:396) states that word *Almaden* is compound word derived from Arabic, the article "*al*" or "the" followed by the noun, *"maden*" or "mine." New Almaden was named after Almaden, a famous quicksilver mine in Almaden, Spain which had operated for centuries (Lanyon and Bulmore 1967:9; Butler 1991:157).

The "discovery" of the cinnabar mine approximately 14.0 miles and currently 11.0 miles south of the City of San Jose (Sawyer 1922:86; Butler 1991:157) is credited to a number of individuals - anonymous Mission Indians, the "Robles family" as reported by an old Indian (Hall 1871:397; Luis Chaboya and/or Don Antonio Sunol (Bailey 1951:263; Lanyon and Bulmore 1967:2; Sawyer 1922:86-87); and, by Frenchman Antoine Surrol in 1824 (Harper's New Monthly 1865:23). The mine was abandoned in 1824 after concluding that the mineral was cinnabar, rather than the more highly valued silver. However, as early as 1825-1826, cinnabar from the New Almaden mines was used as a pigment to "paint" the Church at Mission Santa Clara (Hall 1871:397; Heizer and Treganza 1944:312, from Bulmore, personal communication). In 1845, a Mexican Army

officer, Don Andres Castillero, examined a sample of the bright red pigment at Mission Santa Clara in November 1845. On a return visit to the Mission in December, Castillero proved the existence of mercury or quicksilver. As a result, Castillero was awarded the mine by Antonio Maria Pico (Bailey 1951:263; Lanyon and Bulmore 1967:1-7).

The project is within former *Rancho San Vicente* (Berreyesa) granted by Governor Alvarado to Jose Reyes Berreyesa on August 1, 1842. It was patented to his widow Maria Z.B. Berreyesa et al. on June 24, 1868 five years after the mines had fallen into the possession of the Quicksilver Mining Company. This rancho was involved in some of the most controversial title litigation in California due to presence of the New Almaden mines. No known adobe dwellings or other structures were located in or adjacent to the project (Stratton 1861; Hendry and Bowman 1940:950-953 Hoover et al. 1966:435-436). Hendry and Bowman list and map four known locations (H&B #94-#97); they were unable to map four other adobe(?) dwellings built in the late 1830s or early 1840s.

5.2B American Period

In the mid-19th century, the majority of the rancho and pueblo lands and some of the ungranted land in California was subdivided as the result of population growth, the American takeover, and the confirmation of property titles. Growth can be attributed to the Gold Rush (1848), followed by the completion of the transcontinental railroad (1869) and local railroads. Still later, the development of the refrigerator railroad car (ca. 1880s) used for the transport of agricultural produce to distant markets, had a major impact on the Santa Clara Valley. During the later American Period and into the Contemporary Period (ca. 1876-1940s), fruit production became a major industry. This predominance of fruit production/processing held steady until after World War II. In recent decades this agrarian land-use pattern has been gradually displaced by residential housing, commercial centers, and the development of research and development and manufacturing associated with the electronics industry leading to the designation of the general region as the "Silicon Valley." Within the Santa Clara Valley, the City of San Jose served as a County seat, a primary service as well as financial and social center (Broek 1932:76-83; Hart 1987).

See the Historical Chronology in Allen and Crosby (2002:3-14/S-29851) for resources/events from 1824 through 2000.

The New Almaden Mines became the most prominent quicksilver mine in the Western Hemisphere notable as the ". . . first workable quicksilver mine in North America", the "first mine of any kind in California ... preceded the Coloma gold discovery of January 1848 by 27 months; the "richest mine in California"; "broke an international monopoly"; and kept both California and Nevada in the Union. New Almaden included the settlements of Hacienda, Englishtown, and Spanishtown. What became known as "Hacienda" includes the Upper and Lower Hacienda area of the project. Hacienda was the first settlement and the gateway to the mines. Structures were built on banks of Alamitos Creek for workers and later included the furnace[15] operations at the south end at

15. Furnace - *A device used to roast mercury ore in order to liberate the mercury as a hot gas. It is connected to condensers which cool the gas. A furnace is typically internally fired (i.e., the heat*

the base of the mine hills. Its name was derived from "*Hacienda de Beneficio,*"[16] a Mexican Spanish mining term for reduction works [mineral ore].

> **Hacienda**, a settlement/village of over fifty (50), had a population of 223 in 1890 - 56 Spanish American and 167 Anglo American and others - and about 250 in the late 1890s. Facilities included a hotel, public hall, a store, the superintendent's residence, and other buildings housing a post office, telegraph and express office, and a public school.[17] The dismantling and destruction of the Hacienda office and reduction works took place in about 1963. The County purchased 3,600 acres from the New Idria Mining Chemical Company, the predecessor to Meyers Industries, in 1973 and 1975 to create Almaden Quicksilver County Park. The Almaden Quicksilver County Park opened to public access in 1975. The original Reduction Works on the west side of Almaden Road at the Hacienda (11+ acres) was purchased and added to the park in 1982 by Santa Clara County (*San Jose Mercury* 1896:114; Rambo 1964:13; Lanyon and Bulmore 1967:9; Cuyás 1972:291; Butler 1991:157-158; Allen and Crosby 2002:14; Aspen et al. 2008:7 *Final Initial Study and Mitigated Negative Declaration Jacques Gulch Restoration Project*).

Limited Project Specific Historic Map Review

Goddard's 1857 *Map of the State of California* shows the New Almaden Quicksilver Mines, but not Almaden/Alamitos Road.

Stratton's 1861 plat *Rancho San Vicente* shows no features in the vicinity of the project.

Healey's 1866 *Official Map of the County of Santa Clara* shows the outline of *Rancho San Vicente* with slightly illegible "Maria Berreyesa et al," Almaden Road (not labeled) to "New Almaden," and on to road to "Mine Hill." The latter road appears to conform to present-day Mine Hill Road (Hill Road). Structures mapped schematically on Mine Hill (4 buildings) and in the Hacienda area (6 buildings).

Hare's 1872 *Map of Vicinity of San Jose* is limited to creeks, major roads, schools, towns/cities and major points of interest within about 12 miles of the City of San Jose. This map labels "New Almaden" and the "Arroyo de los Alamitos" and shows a road from "Hacienda" north of the APE west to "Mine Hill."

Whitney's 1873 *Map of the Region Adjacent to the Bay of Bay Francisco* shows no "Indian Mound[s]" in the vicinity of the proposed project. This map shows the rancho

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source has direct contact with the ore), processes comparatively large amounts in a 24-hour period, and usually operates continuously. Furnaces used at New Almaden were constructed of brick, iron or steel (Schneider 1992:164).

16. Beneficiation - *The initial process of upgrading ore* (Noble and Spud 1992:29).

17. The 1880 *Plat of the Hacienda, New Almaden exclusive of Casa Grande, north (left) and reduction works, south (right) by Supt. F. Von Leicht* shows and numbers at least 58 buildings in addition to a hotel, shed, dance hall, store, and hay barn (not numbered).

boundaries, the "Arroyo de los Alamitos," Almaden Road (not labeled) to about The Works [see Thompson and West 1876 below] in "New Almaden" with a few structures in Hacienda (not labeled).

Thompson and West's 1876 *Historical Atlas of Santa Clara County* shows and labels a number of features in a 3360.48-acre area owned by "The Quicksilver Mining Company" which included portions of *"Rancho San Vicente*" and adjacent *"Rancho de los Capitancillos."* The rancho boundaries, the "Arroyo de los Alamitos", "New Almaden" and Almaden Road/Alamitos Road (not labeled) with "Hacienda" above "Hacienda School", numerous structures along the road and "The Works" [Furnace Yard], buildings in the vicinity of the Upper Hacienda area. The road to "Peak of Mine Hill" is mapped with three structures on the south side of the road in the vicinity of the Deep Gulch area (Thompson and West 1876:60). In addition, the *Atlas* provides a view northwest illustrating, "The Works and the Mine, New Almaden" which includes the Deep Gulch area, but not the Upper Hacienda or Lower Hacienda areas of the project (op cit.:76-77).

The earliest available USGS topographic map, the 1919 New Almaden Quadrangle surveyed in 1915-1916, shows various structures in "New Almaden" along Almaden Road and buildings in The Works area. By 1915-1916 a railroad spur, part of an incline railroad, had been built between the works area and southeast portion of "Mine Hill" across Deep Gulch to the sorting sheds at Hacienda (e.g., Lanyon and Bulmore 1967:21; Boulland and Boudreault 2006:101). This spur was situated just west of the Deep Gulch area of the project. No structures are shown in/adjacent to the Deep Gulch area. A large mine dump (?)[18] on the west side of Alamitos Creek and Almaden Road appears to have been located partially within the Upper Hacienda area of the project. By 1937, the railroad tracks had been removed along with the dump? and numerous structures along Almaden Road/Alamitos Road. No structures, tailings, etc. are shown in the vicinity of the various project areas. The 1968 and 1980 USGS topographic map shows no structures or features in the vicinity of the Lower Hacienda and Deep Gulch areas. Tailings are shown extending partly into the Upper Hacienda area (e.g., USGS 1919 [surveyed 1915-1916], 1968, 1980; US War Dept 1943 [photography 1937]).

The Santa Clara County Parks and Recreation Department pamphlet shows the Deep Gulch area of the project located along Mine Hill Trail just north of the Deep Gulch Trail. Mine Hill Trail is designated as a multiple use and horse cart trail. No park features are shown in the vicinity of the Upper and Lower Hacienda areas of the project (SClCo/P&R 2009).

6.0 ARCHAEOLOGICAL FIELD INVENTORY

Pedestrian field inventories of the project areas were conducted by Stuart A. Guedon (M.A.), Basin Research Associates, on October 12 and November 30, 2009 [see Fig. 3]. The Upper Hacienda, Lower Hacienda and Deep Gulch project areas were surveyed in random transects not exceeding 20 meter intervals in order to accommodate the often steep terrain and vegetation. The Alamitos Creek Crossings # 1 and #3 were surveyed

18. Roughly circular shaped area printed in brown.

from the north bank in random transects not exceeding 20 meters. Dense brush on the left bank of Alamitos Creek Crossing #3 limited access to mostly above the gabion embankment. Access to the south bank was not possible due to steep terrain and dense vegetation. The Alamitos Creek Bridge area (ACB-1) was surveyed in random transects not exceeding 5 meters and generally parallel with Alamitos Creek.

Local vegetation is riparian woodland that includes oaks, California bay laurels, sycamores and poison oak. The areas noted during the field inventory all appeared to have been disturbed by historic era mining activities.

No prehistoric archaeological material was observed during the survey. Historic features included mine-waste calcine deposits in each of the project areas in addition to several other minor historic features. The field inventory also found historic materials associated with Vichy Spring under the west of Bridge 37C0160 on Almaden Road. The cultural materials included the remnants of a stone wall of basalt cobbles; a milled lumber wall; and, a terra cotta brick-lined well on the slope of Alamitos Creek under the west end of the bridge. Bubbles (natural carbonation) were also observed in Los Alamitos Creek under the west end of the bridge. The wall and the well appear to be associated with the bottling house complex at Vichy Spring in operation from 1867 to 1880/1882. The complex was demolished in 1939.

6.1 UPPER HACIENDA DEPOSIT (UH-1 and UH-2)

The *Upper Hacienda Deposit #1 (UH-1)* and *Deposit #2 (UH-2)* are, with the exception of the existing calcine deposits, devoid of historic structures, features, and/or prehistoric or historic era artifacts, structures, etc.

6.2 LOWER HACIENDA DEPOSIT (LH-1 and LH-2)

The *Lower Hacienda Deposit #1 (LH-1)* includes existing calcine deposits and a portion of rock wall and a wooden post/beam and thick piece of metal cable nearby. The rock wall is approximately 2-3 feet high and 6 feet in length, constructed of irregularly shaped dry laid rocks with a number of loose rocks, likely part of the wall, nearby. The short segment of a post/beam is partly buried; an approximately 1.5 foot wide x over 2.0 foot long portion is exposed. It is possible that these features represent materials formerly associated with a building in the background of an 1863 Carleton E. Watkins photograph of the New Almaden Smelting Works.

The *Lower Hacienda Deposit #2 (LH-2)* includes calcine deposits only.

6.3 DEEP GULCH DEPOSIT (DG-1 and DG-2)

Deep Gulch Deposit #1 (DG-1) includes calcine deposits. The remains of a concrete foundation which form a right angle approximately 7.5 x 4 feet in the dirt/gravel road are adjacent to this project area.

Deep Gulch Deposit #2 (DG-2) includes calcine deposits and a retort listed as Historic Resource #y44 Retort (see Allen and Crosby 2002) [Figs. 4-7].

> The retort consists of a rectangular structure approximately 6.5 feet wide, 8 feet high, and 10 feet wide/deep brick structure set into the hillside around an inset and projecting metal box on top of a finished concrete base. A crude layer of concrete/mortar which appears to follow the contour of and hold the hillside in place is visible at the interface of the brick. The retort is capped along the front with a single row of river cobble. The bricks on the sides of inset metal box are 18-inches and 23-inches respectively. The mortar appears to have been repaired in places. Two parallel, possibly inset sections of two long metal pipes project at an angle over the structure. These pipes are capped at one end (each different) and open at the other and are notably smaller in diameter than the two round 12-inch "retort" openings. In addition, sheets of corrugated metal held in place by short segments of small diameter pipe hold the hillside back at the top rear of the retort. Loose sheets of corrugated metal and a deep iron basin (within a lumber frame held by metal bolts and washers) are present nearby. The construction of the retort uses mostly red brick rather than refractory brick[19] suggesting perhaps another function for this structure or modification not readily apparent in its current condition. The retort, according to Michael Boulland, a locally knowledgeable historian, was built in the 1940s or early 1950s and) was just a small operation (personal communication, November 2009). Mr. Boulland indicated that several of these small retorts were located in the general area at this time.

In addition, Mine Hill Road adjacent to the Deep Gulch area is a historic feature which is currently known as the Mine Hill Trail (e.g., SClCo/P&R 2009).

6.4 ALAMITOS CREEK CROSSINGS (AC-1, AC-2 and AC-3)

The Alamitos Creek crossings, AC-1 to AC-3, include calcine deposits but do not have any prehistoric or historic era cultural deposits, historic structures or features present. Alamitos Bridge (37C0160) on Almaden Road has been evaluated as category "5," not eligible for listing on the National Register of Historic Places.

6.5 ALAMITOS CREEK BRIDGE (ACB-1 and ACB-2)

The *Alamitos Creek Bridge #1* (ACB-1), includes [see Figs. 3, 8-13]:

- calcine deposits [Fig. 9];
- remains of a wood wall (possibly redwood, weathered dressed vertical 1x6 and 1x8 lumber spanning a distance of about 30 feet. Approximately one foot of the lumber was noted as extending out of the creek bank. No horizontal members were observed [Figs. 9-10, 12-13];
- short section of stone wall east of the southern bridge abutment consisting of basalt cobbles (8 feet long, 2 to 3 feet high with about five courses exposed [Fig. 13]. The wall is covered by dense leaf litter and forms a part of the creek bank

19. "Fire" or "refractory" brick is made from special clays in order to withstand high temperatures. They are usually yellow, tan, beige, buff, salmon, etc. rather than common red brick.

> downstream from the existing vehicular bridge. The exposed wall together with the wooden pieces in front of the southern bridge abutment are what local tradition believes to be the remains of the former Vichy Spring water well - a carbonated water which was bottled at the source/location by F. L. A. Pioche and others from 1867 to 1880/1882 (Michael Boulland, local historian, personal communications, November 2009; see discussion below for details) [Fig. 11]. Pioche was a San Francisco banker originally from France and also active in Nevada mining with a town named after him in Lincoln County, Nevada. The wood and stone wall may have been part of a building used in the bottling process. The outside diameter of the well is approximately six feet and the inside diameter approximately four feet. The one foot thick walls allows for two bricks to be laid side by side with mortar in between. Only the top course of brick is partially exposed. [20]

Discussion - Vichy Spring Bottling Complex

The field survey noted materials associated with the former bottling house complex at Vichy Spring now present under the Alamitos Creek Bridge on Almaden Road. Bubbles (natural carbonation) were also observed in Los Alamitos Creek under the west end.

Mineral water from this spring appears to have been initially bottled in 1854[21] as "New Almaden/Mineral Water/W & W" by brothers Thomas and David Williams and partner D.T. Winslow. About 1867[22] they moved their mineral water bottling enterprise to the City of San Jose. In December 1867, Francois L. A. Pioche leased 2.5 acres including Vichy Spring for 10 years from the Quicksilver Mining Company. He appears responsible for the name, "New Almaden Vichy Water," an allusion to the naturally carbonated water obtained from springs at Vichy, France. By 1876[23] he had built a four room wooden-frame bottling plant which included an octagonal[24] well house as illustrated by Thompson and West in *"The Works and the Mine, New Almaden, 1876."*[25] The water was described as an ". . . elixir of life and cure-all" and as a "heavy alkalo-chalybeate, strongly charged with carbonic acid gas." It was extensively advertised and distributed nationally from San Francisco by the California Vichy Water Company. Bottling continued after Pioche committed suicide in May 1872. Production ceased in

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20. No attempt at exposing the well or other features was undertaken by the field archaeologist due to the potential for personal mercury contamination.

21. Allen and Crosby (2002:5) state the Vichy Spring water was bottled and shipped in 1862.

22. Note: Some of the W & W bottles New Almaden Mineral Water bottles include the date "1870" (Markota and Markota 1994:78). The Winslow and Williams Soda Factory at 274 St. John Street, San Jose is listed in the 1870 Colahan and Pomeroy *San Jose City Directory and Business Guide of Santa Clara County*. At the time, no soda or mineral water bottling business is listed in New Almaden.

23. 1867 after Boulland and Boudreault (2006:65), definitely 1876 as illustrated by Thompson and West (1876:76-77). Prior to 1880 after Allen and Crosby (2002:8).

24. Described as a "gazebo" in the 1999 *Santa Clara County Heritage Resource Inventory*.

25. The plant appears to conform to Building #59 on Von Leicht's 1880 *Plat of the Hacienda*.

1880/1882[26] due to the loss of carbonation when the 2100 foot level of the Buena Vista Shaft was penetrated.[27] A tentative plan to develop the spring in 1915 was not pursued and in 1939, the Vichy Spring House complex was demolished.

The "old brick-lined well of Vichy Spring" was reportedly destroyed by the construction of the Alamitos Bridge (37C160) on Almaden Road in 1966. Nonetheless, remnants of the well remain *in situ* along with the remains of an associated wood wall. Natural carbonation - bubbles - from the spring are visible in the current creek (Thompson and West 1876:76-77; Von Leicht 1880; Lanyon and Bulmore 1967:99; Schneider 1992:141; Caltrans 1993; Allen and Crosby 2002:5, 8, 12/S-29851;[28] Markota and Markota 1994:78-79; Boulland and Boudreault 2006:65; Practically Edible 2009:Vichy Water)

E. Clampus Vitus (Mountain Charlie Chapter No. 1850) placed a "VICHY SPRING" plaque on a brick monument on the top of the right bank of Alamitos Creek near the existing bridge on October 13, 1979: The plaque states:

> *"A SPRING OF CARBONATED WATER, LOCALLY KNOWN AS VICHY, BUBBLED UP HERE BESIDE THE ALAMITOS CREEK. WHEN THE DISTANT BUENA VISTA SHAFT PENETRATED THE 2100 FOOT LEVEL IN 1882, THE SPRING CEASED FLOWING. SAN FRANCISCO BANKER F.L.A. PIOCHE AND OTHERS COMMERCIALLY BOTTLED THE WATER AS A CURE-ALL FOR THE SICK AND THIRSTY. WHEN BOTTLED, THE WATER LOST ITS CARBONIZATION AND THE VENTURE ALSO WENT FLAT FINANCIALLY."* (Castro 1986:87).

Vichy Springs ". . . on the site of the former New Almaden Mines Reduction Works" at the southwest corner of Almaden Road and Bertram Road, New Almaden is listed separately on the 1999 *Santa Clara County Heritage Resource Inventory* (SClCoHHC 1999:148, APN 583-20-003) and the *City of San Jose Historic Resources Inventory* (SJHLC/PBE 2009).

The *Alamitos Creek Bridge #2* (ACB-2) is immediately north of the ACB-1 deposit and contains only calcine deposits. No other cultural materials were present.

7.0 RESULTS

The intent of this report is to identify cultural resources that are present and listed, determined or potentially eligible for inclusion on the California Register of Historical Resources (CRHR) that may be impacted by the proposed project.

- The project areas are within the Hacienda Area of the Almaden Quicksilver

26. 1880 after Allen and Crosby (2002:8); 1882 after the Vichy Spring plaque (Castro 1986:87), Boulland and Boudreault (2006:65), etc.

27. This shaft is/was located northwest of English Town about 1.5 miles northwest of the spring.

28. The available Allen and Crosby report lacks Technical Appendix C-5 which may provide additional information regarding "Vichy Spring."

County Park in Santa Clara County. The Deep Gulch area (2 locations) of the project is located along the Mine Hill Trail. Access to the Upper Hacienda and Lower Hacienda areas is provided by Alamitos Road, an important transportation vector during the mining era onward. The Alamitos Creek Deposits (3 locations) are present along Alamitos Creek. The Alamitos Creek Bridge Deposits (2 locations) are present under the Alamitos Creek Bridge on Alamitos Road and to the immediate north.

- Six (6) compliance reports on file with the CHRIS/NWIC include the three project areas.
- The general project area is considered an area of archaeological sensitivity in Santa Clara County (Garaventa and Guedon 1993; Basin Research Associates 2009).
- No prehistoric and or combined prehistoric/historic era sites have been recorded or reported in or immediately adjacent to the proposed project areas.
- No known ethnographic, traditional or contemporary Native American use areas and/or other features of cultural significance have been identified in or adjacent to the project alignments although the cinnabar ore was considered a valued material by a number of Native American groups.
- No known Hispanic Period expeditions, adobe dwellings, or other structures, features, etc. have been reported in or immediately adjacent to the proposed project areas.
- The project areas are within the boundary defined for CA-SCl-405H (P-43-000411), "New Almaden," which is a National Historic Landmark District[29] (NHL 66000236). The New Almaden Historic District is listed under National Register criterion, "a" and is automatically included on the California Register of Historical Resources (CRHR).
- One recorded American Period resource, Historic Resource #y44, a structure identified as a retort near the Hacienda entrance to the *Deep Gulch* area, is present within the project area [Fig. 3]. It has been identified and evaluated as in fair condition, with medium/high integrity, low accessibility, low/medium interpretive value, and as low priority for treatment (see Allen and Crosby 2002).

  > The retort may have been built in the 1940s or 1950s and was subsequently used by various persons to treat ore. It continued in use up to the point that New Idria Mining and Chemical Company purchased the property. The last operator was John Tobar. The resource does not appear to have been formally recorded and evaluated for the CRHR.

- No evidence of significant prehistoric archaeological resources was observed during the field surveys conducted within the project areas. The surface has been

29. National Historic Landmark (NHL) - *a historic property evaluated and found to have significance at the national level and designated as such by the Secretary of the Interior* (USNPS/IRD) 1991:16A:IV:3).

extensively disturbed by historic mining activities primarily the deposition of calcine deposits associated with cinnabar reduction to extract mercury.

- The remains of several features associated with the former Vichy Spring water bottling complex operating from 1867 to 1880/1882 were noted during the field inventory of the Alamitos Creek Bridge Deposit (ACB-1) under Bridge No. 37C0160 on Almaden Road [Fig. 3]. The features include a stone wall, the remains of a wood wall in the creek bank, and the exposed top of what local tradition believes to be the remains of the former Vichy Spring water well - a carbonated water source.
- No other evidence of historically significant archaeological resources was observed during the field surveys conducted within the project areas. The surface has been extensively disturbed by historic mining.
- No standing buildings or architectural features other than the retort identified as Historic Resource #y44 and the former location of the Vichy Spring water bottling complex are located in or immediately adjacent to the project areas.
- No local, state or federal historically or architecturally significant structures, landmarks, or points of interest have been identified within or adjacent to the project areas except for their location within a listed National Historic Landmark District.

8.0 POTENTIAL IMPACTS AND MITIGATION MEASURES

8.1 DEFINITION AND USE OF SIGNIFICANCE CRITERIA

The thresholds of significance for cultural resource impacts for the project are defined as situations where construction could:

> Result in damage to, the disruption of, or adversely affect a property that is listed in the California Register of Historical Resources (CRHR) or a local register of historic resources per Section 5020.1 of the Public Resources Code;
>
> Cause damage to, disrupt, or adversely affect an important prehistoric or historic archaeological resource such that its integrity could be compromised or eligibility for future listing on the CRHR diminished; or,
>
> Cause damage to or diminish the significance of an important historic resource such that its integrity could be compromised or eligibility for future listing on the CRHR diminished.
>
> A significant impact would occur if the project would directly or indirectly disturb any human remains, including those interred outside of formal cemeteries.

Any damage to a cultural resource determined to be “important” based on the criteria outlined above would be considered a significant impact.

8.2 POTENTIAL IMPACTS

Removal of the calcine deposits in the project will include both deposit and sediment removal around two historic architectural and archaeological features that could affect the cultural materials:

- ***Deep Gulch Deposit #2*** - Historic Resource #y44 Retort (see Allen and Crosby 2002) [Figs. 3-7]. The estimated three foot thick soil deposit around the retort has been identified as a potential source of mercury. Ground-disturbing removal activities have the highest potential to directly impact this cultural resource by disturbing both surface and subsurface soils.

- ***Alamitos Creek Bridge Deposit*** - remains of several features associated with the former Vichy Spring water bottling complex operating from 1867 to 188/1882 were noted during the field inventory of the Alamitos Creek Bridge Deposit (ACB-1) under Bridge No. 37C0160 on Almaden Road [Figs. 3, 8-13]. The estimated three foot thick soil deposit has been identified as a potential source of mercury. Ground-disturbing removal activities have the highest potential to directly impact this cultural resource by disturbing both surface and subsurface soils.

Surface and subsurface disturbances or calcines removal activities may result in the loss of integrity of cultural deposits, loss of information, and the alteration of a site setting. Potential indirect impacts, primarily vandalism, could result from increased access to and use of the general area during both construction and operation. There is also the potential for inadvertent discoveries of buried archaeological materials during construction.

With the exception of the retort within the Deep Gulch area and the former Vichy Spring water bottling complex within the Alamitos Creek Bridge Deposit (ACB-1), no other potentially significant archaeological or architectural sites or features have been identified in the project as a result of research and/or survey conducted for the proposed project.

8.3 PREVIOUS MANAGEMENT RECOMMENDATIONS

The CH2M Hill 2009 *Engineer's Report* recommended evaluation of the historic significance of old retort in the Deep Gulch area prior to removal and "Consultation with Historic District personnel for removal of retort at Deep Gulch" (CH2M Hill 2009a:3-3 and 7-2, #2). The former Vichy Water bottling complex was not included as it was believed destroyed during the construction of the Alamitos Creek Bridge in 1966.

8.4 PROPOSED MANAGEMENT RECOMMENDATIONS

Two potentially significant archaeological and/or architectural resources have been identified in the project as a result of research and/or survey conducted for the proposed project. Further investigation and evaluation of the identified resources shall be undertaken during construction to determine and confirm their potential for inclusion on the California Register of Historical Resources (CRHR). These actions will include

additional pre-construction archival research and recordation as well as additional recordation and inspection if the resources may be affected during calcine removal.

8.4A Historic Resource #y44 - Retort

One American Period structure, Historic Resource #y44, identified as a historic retort is present in the Deep Gulch Deposit #2. It has been previously identified and evaluated as in fair condition, with medium/high integrity, low accessibility, low/medium interpretive value, and as low priority for treatment (see Allen and Crosby 2002). However, the resource appears not to have been formally recorded and evaluated for the CRHR. Possible mercury contamination of adjacent soil and the retort structure strongly indicate that removal may be the only viable option to the County. Mitigation actions shall include:

- Development of an appropriate historic context of the resource; record the resource on appropriate DPR 523 forms; and, formally evaluate the resource for the CRHR.
- Pre-construction treatment measures prior to resource removal shall include HABS/HAER large format (4x5) black & white photography; mapping; and compilation of appropriate measured drawings/plans. In addition, archaeological and architectural monitoring including additional HABS/HAER large format photography of its demolition shall be undertaken due to the potential to expose associated subsurface archaeological deposits and/or buried architectural construction features not visible during pre-construction studies.

8.4B Vichy Spring Water – Former Bottling Complex

One American Period archaeological resource, cultural materials associated with the former bottling house complex at Vichy Spring now present under the Alamitos Creek Bridge on Almaden Road, was noted during the field inventory. The materials include a stone wall, the remains of a wood wall in the creek bank, and the exposed top of what local tradition believes to be the remains of the former Vichy Spring water well - a carbonated water source bottled from 1867 to 1880/1882. The former Vichy Water bottling complex was demolished in 1939 and the remainder of the resource was supposedly destroyed during the construction of the Alamitos Creek Bridge in 1966. The stone wall is outside the work area and will not be disturbed, while the remains of a wooden wall and possibly the water well are in an area where calcines must be removed and a riprap slope protection constructed to protect the bridge footings. Possible actions include:

- Development of an appropriate historic context of the resource; record the resource on appropriate DPR 523 forms; and, a professional archaeologist and architectural historian shall formally evaluate the resource for the CRHR.
- Archaeological recordation shall be undertaken of any significant subsurface features exposed during calcine removal. The water well will be preserved in place and will not be affected by the proposed project except for the removal of calcines around the well. There are no plans to remove the existing plug/cap.

The presence of the calcines shall be reviewed to determine the safe extent of any archaeological recordation program.

- Pre-construction treatment measures prior to resource removal of resources associated with the former Vichy Spring within the project area shall include HABS/HAER large format (4x5) black & white photography; mapping; and compilation of appropriate measured drawings/plans. In addition, archaeological and architectural monitoring including additional HABS/HAER large format photography shall be undertaken of any significant associated subsurface archaeological deposits and/or buried architectural construction features not visible during pre-construction..

- Resource protection measures shall include installation of barrier fencing or other appropriate measures to protect the stone wall shall be included in the project construction contract documents.

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Abbreviations

n.d. no date
v.d. various dates
N.P. no publisher noted
n.p. no place of publisher noted

The abbreviated phrase "CHRIS/NWIC, Sonoma State University, Rohnert Park" is used for material on file at the California Historical Resources Information System, Northwest Information Center, Sonoma State University, Rohnert Park. Note the primary numbers are not included in the citations above.

ATTACHMENTS

FIGURES

CORRESPONDENCE

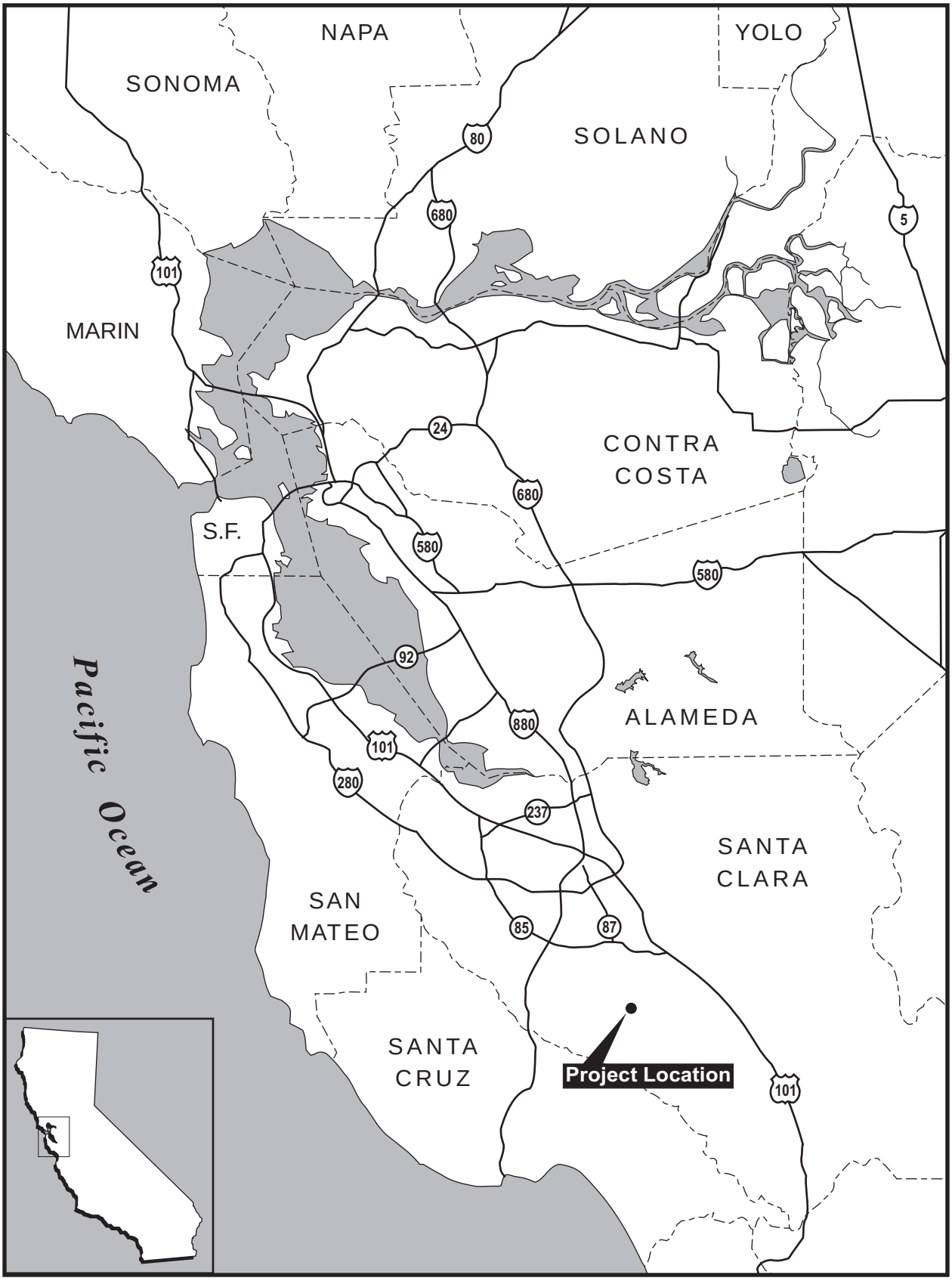
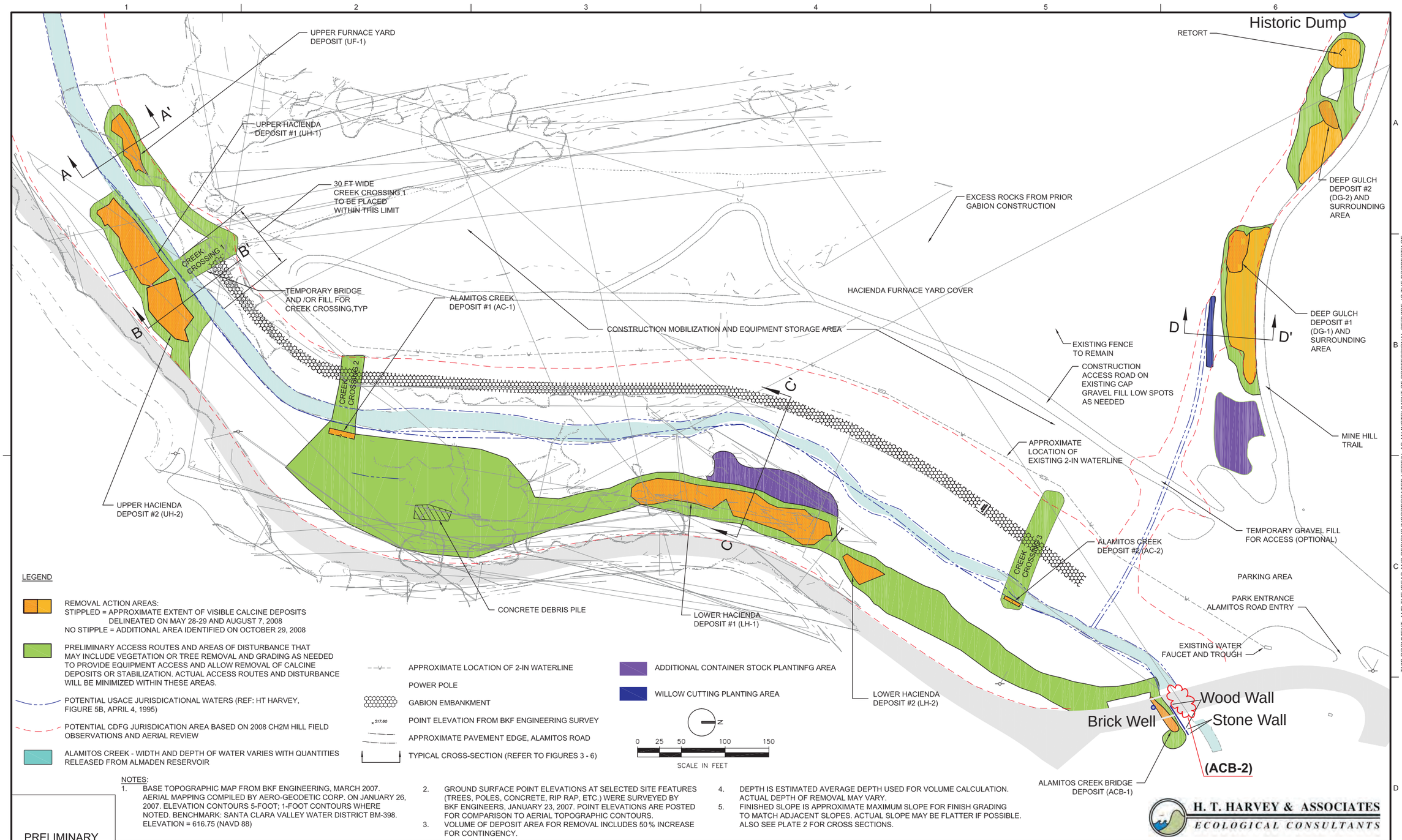


Figure 1: General Project Location

Figure 2: Project Locations (USGS Santa Teresa Hills, Calif. 1980)



NOTES:

1. BASE TOPOGRAPHIC MAP FROM BKF ENGINEERING, MARCH 2007. AERIAL MAPPING COMPILED BY AERO-GEODETIC CORP. ON JANUARY 26, 2007. ELEVATION CONTOURS 5-FOOT; 1-FOOT CONTOURS WHERE NOTED. BENCHMARK: SANTA CLARA VALLEY WATER DISTRICT BM-398. ELEVATION = 616.75 (NAVD 88)
2. GROUND SURFACE POINT ELEVATIONS AT SELECTED SITE FEATURES (TREES, POLES, CONCRETE, RIP RAP, ETC.) WERE SURVEYED BY BKF ENGINEERS, JANUARY 23, 2007. POINT ELEVATIONS ARE POSTED FOR COMPARISON TO AERIAL TOPOGRAPHIC CONTOURS.
3. VOLUME OF DEPOSIT AREA FOR REMOVAL INCLUDES 50 % INCREASE FOR CONTINGENCY.
4. DEPTH IS ESTIMATED AVERAGE DEPTH USED FOR VOLUME CALCULATION. ACTUAL DEPTH OF REMOVAL MAY VARY.
5. FINISHED SLOPE IS APPROXIMATE MAXIMUM SLOPE FOR FINISH GRADING TO MATCH ADJACENT SLOPES. ACTUAL SLOPE MAY BE FLATTER IF POSSIBLE. ALSO SEE PLATE 2 FOR CROSS SECTIONS.

H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

PRELIMINARY

NOT FOR CONSTRUCTION

DSGN Engineer					VERIFY SCALE
DR Drawn_By					BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"
CHK Checked_By	2	2/2/09	ADDED RETORT AREA AND AREAS AROUND DG-1 AND DG-2 FROM 10/29/08 SITE VISIT	SL	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
APVD Approved_By	1	9/5/08	ADDED DEPOSIT (ACB-1) AND (DG-2)	SL	
	NO.	DATE	REVISION	BY	APVD

CH2MHILL

ALMADEN QUICKSILVER COUNTY PARK
SANTA CLARA COUNTY, CALIFORNIA

SANTA CLARA COUNTY PARKS DEPARTMENT
SAN JOSE, CALIFORNIA

Figure 4
Revegetation and Additional Planting Areas

Project: 2922-01 March 2009

Figure 3

Figure 4: DG-2 Feature (view to east-southeast)

Figure 5: DG-2 Feature, basin at left (view to north)

Figure 6: DG-2 Feature (view to north)

Figure 7: DG-2 Feature (view to north-northeast)

Figure 8: View southwest of Bridge 37C0160 with left (north) bank abutment to the right

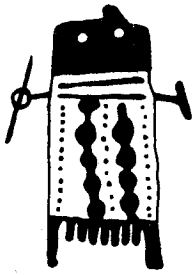
Figure 9: View south-southwest of ACB-1 with wood wall remnants

Figure 10: View south-southwest of ACB-1 with wood wall remnants

Figure 11: View southeast of brick well remains

Figure 12: View southeast of wood wall remnants

Figure 13: View east of stone wall with wood wall remnants



August 28, 2009

BASIN
RESEARCH
ASSOCIATES

1933 DAVIS STREET
SUITE 210
SAN LEANDRO, CA 94577
VOICE (510) 430-8441
FAX (510) 430-8443

Mr. Larry Meyers
Executive Secretary
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

RE: Request for Review of Sacred Lands Inventory
Hacienda and Deep Gulch Restoration Plan,
Almaden Quicksilver County Park, Santa Clara County

Dear Mr. Meyers,

Please let this letter stand as our request for the Native American Heritage Commission (NAHC) to conduct a review of the NAHC *Sacred Lands Inventory* to determine if any listed properties are present within or adjacent to the above proposed project area (see enclosed USGS map).

The proposed project consists of the removal of three calcine dumps and vegetation restoration within the former New Almaden Mining District known as Deep Gulch, Lower Hacienda, and Upper Hacienda. Calcines or "roasted ore materials" result from the heating of cinnabar to extract mercury. This project will involve transport and consolidation of some of the calcine at a secondary location with the objective of mitigating water pollution.

Information from the NAHC *Sacred Lands* to be reviewed by the Santa Clara County Department of Parks of Recreation.

If I can provide any further information, please don't hesitate to contact me (510 430-8441 or Basinres1@Gmail.com). Thank you for your timely review of our request.

Sincerely yours,

Colin I. Busby
Principal

CIB/m
Enclosures - Location Map

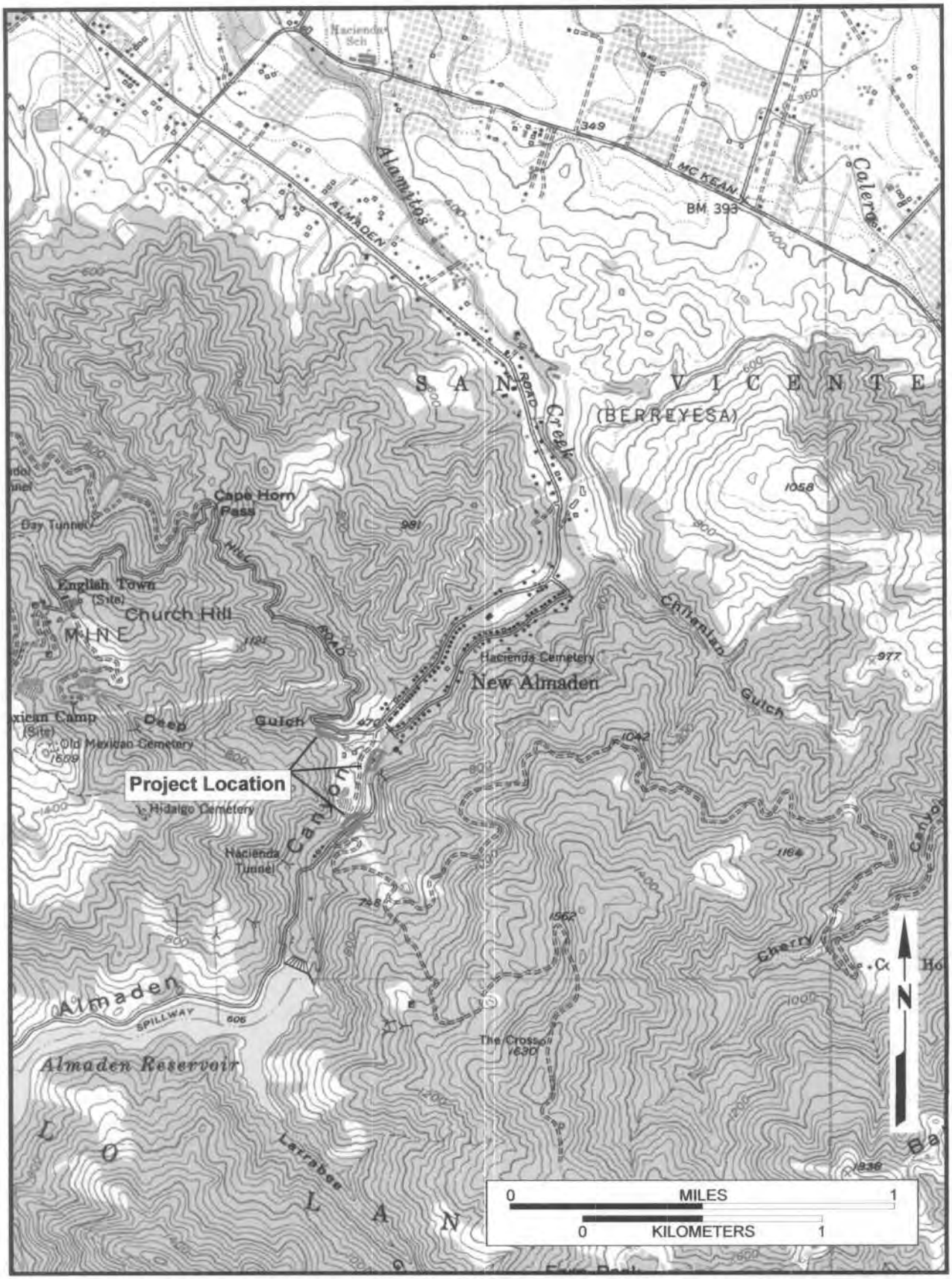


Figure 1: Project Location T9S R1E (USGS Santa Teresa Hills, Calif. 1980)

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

September 1, 2009

Colin I. Busby
Basin Research Associates
1933 Davis Street, Suite 210
San Leandro, CA 94577

Sent by Fax: 510-430-8443
Number of Pages: 3

Re: Proposed Hacienda and Deep Gulch Restoration Plan & Almaden Quicksilver Country Park, Santa Clara County

Dear Mr. Busby:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
Santa Clara County
September 1, 2009

Jakki Kehl
720 North 2nd Street
Patterson , CA 95363
jakki@bigvalley.net
(209) 892-1060
Ohlone/Costanoan

Amah/MutsunTribal Band
Jean-Marie Feyling
19350 Hunter Court
Redding , CA 96003
amah_mutsun@yahoo.com
530-243-1633
Ohlone/Costanoan

Amah MutsunTribal Band
Valentin Lopez, Chairperson
3015 Eastern Ave, #40
Sacramento , CA 95821
vlopez@amahmutsun.org
(916) 481-5785
Ohlone/Costanoan

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister , CA 95024
ams@garlic.com
831-637-4238
Ohlone/Costanoan

Amah MutsunTribal Band
Edward Ketchum
35867 Yosemite Ave
Davis , CA 95616
aerieways@aol.com
Ohlone/Costanoan
Northern Valley Yokuts

Muwekma Ohlone Indian Tribe of the SF Bay Area
Rosemary Cambra, Chairperson
PO Box 360791
Milpitas , CA 95036
muwekma@muwekma.org
408-434-1668
408-434-1673
Ohlone / Costanoan

Amah/MutsunTribal Band
Irene Zwierlein, Chairperson
789 Canada Road
Woodside , CA 94062
amah_mutsun@yahoo.com
(650) 851-7747 - Home
(650) 851-7489 - Fax
Ohlone/Costanoan

The Ohlone Indian Tribe
Andrew Galvan
PO Box 3152
Fremont , CA 94539
chochenyo@AOL.com
(510) 882-0527 - Cell
(510) 687-9393 - Fax
Ohlone/Costanoan
Bay Miwok
Plains Miwok
Patwin

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Hacienda and Deep Gulch Restoration Plan & Almaden Quicksilver County Park, Santa Clara County

Native American Contacts
Santa Clara County
September 1, 2009

Trina Marine Ruano Family
Ramona Garibay, Representative
16010 Halmar Lane
Lathrop , CA 95330
soaproot@msn.com
209-629-8619

Ohlone/Costanoan
Bay Miwok
Plains Miwok
Patwin

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Hacienda and Deep Gulch Restoration Plan & Almaden Quicksilver County Park, Santa Clara County

Record of Native American Contacts

Proposed Hacienda and Deep Gulch Restoration Plan & Almaden Quicksilver Country Park, Santa Clara County.

8/28/09 Letter to Mr. Larry Meyers, Executive Secretary, Native American Heritage Commission (NAHC), Sacramento. Regarding: Request for Review of Sacred Lands Inventory for project.

9/1/09 Letter response by Debbie Pilas-Treadway, NAHC

9/2/09 Letters sent to all parties recommended by NAHC

Letters to Jakki Kehl, Patterson; Valentin Lopez, Amah/Mutsun Tribal Band, Sacramento; Edward Ketchum, Amah/Mutsun Tribal Band, Davis; Irene Zwierlein, Amah/Mutsun Tribal Band, Woodside; Jean-Marie Feyling Amah/Mutsun Tribal Band, Redding; Ann Marie Sayers, Chairperson, Indian Canyon Mutsun Band of Costanoan, Hollister; Rosemary Cambra, Chairperson, Muwekma Ohlone Indian Tribe of the SF Bay Area, Milpitas; Andrew Galvan, The Ohlone Indian Tribe, Fremont; and Ramona Garibay, Representative, Trina Marine Ruano Family, Lathrop.

10/21/09 Telephone calls made by Basin Research Associates (Christopher Canzonieri, M.A.) in the afternoon to non-responding parties.

Jakki Kehl – left message at 1:41 PM.

Valentin Lopez – left message at 1:07 PM.

Edward Ketchum – emailed at1:31 PM. Responded that perhaps descendants of Tamyen people could tell you more.

Irene Zwierlein – Spoke with Mrs. Zwierlein at 1:11 PM she has no concerns.

Jean-Marie Feyling – Spoke with Mrs. Feyling on 9/11/09 at 1:49 PM regarding the project. Mrs. Feyling noted that her mother had once spoke of cave(s) in the area that Native American would have mined for cinnabar. Mrs. Feyling would like to be notified about the survey results if any prehistoric cultural material is observed.

Ann Marie Sayers – left message at 1:13 PM.

Rosemary Cambra – no answer, unable to leave message (1:14 PM).

Andrew Galvan – Spoke with Mr. Galvan at 1:20 PM; if something is encountered the proper measures should be implemented (i.e., contact County Coroner and Native American Heritage Commission if Native American remains are exposed and follow recommendations).

Ramona Garibay – No concerns (1:15 PM).

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

RECEIVED 9/08/2009

FILE

Northwest Information Center
Sonoma State University
1303 Maurice Avenue
Rohnert Park, California 94928-3609
Tel: 707.664.0880 • Fax: 707.664.0890
Email: leigh.jordan@sonoma.edu
http://www.sonoma.edu/nwic

INFORMATION CENTER ELECTRONIC ACCESS AGREEMENT

FILE NO.: 09-0248

I, the undersigned, have been granted access to historical resources information on file at the Northwest Information Center (NWIC) of the California Historical Resources Information System.

I understand that any CHRIS Confidential Information I receive shall not be disclosed to individuals who do not qualify for access to such information, as specified in Section III (A-E) of the CHRIS Information Center Rules of Operation Manual, or in publicly distributed documents without written consent of the Information Center Coordinator.

I agree to submit historical Resource Records and Reports based in part on the CHRIS information released under this Access Agreement to the Information Center within sixty (60) calendar days of completion.

I agree to pay for CHRIS services provided under this Access Agreement within sixty (60) calendar days of receipt of billing.

I understand that failure to comply with this Access Agreement shall be grounds for denial of access to CHRIS Information.

*** PLEASE SIGN AND RETURN THIS FORM. SEE ATTACHED INVOICE ***

Print Name: Donna Garaventa Date: 9/8/2009

Signature: Donna M. Garaventa for D

Affiliation: Basin Research Associates, Inc.

Address: 1933 Davis Street, Suite 210

City/State/Zip: San Leandro, CA 94577-1258

Billing Address (if different than above):

Telephone: (510) 430-8441 Email:

Purpose of Access: Project Planning

Reference (project name or number): SOKALE – Hacienda and Deep Gulch Restoration Plan, Almaden Quicksilver County Park

County: Santa Clara

USGS 7.5′ Quad: Santa Teresa Hills

Santa Clara County
HERITAGE RESOURCE INVENTORY

COMPILED AND EDITED BY

PAULINE PACE
SANTA CLARA COUNTY
HISTORICAL HERITAGE COMMISSIONER

cartography and cover by

BERNICE ARNERICH

Forword and Explanation

MARDI GUALTIERI
Santa Clara County Historical Heritage Commissioner

San Jose, California

October, 1975

floor at ground level. The walls are thick masonry construction of local serpentine rock and primitive lime mortar. Appears to have been built in early 1840s. The added second story walls are brick and seem to be about 1880. County owned.

4. Orvis Stevens House and smaller original House, East Emado Lane, Coyote--The small original house is older than 1867 when Orvis Stevens bought the land. The main house was built in 1882. It is a large two story frame house with 15 rooms.

5. Coyote Ranch, South of Metcalf Road, Coyote--This two story frame house was built about 1873. It has a porch that goes halfway around the house on the ground floor; has lovely wood in interior and a beautiful fireplace. Land was originally owner by William Fisher. Captain Fremont wintered here in 1846. He stayed until the middle of February using the time to purchase horses, obtain supplies and thoroughly refit his party. (This was shortly before the Mexican War). The house was built by Ficaro Fisher, son of William.

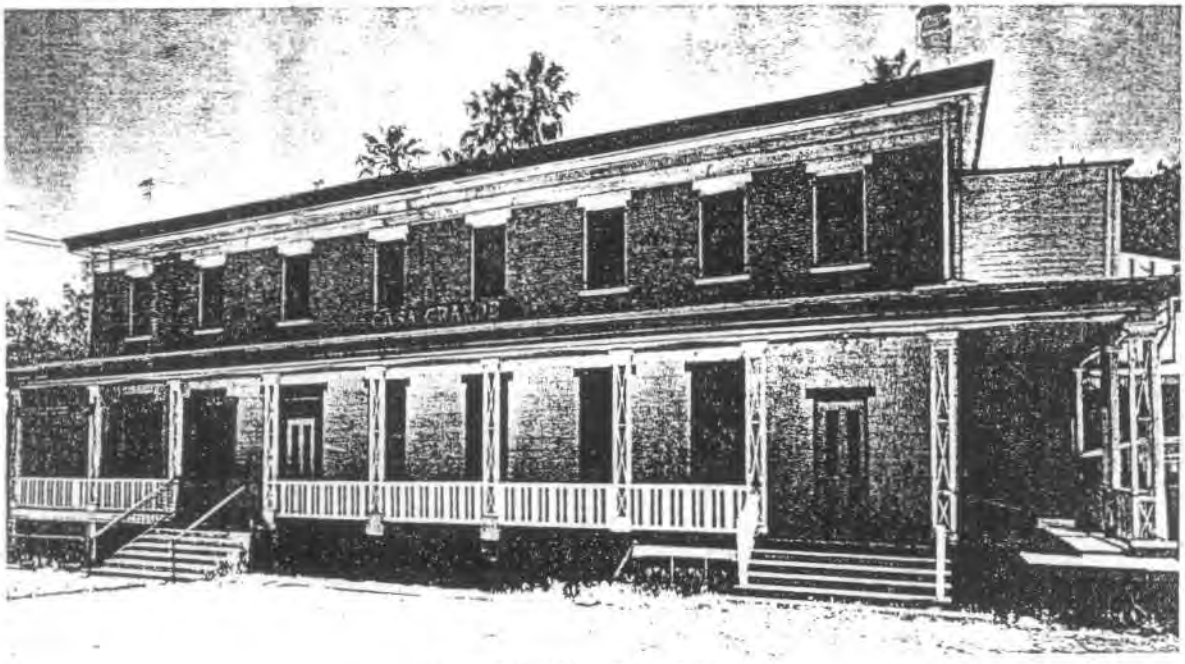
6. Tom Sugishita House, 1 driveway south of Emado Lane, Coyote--This small frame house now covered with imitation brick and with an addition on the south, was built in 1863. It is said to be the oldest remaining house in Coyote. Square nails and redwood lumber were used in its construction.

NEW ALMADEN *

1. Pfeiffer House, Graystone Lane, Almaden--Jacob Pfeiffer brought his family to the area in 1875. He went to work in "Goodrich's Freestone Quarry" and soon took it over, leasing it until his death in 1905. He and his sons mined the gray stone, cutting it by hand, and hauling it by wagon and later by rail all over California. Agnews State Hospital, Stanford University, San Jose Art Museum, Knox-Goodrich Building, and Santa Clara County's Old Hall of Records were built of stone from this quarry.

2. Hacienda Hotel, 21747 Bertram Road, Almaden--Almaden Quicksilver Mining Company originally owned the hotel and used it for unmarried mine employees. Later it was converted into a small hotel to accomodate visitors to the mining settlement. Standing vacant for many years, it has been remodeled into a restaurant. The original hotel burned down; new building constructed by the mining company in the 1870's.

3. Casa Grande, Almaden Road, New Almaden--This building was built in 1854 as a residence for managers of New Almaden Quicksilver Mine. It was used for this purpose until the 1920's. Among its occupants was the Director General Henry W. Halleck.



Casa Grande, New Almaden

4.**New Almaden Quicksilver Mine, New Almaden--This mine was first worked in 1824. Between 1850 and 1917 it produced $52,299,517 worth of mercury. It was named after the Almaden Mine in Spain. Now it is the property of Santa Clara County called Almaden-Quicksilver County Park. From 1950-75 is has been a limited operation.

5. St. Anthony's Church, Bertram Road, New Almaden at Almaden Road--Built in 1900, the church has brown shingles, lancet windows and a gable-roof facade.

6. Wells Fargo Office--Now New Almaden Museum, Almaden Road, New Almaden--This building that was built in the 1850's is now the property of Mrs. Constance Perham. It contains relics from nearby quicksilver mine. (Reported to be the only private quicksilver museum in the country). It also contains Indian artifacts and plants used by California Indians. Adjacent to it is one of the few early brick houses, the Bulmore House. Bulmore was an early bookeeper for the mining company. (Also known as the Carson-Perham Adobe).

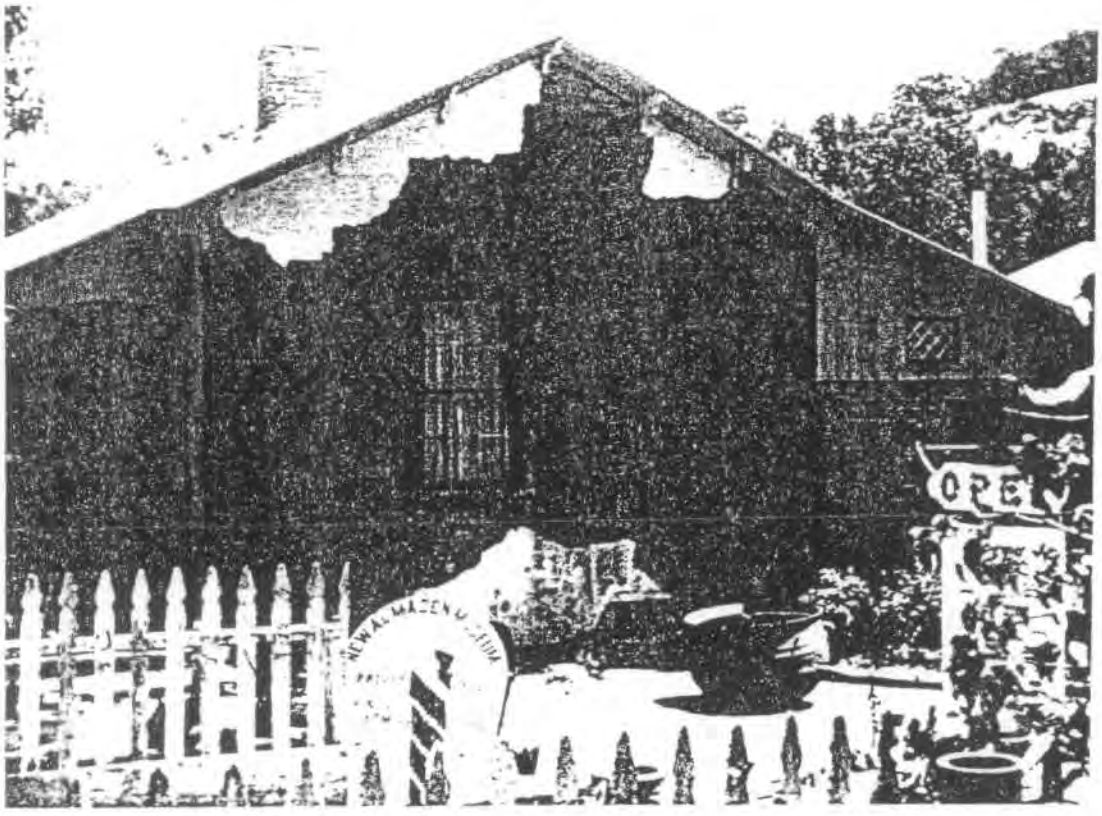
CAMPBELL

1. Ralph Hyde House, 227 E. Alice Ave, Campbell--This white shingle, bungalow style house was built in 1917. It was constructed in the dry yard of the cannery.

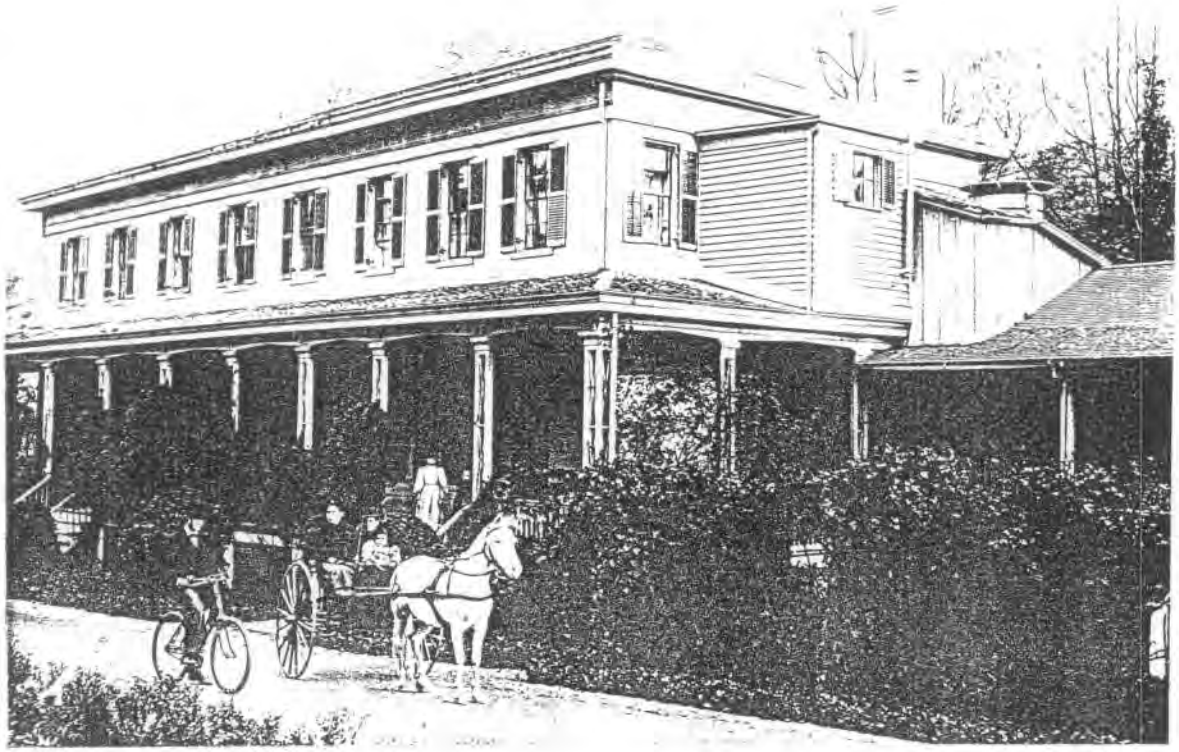
2. John Henry Campbell House, 91 South Second, Campbell--This is the original home built by John Henry Campbell in the 1880's. He was the son of Benjamin Campbell, founder of the town of Campbell. The two palm trees in front were planted by the Campbells. This white redwood structure has been completely restored.

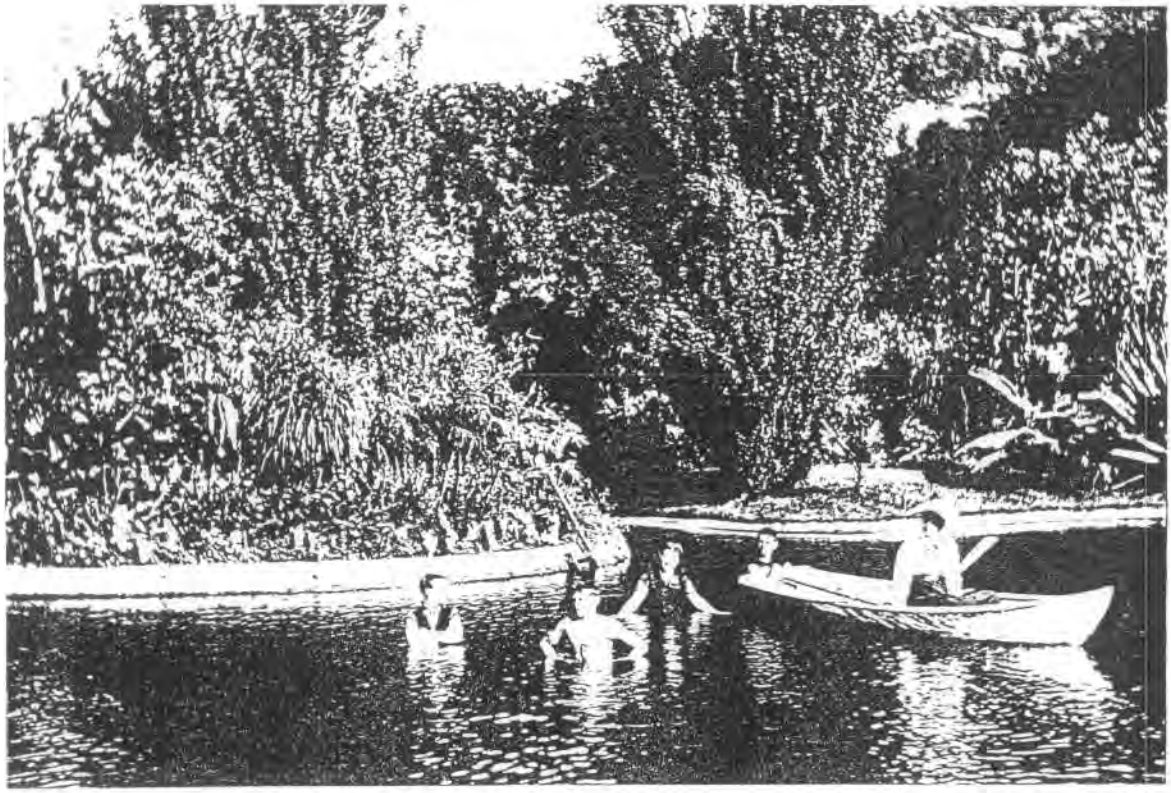
3. Original Ainsley House, 112 N. Second, Campbell--This 3800 square foot house was the original home of John Ainsley, and was first located on the property of the cannery he owned at Harrison Ave by the railroad. In 1912 the home was moved in 3 parts to its present site.

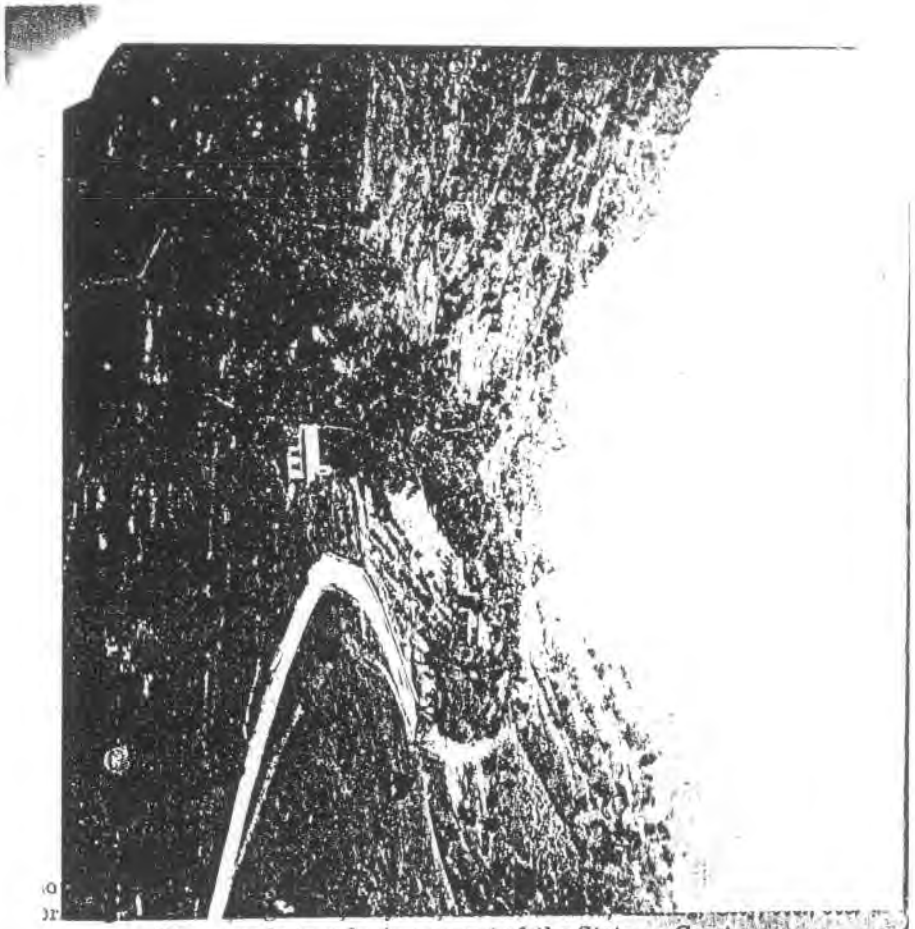
4. Farley Building, 365 E. Campbell, Campbell--This brick building was constructed in 1894. It was originally the Bank of Camp bell incorporated in 1896. It was a bank for 10 years, and then became an office building.



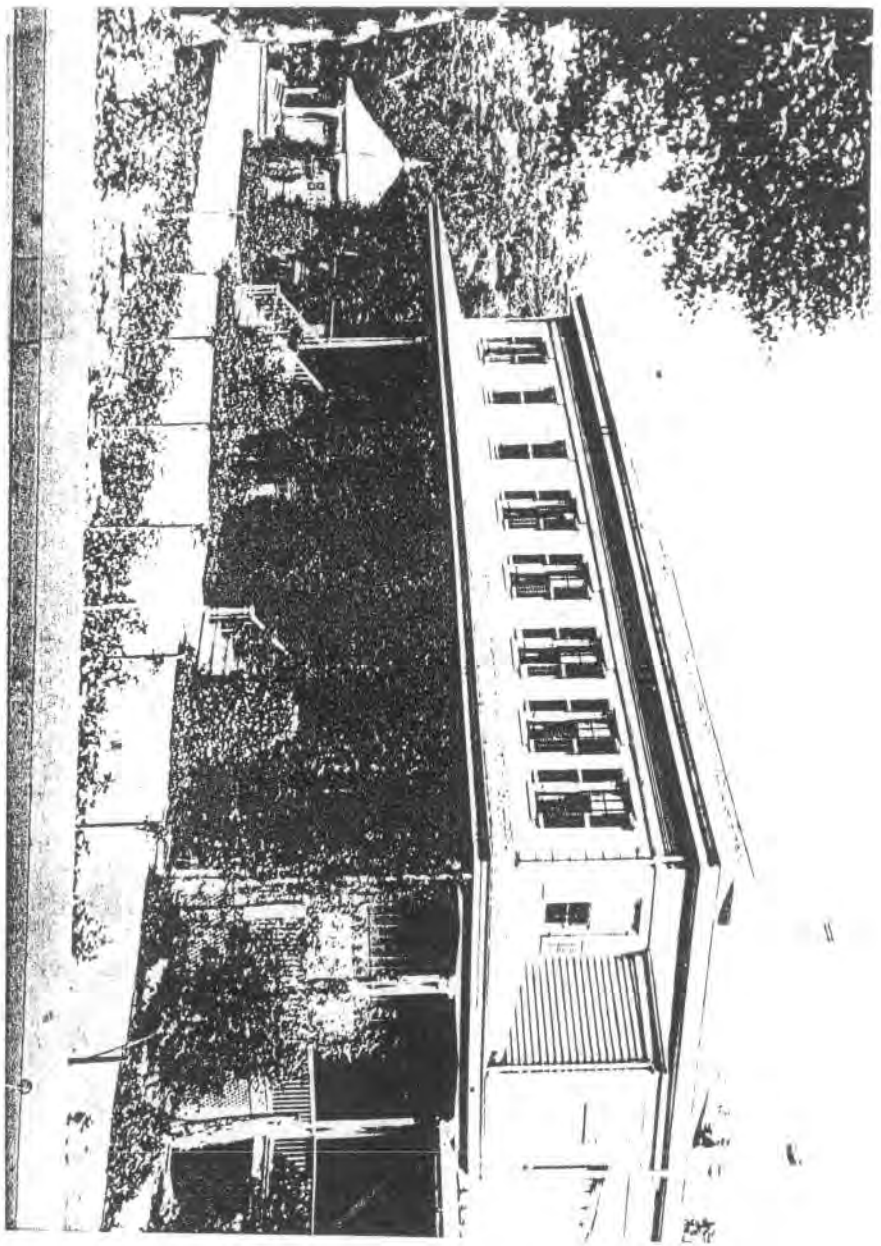
Carson-Perham Adobe, New Almaden



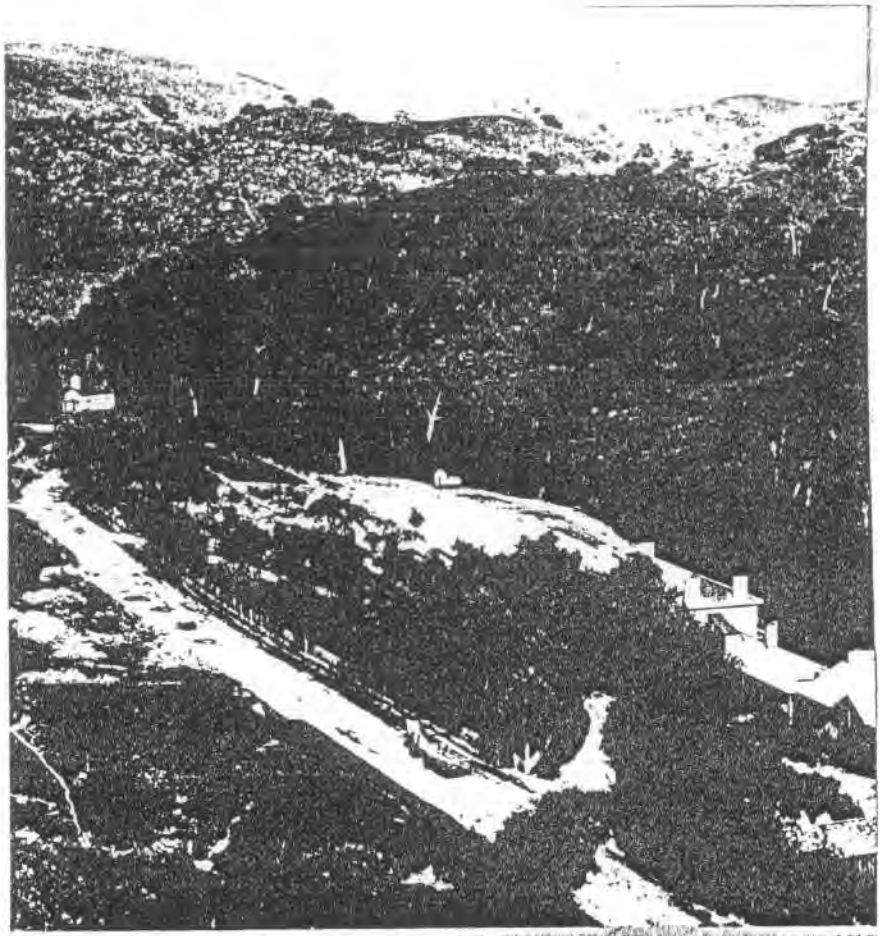




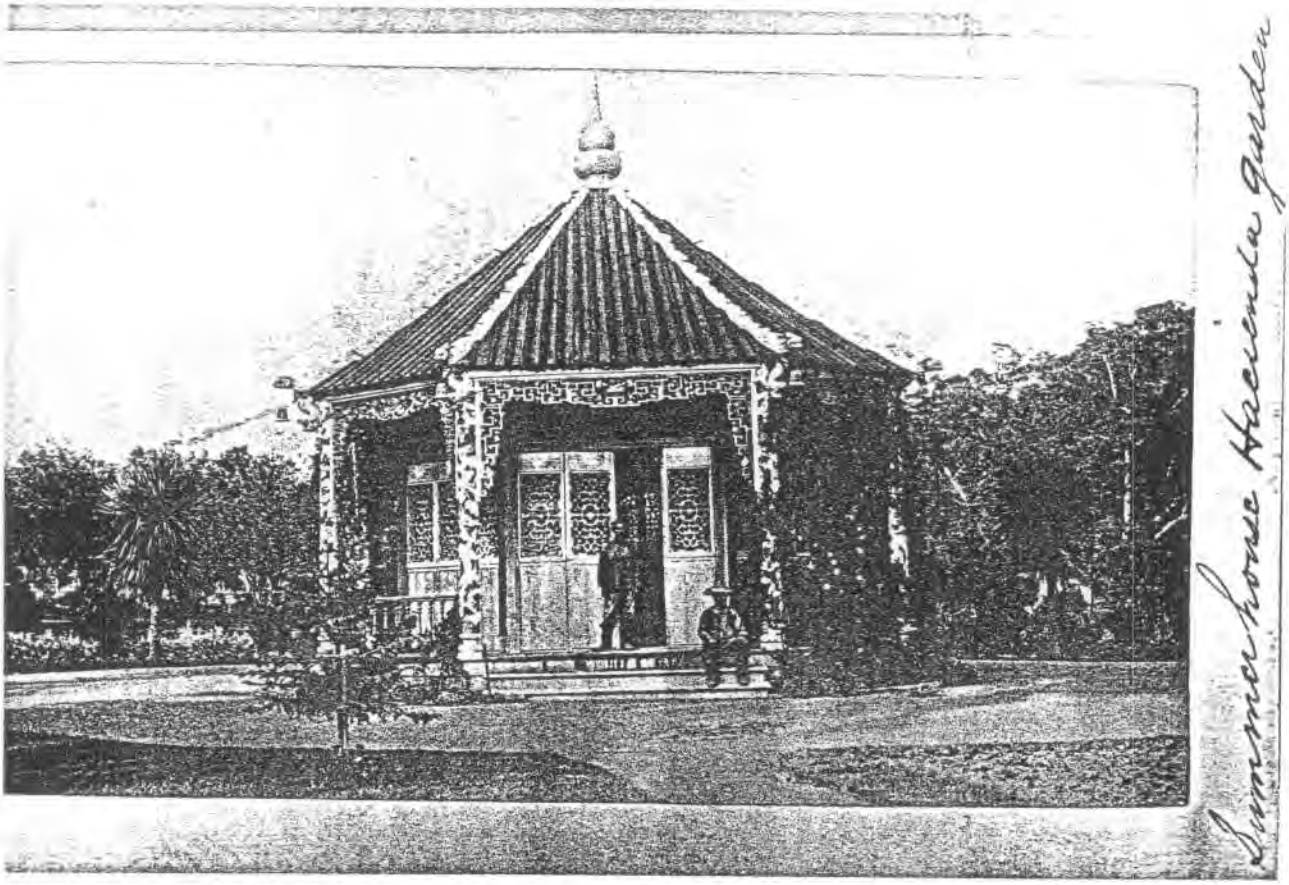
Views made to order in any part of the State or Coast.



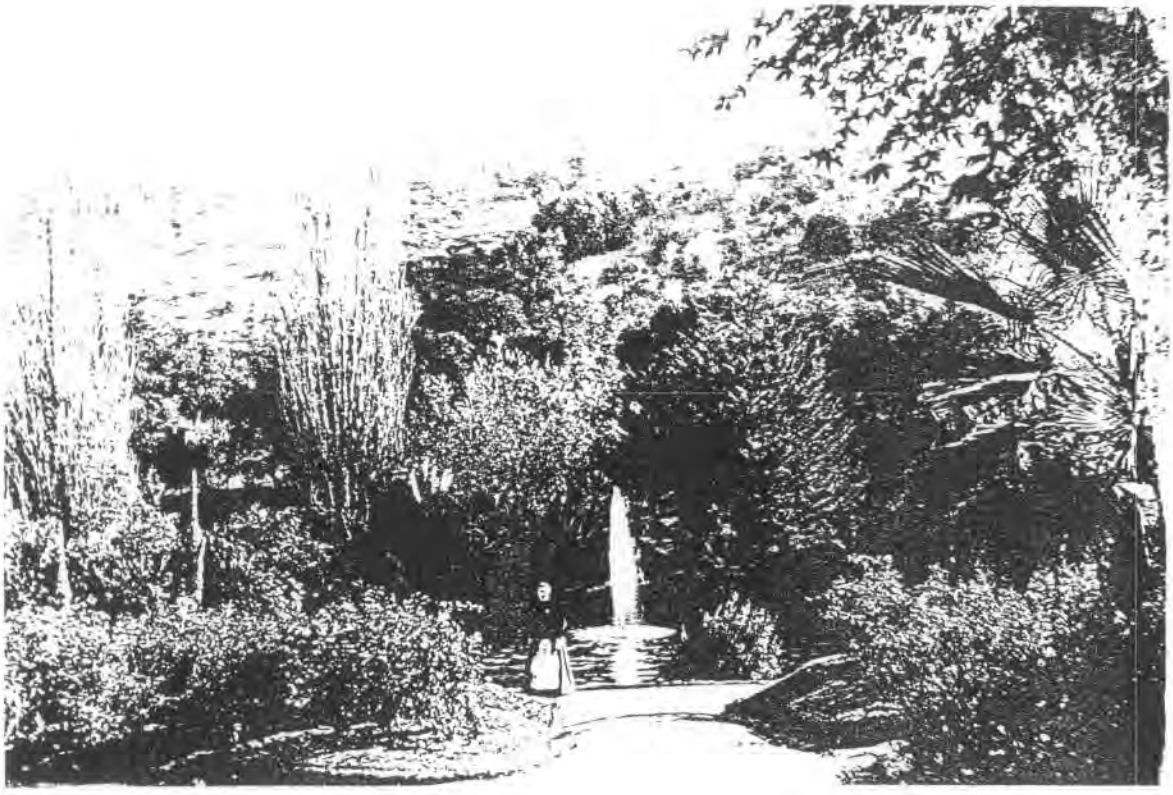
The Pagoda.

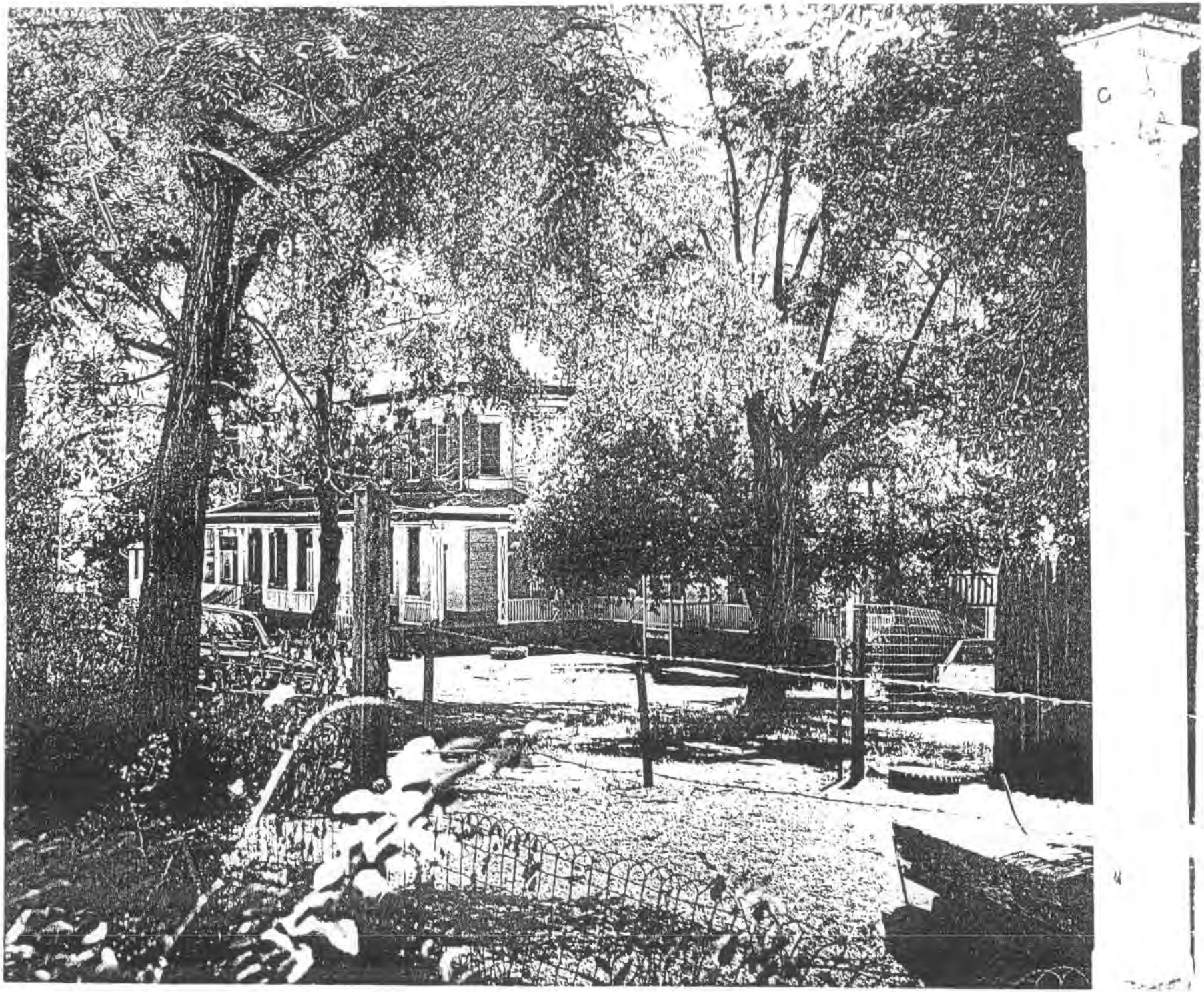


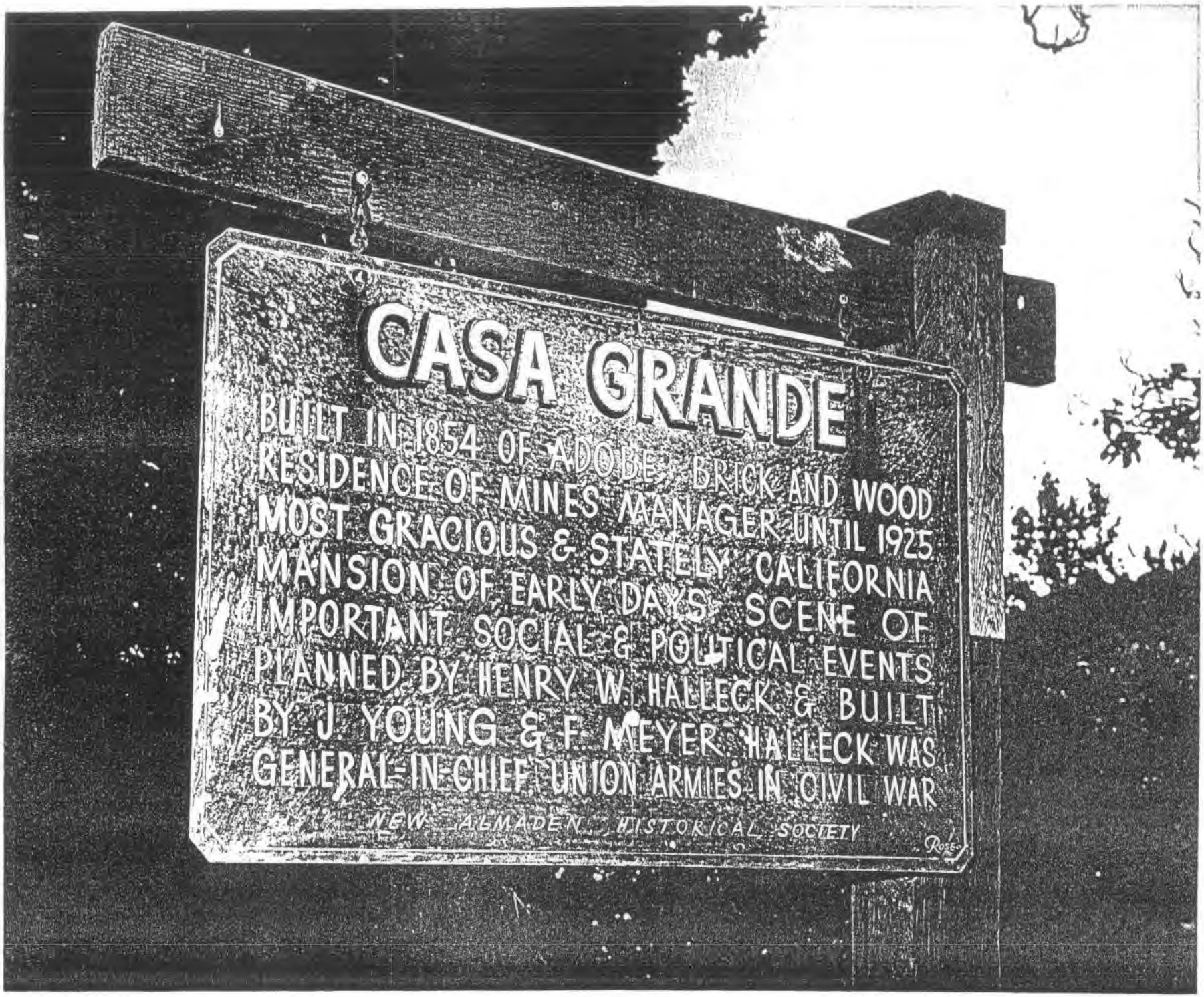
the Hacienda, New Almaden.



Summer house, Hacienda garden






CASA GRANDE
BUILT IN 1854 OF ADOBE, BRICK AND WOOD
RESIDENCE OF MINES MANAGER UNTIL 1925
MOST GRACIOUS & STATELY CALIFORNIA
MANSION OF EARLY DAYS. SCENE OF
IMPORTANT SOCIAL & POLTICAL EVENTS
PLANNED BY HENRY W. HALLECK & BUILT
BY J. YOUNG & F. MEYER. HALLECK WAS
GENERAL-IN-CHIEF UNION ARMIES IN CIVIL WAR
NEW ALMADEN HISTORICAL SOCIETY
Rose

Appendix D:
Geology and Soils Report
Cotton, Shires and Associates

COTTON, SHIRES AND ASSOCIATES, INC.
CONSULTING ENGINEERS AND GEOLOGISTS

May 12, 2010
G0079

TO: Jana Sokale
Environmental Planning
7788 Hazelnut Drive
Newark, California 94560

SUBJECT: **Initial Study - Geology and Soils**
RE: Hacienda/Deep Gulch Project
Almaden Quicksilver County Park

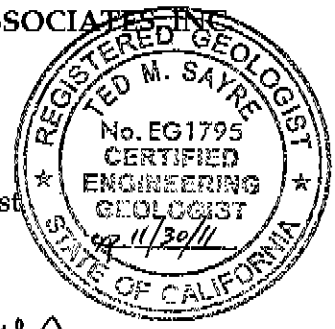
In accordance with our proposal for geotechnical services (dated July 16, 2009), we have prepared the attached Geologic and Soils section for the Initial Study.

Some geology and geotechnical aspects of the project have proved challenging. We have included suggested mitigation measures to reduce project impacts to less than significant. Please contact us with any questions or if additional geotechnical assistance is needed. It has been a pleasure working with you on this project.

Our services have been limited to review of the provided project documents, technical maps and reports from our office files, and a reconnaissance of the property. Our opinions and conclusions are made in accordance with generally accepted principles and practices of the geotechnical profession. This warranty is in lieu of all other warranties, either expressed or implied.

Respectfully submitted,

COTTON, SHIRES AND ASSOCIATES, INC.



Ted Sayre
Principal Engineering Geologist
CEG 1795

David T. Schrier
Principal Geotechnical Engineer
GE 2334

TS:DTS:kd

Attachment: Geology and Soils Section of Initial Study

Northern California Office
330 Village Lane
Los Gatos, CA 95030-7218
(408) 354-5542 • Fax (408) 354-1852

Central California Office
6417 Dogtown Road
San Andreas, CA 95249-9640
(209) 736-4252 • Fax (209) 736-1212

www.cottonshires.com

	religious or sacred uses within the potential impact area?						
6.	Disturb potential archaeological resources?	☐	☐	☐	☐	☐	3,10d,41,42
7.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☐	☐	2,3,4,40,41

DISCUSSION:

MITIGATION:

F. ENERGY

WOULD THE PROJECT	IMPACT					SOURCE
	NO	YES				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Use non-renewable resources in large quantities or in a wasteful manner?	☐	☐	☐	☐	☐	1, 3, 5
2. Involve the removal of vegetation capable of providing summer shade to a building or significantly affect solar access to adjacent property?	☐	☐	☐	☐	☐	2, 3

DISCUSSION:

MITIGATION:

G. GEOLOGY AND SOILS

WOULD THE PROJECT:	IMPACT					SOURCE
	NO	YES				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	
1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of	☑	☐	☐	☐	☐	6, 17, 43

	a known fault? Refer to Division of Mines and Geology Special Publication 42.						
	ii) Strong seismic ground shaking?	☐	☑	☐	☐	☐	6, 17,18b
	iii) Seismic-related ground failure, including liquefaction?	☐	☑	☐	☐	☐	6, 17, 18b
	iv) Landslides?	☐	☐	☑	☐	☐	6, 17, 118b
2.	Result in substantial soil erosion or siltation or the loss of topsoil?	☐	☐	☑	☐	☐	6, 2, 3
3.	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, collapse, shrink/ swell potential, soil creep or serve erosion?	☐	☐	☑	☐	☐	2, 3, 17, 23, 24, 42
4.	Be located on expansive soil, as defined in the report, *Solls of Santa Clara County* or California Building Code, creating substantial risks to life or property?	☐	☑	☐	☐	☐	14, 20, 21, 23, 24, 48
5.	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☑	☐	☐	☐	☐	3,6, 23,24,
6.	Cause substantial compaction or over-covering of soil either on-site or off-site?	☐	☑	☐	☐	☐	3, 6
7.	Cause substantial change in topography or unstable soil conditions from excavation, grading, or fill?	☐	☐	☑	☐	☐	2, 3, 6, 42
8.	Be located in an area designated as having a potential for major geological hazard?	☐	☑	☐	☐	☐	9b,10c,11a 12a,17,18
9.	Be located on, or adjacent to a known earthquake fault?	☑	☐	☐	☐	☐	9c,10c,11a
10.	Be located in a Geologic Study Zone?	☐	☐	☑	☐	☐	9c,11a
11.	Involve construction of a building, road or septic system on a slope of:	☑	☐	☐	☐	☐	9b,10c,11a 12a,17,18
	a. 30% or greater?	☑	☐	☐	☐	☐	1,3,10j,11c
	b. 20% to 30%?	☑	☐	☐	☐	☐	1,3,10j,11c
	c. 10% to 20%?	☑	☐	☐	☐	☐	1,3,10j,11c

DISCUSSION:

MITIGATION:

H. GREENHOUSE GAS EMISSIONS						
	IMPACT					SOURCE
WOULD THE PROJECT	NO	YES				
	No Impact	Less Than Significant Impact	Less Than Significant With Mitigation Incorporated	Potentially Significant Impact	Cumulative	

Geology

The geologic units mapped in the area of the proposed project include mélange, chert, and basaltic volcanic rocks of the Franciscan Complex (R.J. McLaughlin, et al., 2001). In addition, a mapped Quaternary Landslide (Qls) of approximately 2,300 feet in length and 1,000 feet in width is located on the southeastern bank of Alamitos Creek and upslope areas of Upper Hacienda Calcine deposits. The size and geomorphology of this landslide suggests a depth of landsliding exceeding 60 feet.

Seismicity

Active faults have not been mapped across the project area and the site is not located within the State's Special Fault Study Zone. Consequently, the risk of primary fault rupture through the project area is low. State designated active Type A and B faults mapped near the project include the Monta Vista-Shannon fault (1.4 miles northwest), Sargent fault (4.2 miles southwest) and San Andreas fault (5.9 miles southwest). Very strong seismic ground shaking should be anticipated at the project site in response to a major local earthquake.

Seismic ground shaking could trigger potential liquefaction within young alluvial deposits located adjacent to Alamitos Creek. Liquefaction could result in sand boils, lateral spreading, and settlement. Impacts associated with possible liquefaction should not impact the intent of the project (removal of exposed calcine material).

Soils

Soils in the project vicinity generally consist of gravelly to sandy silt largely representing colluvial and alluvial deposits. Site soils have a moderate to high potential for erosion when unvegetated. Calcine materials are typically associated with artificial fill (mining spoil deposits). In addition, calcine materials have been mixed with local soils by water transport and by gravity mixing on slopes with colluvial soil deposits. Calcine deposits identified for removal are typically located near active drainage channels or on steep embankments near drainage channels. Calcine removal in some areas will result in exposure of underlying steep natural slopes with the potential for erosion.

Discussion

1) **Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

   i) **Rupture of a known earthquake fault, as delineated on the most recent special studies Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?**
   No active faults are known to pass through the project area, and the proposed project is not located within a State of California designated Fault Special Study Zone. Consequently, fault rupture through the project area is not likely to occur.

Implementation of the proposed project would not result in the construction of any structures for human habitation, nor would it significantly increase long-term human use of the project area. Consequently, there is no anticipated impact on humans or structures from fault rupture.

ii) Strong seismic ground shaking?

Although no known active faults have been identified within the project area, very strong ground shaking can be expected to occur at the project area during major earthquakes in the region. Impacts to the project resulting from anticipated seismic ground shaking would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

The Upper and Lower Hacienda project areas and planned calcine removals beneath Alamitos Creek Bridge are located within a zone of potential liquefaction as delineated on the Santa Teresa Hills Quadrangle Hazard Zone Map prepared by the California Geologic Survey (CGS, 2003). The affects of potential liquefaction at or in the immediate vicinity of the project site could include sand boils, lateral spreading, and settlement. The proposed project should not increase potential hazards from liquefaction and planned calcine removal is unlikely to be impacted by potential liquefaction. Implementation of the proposed project would not result in the construction of any structures for human habitation, nor would it significantly increase long-term human use of the project area. Therefore, the potential impacts on humans from liquefaction (as a result of the project) are less than significant.

iv) Landslides?

An existing mapped Quaternary Landslide (Qls) underlies the Upper Hacienda calcine removal area (R. F. McLaughlin, et. al., 2001). This landslide is over 2,000 feet in length and project calcine removal in the Upper Hacienda area is not of sufficient volume to result in potential reactivation of the massive Qls deposit. Calcine removal in this vicinity is also located near the base of a steep slope. Pacific Geotechnical Engineering (Geotechnical Investigation of January 14, 2010) has concluded that native earth materials are present beneath the calcine deposits planned for removal, and that the project is not anticipated to have a significant impact on the stability of native slopes. Pacific Geotechnical Engineering has recommended that final slopes be established in accordance with the recommendations of their report, and that they provide geotechnical construction inspection services to verify anticipated earth materials, and to confirm the adequacy of presented recommendations.

Project calcine removal in areas of steep slopes has the potential to result in adverse slope stability impacts. Current project design recommendations prepared by Pacific Geotechnical Engineering are sufficient to address potential slope instability impacts. Appropriate geotechnical inspection and preparation of supplemental design recommendations (if needed) during project grading would

reduce the impact to less than significant. The following geotechnical construction inspection services are an integral part of the project:

MITIGATION

- Geotechnical inspection of all final slopes of 2:1 (horizontal:vertical) or steeper in areas of calcine removal. Exposed slopes should be inspected by the Geotechnical Consultant prior to application of erosion control measures.
- Full time geotechnical inspection during calcine removal in the Upper Hacienda area (this removal site is anticipated to be underlain by Qls materials).

2) **Would the project result in substantial soil erosion or the loss of topsoil?**
Construction would involve substantial ground disturbing activities, including excavation and removal of calcine deposits, establishment of temporary channel crossings along Alamitos Creek, and other temporary access routes for equipment. This process could expose unvegetated soils, which would accelerate erosion and sedimentation. Calcine removal at the Upper Hacienda and Alamitas Creek areas could expose native slopes to scour during high flow or flood events. Areas disturbed during the construction phase would be addressed by hydroseeding, natural fiber netting/erosion control blanket installation on steeper slopes, and replacement container planting. Disturbed slope areas within the limits of seasonal flooding would be addressed by placement of rip rap armoring to mitigate erosion. The existing drainage pipe discharging above the Upper Hacienda area is to be extended or the flow path below the pipe outlet is to be armored to prevent erosion of steep slopes in this vicinity. All erosion protection mitigation measures are to be completed prior to initiation of seasonal rainfall (October 15).

Construction of the proposed project could accelerate erosion, and would be potentially significant. However, with the implementation of the following BMPs, the impact would be reduced to less than significant.

MITIGATION

- Stormwater Pollution Prevention Plan
- Surface Erosion Control Treatments (Hydroseeding and/or Fiber Netting)
- Replacement Planting
- Placement of rip-rap (rock slope protection) over calcine removal areas beneath Alamitos bridge
- Placement of rip-rap at the toe of slopes within the Upper Hacienda and Alamitos Creek removal areas to protect from scour under high flow conditions
- Drainage control improvements to mitigate the potential for erosion resulting from culvert discharge above the Upper Hacienda area

3) **Would the project 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, collapse, shrink/swell potential, soil creep, or severe erosion?**
As indicated above, the project calcine removal includes areas that have the potential for liquefaction, lateral spreading, erosion, and slope instability. The project is not anticipated to result in the aggravation of these existing conditions. With the noted mitigation measures planned to address potential erosion and landsliding for the above Items 1 and 2, the project would have less than significant impacts.

4) **Would the project be located on expansive soil, as defined in the report *Soils of Santa Clara County* or California Building Code, creating substantial risks to life or property?**
The project area may include expansive soils. However, no significant new structures are proposed for construction that could be damaged. The project would not create substantial risks related to expansive soils.

5) **Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?**
The proposed project would not involve the construction or operation of septic tanks or other waste disposal systems. Therefore, the proposed project would have no impacts related to wastewater disposal.

6) **Would the project cause substantial compaction of over-covering of soil either on-site or off-site?**
The proposed project includes removal of calcine and placement of this material in the designated San Francisco Overcut area that was previously utilized for the Jacques Gulch Restoration Project. The project would not result in substantial compaction or over-covering of on-site soil.

7) **Would the project cause substantial change in topography or unstable soil conditions from excavation, grading, or fill?**
The project includes isolated areas of change in topography. These changes result from removal of artificial fill material and restoration of grades that match with adjoining native slopes. Substantial grading (beyond calcine removal) is not part of the project and negative impacts to native slopes are not anticipated.

8) **Would the project be located in an area designated as having a potential for major geologic hazard?**
The channel of Alamitos Creek and immediately adjoining flood plains are located within State mapped liquefaction hazard zones. Moderate to steep slopes located on both sides of the creek corridor are uniformly located within State mapped earthquake-induced landslide hazard zones (Santa Teresa Hills Quadrangle Hazard Zone Map, CGS 2003). The proposed project with currently defined mitigation

measures would not result in aggravation of these existing conditions, or increased exposure of structures or the public to these potential hazards.

9) **Would the project be located on or adjacent to a known earthquake fault?**
The closest active Type A or B faults are located approximately 1.4 to 5.9 miles from the site. Consequently, the potential for fault rupture across the project site is low.

10) **Would the project be located in a Geologic Study Zone?**
The site is not located within the State's Special Fault Study Zone. Comments about the local mapped liquefaction and earthquake-induced landslide hazard zones are addressed in Item 8 above.

11) **Would the project involve construction of building, road or septic system on a slope?**
The project does not include construction of a building, road, or septic system.

Appendix E:
Santa Clara Valley Water District Stream Maintenance Program

BEST MANAGEMENT PRACTICES
UNDER THE STREAM MAINTENANCE PROGRAM

Revised: May 17, 2002

Introduction

The District will process all routine stream maintenance activities according to the process and protocols established in Chapter 3 of the Stream Maintenance Program (SMP). The Resource Protection Protocol contained therein includes a step in the annual review process to identify appropriate Best Management Practices (BMPs) for the design and implementation of an activity. (See SMP Figure 3-1.) BMPs are methods that protect environmental quality or reduce environmental impacts from stream maintenance activities. In order to be effective, BMPs must be properly selected and implemented, applied consistently, and their effectiveness evaluated onsite to assure that they are meeting the required objective. The District's Geographic Information System (GIS) will be developed and enhanced to facilitate the stream maintenance project environmental review, processing, and implementation process, particularly for determining potential presence of sensitive species.

Not every BMP is designed to be used in every situation. Since BMPs are meant to be specific to particular activities and resources, the selection and implementation of an appropriate set of BMPs for each project is a key element to their effectiveness. Because of variation in District facilities and the tendency of individual site conditions to change over time, conditions under which each BMP must be applied cannot be strictly prescribed. The staff involved in design and implementation of the maintenance activity must retain some flexibility to determine which BMPs should be implemented according to design objectives and site conditions.

Selection, implementation, monitoring, and improvement of BMPs are all part of the program. Following is a brief discussion of how each of these activities will be applied under the Stream Maintenance Program to assure that resource protection goals are met.

Selection of Best Management Practices

The District will use the most current BMPs when planning or designing routine stream maintenance activities. Work within the Stream Maintenance Program can be divided into two general categories. Regularly scheduled work (most vegetation management, trash pick-up, etc.) is work that occurs in the same place and the same manner with a predictable frequency. Other routine work is not undertaken on a regular annual schedule, but is done as the need arises. This work (sediment removal, bank protection) has a less predictable frequency and location. This work is identified through field surveys, prioritized, and then a work-plan for that particular job is developed. Selection of BMPs will be managed differently for these two types of work.

Selection of BMPs for regularly scheduled work will be done at the beginning of each season (coincides with activity type). Aquatic herbicide application, for example occurs in late summer/early fall. At the beginning of the season, technical staff will review all of the work areas and select appropriate BMPs to respond to site conditions. The BMPs will be incorporated into the work order. If there are questions regarding specific environmental issues, appropriate staff will be consulted and their input will be incorporated.

For work not on a regular schedule, BMP selection is called out in the Resource Protection Protocol. The watershed engineer will, as part of the project design criteria, select BMPs that are appropriate to the particular job and incorporate them into the design package. The BMPs will be

called out in the design documents and incorporated into the work order. If there are questions regarding specific environmental issues, appropriate staff will be consulted and their input will be incorporated.

Implementation of Best Management Practices

Best Management Practices will be implemented by lead staff assigned to a specific project. For most projects this would be the Senior Maintenance Worker. The BMPs will be implemented as they are called out in the work order. If site conditions or other factors require a BMP to be changed or make it no longer relevant to the project, the assigned lead on the job will consult with appropriate staff (watershed engineer, qualified environmental staff, etc.) and get authorization to modify the BMPs. Modifications to BMPs will be noted as an addendum to the work order.

Monitoring of Best Management Practices

Monitoring of BMPs will be carried out as part of the work and assigned to the lead staff on a particular project as a general rule. Exceptions would be where the individual BMP requires a particular field of expertise to carry out the monitoring (i.e. water quality sampling, fisheries monitoring). In that instance, qualified staff would be included in the work order as a resource for BMP implementation.

Changes in Best Management Practices

The Best Management Practices section of the Stream Maintenance Program is intended to be a living document and to change over the life of the program. The annual Resource Protection Protocol in Chapter 3 of the Stream Maintenance Program includes a “lessons learned” step to evaluate and improve all aspects of the maintenance program, including the BMPs. As BMPs are used and ways are seen to improve their effectiveness, they will be modified to reflect the changes. As new BMPs are found or technology improves, the program will incorporate them to further protect resources.

Reporting on Best Management Practices

Reporting on modification to BMPs made as a result of the “lessons learned” process will be done as part of the normal reporting practices called out in the Stream Maintenance Program.

Supporting Documents

The BMPs are supported by other District documents that provide more specificity for maintenance project design and implementation.

These documents are attached to the SMP:

Appendix C. Nesting Migratory Bird Procedure
Appendix D. Dryback/Fish Relocation Protocol
Appendix E. Programmatic Impact Assessment and Mitigation for Routine Bank Protection Activities

These documents are available from the District:

District Channel Maintenance Guidelines
Bay Area Stormwater Management Agency Association BMPs (2001)

BMP List

The list of BMPs gives a BMP identification number which is used for reference in the SMP and EIR, followed by a short BMP Title, a summary Description of the measure, and the Activity to which the measure will generally apply. The abbreviation for activity is:

General	All Routine Maintenance [in activity column, "all" = "general"]
SR	Sediment Removal
VM	Vegetation Management
BP	Bank Protection
MM	Minor Maintenance

GENERAL

BMP	Title	Description
0.1	Instream Work Window	In-stream sediment removal and bank protection work shall be from June 15 to October 30th or the first significant rainfall after October 15, whichever occurs first. (Significant rainfall is defined as 0.5 inch of rain in a 24-hour period). Once significant rainfall occurs, all diversion structures shall be removed and the project site winterized to prevent erosion. No new instream sediment removal and bank protection work shall start after October 15th of any year, and projects started before October 15, shall be at least 50% complete by October 15th to continue work until October 30th or first significant rainfall. Minor activities will be done in-channel at any time of year if the activity is necessary to provide immediate flood protection. These activities include removal of trash or debris that will impede flows, trash rack cleaning, and pier nose cleaning. These activities will be done in a manner that is sensitive to protection of aquatic resources. Removal of in-stream vegetation by hand can be undertaken between July 1 and March 1.
0.2	Minor Work	No reporting or mitigation will be required for minor work activities which remove less than 0.01 acres of wetland and woody riparian vegetation. An equivalent area of mitigation will be provided for annual amounts greater than 0.2 acres of wetland and riparian vegetation removed by minor work activities. Individual minor work activities which affect more than 0.05 acres of wetland and woody riparian vegetation will require separate approval and mitigation. These limitations exclude those minor work activities which occur in the same area as major sediment removal and vegetation management areas included in the program as shown in Figure II-5 of the Final EIR.
1.6	Use of Wheel and Track Mounted Vehicles in Stream Bottoms	District personnel shall use the appropriate equipment for the job that minimizes disturbance to the stream bottom. Appropriately-tired vehicles, either tracked or wheeled, shall be used depending on the situation: 1. Tracked vehicles (bulldozers, loaders) may cause scarification. 2. Wheeled vehicles may cause compaction. 3. Heavy equipment shall not operate in the live stream (see also BMP 1.3).

BMP	Title	Description
2.1	Minimize Vegetation Removal	Vegetation control and removal in channels, on streambanks, and along levees and maintenance roads shall be limited to removal necessary for facility inspection purposes, removal that is necessary to meet regulatory requirements, removal that is required to comply with fire codes, and removal that is required to meet capacity requirements per Maintenance Guidelines. 1. The District has developed detailed Maintenance Guidelines to address the ongoing need for maintenance of vegetation or sediment in modified streams and channels. The guidelines are engineering-based and outline the level of maintenance required to ensure adequate flood protection capacity is maintained in the streams and canals within the District's jurisdiction. 2. Decisions regarding the necessity of routine sediment removal and vegetation management activities (to restore channel flow capacities) shall be made following the thresholds established in the guidelines. This information shall be used to formulate in part an annual routine maintenance work plan.

BMP	Title	Description
3.1	Minimize Impacts to Special-status Plants and Animals Via Site Assessments and Avoidance Measures	To avoid and minimize impacts to special-status plant and wildlife species, the annual work program shall be reviewed by biological staff, and each site where special status species have been found, have been known to exist in the recent past, or are likely to occur because suitable habitat exists, be visited by a biologist or qualified personnel under the direction of a biologist. For animal species the site surveys shall be no more than 30 days prior to the start of construction, to determine presence of special-status species. For mobile species (e.g. red-legged frog, western pond turtle, least Bell's vireo, steelhead), which may occur on-site during the work period, surveys be conducted as close to the start of work as is practical (no more than 7 days prior to start of work). For plant species, the surveys be conducted during the appropriate time of the year to determine presence. Information regarding the presence of special-status species on a particular worksite shall be based on the District's GIS database and professional experience of qualified staff. 1. The District shall use its GIS database to identify potential special-status plant and animal habitats. All projects falling within sensitive habitats shall be discussed with biological staff to identify avoidance and minimization measures. 2. All populations detected during the surveys shall be assessed and mapped. This information shall be entered into the District's GIS system for future management purpose. 3. Avoidance of impacts to serpentine areas or other sensitive plant habitats may include storing removed sediment offsite, limiting the method of vegetation removal to manual methods, and limiting the operation of maintenance equipment to established roads whenever possible. 4. Vegetation management in sensitive plant areas shall use only hand control or backpack herbicide application by operators trained to identify and avoid the species to be protected. 5. If sensitive animals such as western pond turtles or California red-legged frogs are found, a qualified biologist will remove them to suitable habitat outside of the project limits. Moving animals will be consistent with applicable Fish and Wildlife Service and Fish and Game permits. 6. If maintenance activities are scheduled in the vicinity of extant populations, qualified biological personnel shall clearly identify the populations on site and stake or flag a buffer zone around the population in which activities are to be avoided. 7. The results of all sensitive species surveys shall be reported to the Fish and Wildlife Service, National Marine Fisheries Service and the California Department of Fish and Game in an annual report. All surveys will be reported to the California Natural Diversity Database. 8. The District shall develop and distribute informational pamphlets entitled "Sensitive Plants, Wildlife, and Fish at your Worksite." These pamphlets are designed to inform staff about sensitive species and environmental protocols and procedures.

BMP	Title	Description
		9. If sensitive species are found on the site during pre-construction surveys, then the project biologist shall conduct additional monitoring of the work site during construction.
3.2	Minimize Impacts to Nesting Birds Via Site Assessments and Avoidance Measures	District personnel shall conduct SMP work in a manner consistent with the protocols established by the most current version of the District's Nesting Migratory Bird Procedure: 1. Project areas shall be checked by a qualified biologist for nesting birds prior to starting work if the work has the potential to impact nesting birds. 2. If nesting Raptors are found, a 300-foot buffer shall be established around the nest and maintained until the young have fledged. If other nesting birds are found, implementation of a project may be delayed until after nesting is completed. Work may occur if an adequate buffer, as determined by a qualified biologist, can be established between the maintenance activity and nests.
3.3	Avoid serpentine habitat	The District shall identify serpentine areas and avoid disturbance to these areas to the extent possible. 1. The District shall use its GIS database to identify serpentine areas near work areas and avoid and minimize impacts to all stands of native vegetation that may provide suitable habitat for special-status plants and invertebrates to the greatest extent possible. 2. Avoidance measures may include storing removed sediment offsite, limiting the amount of vegetation to be sprayed and removed in serpentine areas, and limiting the operation of maintenance equipment to established roads whenever possible. 3. Facilities crossing serpentine soil grasslands shall be permanently marked in the field (and in the District GIS) and shall include 100 ft. buffer zones. No upland herbicides shall be used in these marked areas. Aquatic herbicides may be used after July 1. Upland vegetation control using hand labor may occur after June 15. 4. Facilities crossing serpentine soil shrub lands and woodlands shall be surveyed by a qualified botanist. Areas supporting sensitive species shall be permanently marked in the field (and in the District GIS) and shall include 100 ft. buffer zones. No upland herbicides shall be used in these marked areas. Aquatic herbicides may be used after July 1. The botanist shall determine what area's vegetation management using hand labor may occur after June 15. Buffer zones around individual plants or populations shall be established

BMP	Title	Description
3.19	Develop a Biodiversity Monitoring Program	The District commits to developing and implementing a biodiversity monitoring program in conjunction with the focus of the program shall be on special-status species and their habitats. Monitoring results shall be incorporated into future BMP and maintenance design through the "lessons learned" process of annual review (refer to SMP Figure 3-1) so as to more effectively conserve and restore stream habitats. 1. Monitoring protocols for sensitive species shall be approved by the Fish and Wildlife Service, National Marine Fisheries Service or California Department of Fish and Game as appropriate. 2. The results of all sensitive species monitoring shall be reported to the Fish and Wildlife Service, National Marine Fisheries Service and the California Department of Fish and Game in an annual report. All surveys will be reported to the California Natural Diversity Database. 3. Monitoring shall be conducted during the appropriate time of year for each species under investigation. 4. All populations detected during the monitoring shall be assessed and mapped. This information shall be entered annually into the District's GIS system for future management purposes. 5. Sensitive species monitoring shall cover the following species: Salt Marsh Harvest Mouse - population, habitat mapping and trend; Western Snowy Plover - population, distribution and trend; California Clapper Rail - distribution and trend; Least Bell's Vireo - monitor revegetation sites and identify new sites; California Red-Legged Frog - distribution, population and trend; California Tiger Salamander - distribution, abundance and trend; Steelhead - population, distribution and trend; Chinook Salmon - population, distribution and trend; Bay Checkerspot Butterfly - population, distribution and trend; Tiburon Paintbrush, Coyote Ceanothus, Santa Clara Dudleya, Metcalf Canyon Jewelflower and Mt. Hamilton Thistle - population, distribution and trend; Raptors - nest locations; Salt Marsh Yellowthroat - distribution; Alameda Song Sparrow - distribution; Burrowing Owl - distribution, abundance and trend. 6. The figure "Fisheries present in streams within jurisdiction of the Santa Clara Valley Water District" (Figure IVB-1) shall be updated every 5 years. 7. The District shall complete the development of the biodiversity monitoring program within 1 year of the permits being issued. 8. Surveys for listed species shall be conducted by individuals authorized by the Fish and Wildlife Service and/or California Department of Fish and Game as appropriate.

BMP	Title	Description
4.1	Notify Local Governments of Scheduled Work	Notify cities and the County of proposed work by submitting the Annual Work Plan to the Public Works Departments and the District's Zone Advisory Committee.
4.2	Minimize Disturbances to Surrounding Neighborhoods	The District shall implement maintenance practices that minimize disturbances to neighborhoods surrounding work sites. 1. In general, work shall be conducted during normal working hours. Extending weekday hours and working weekends may be necessary to complete some projects. 2. Internal combustion engines shall be equipped with adequate mufflers. 3. Excessive idling of vehicles will be prohibited. 4. Levee traffic shall be limited to a speed of 15 miles per hour. 5. Access roads shall be watered as needed to control dust. 6. Dry sediment shall be wetted down or covered as needed to control dust during transport.
4.4	Sanitary/Septic Waste Management	Temporary sanitary facilities shall be located on jobs that last multiple days. All temporary sanitary facilities shall be placed outside of the creek channel and flood plain.
4.5	Vehicle and Equipment Cleaning	District vehicles shall be washed only at the approved area in the corporation yard. No washing of vehicles shall occur at job sites.
4.6	Work Site Solid Waste Management	District employees and contractors shall clean the work site before leaving by removing all litter and construction related materials. The District's maintenance crews shall be responsible for all debris incurred as a result of construction and for cleaning up dumped material.
4.8	Implement Public Safety Measures	The District shall implement public safety measures during maintenance: 1. Construction signs shall be posted at job sites warning the public of construction work and to exercise caution. 2. When necessary, a person shall be provided for traffic control. 3. If needed, a lane shall be blocked off to allow for trucks to pull into and out of the access points. 4. Where work is proposed adjacent to a recreational trail, warning signs shall be posted several feet beyond the limits of work. 5. Fencing, either the orange safety type or chain link, shall be installed above repair sites on bank stabilization projects.

BMP	Title	Description
4.9	Notify Park Departments of Trail Closures	As part o the Annual Work Plan, the District will notify the part departments of trails that could be subject to closure. The type of work, location and duration of each project that will affect trail closures will be identified.
6.1	Spill Prevention	The District shall prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water into channels. 1. District field personnel shall be appropriately trained in spill prevention, hazardous material control, and clean-up of accidental spills. 2. No fueling, repair, cleaning, maintenance, or vehicle washing shall be performed in the creek channel or in areas at the top of the channel bank that may flow into the creek channel.
6.2	Spill Kit Location	Spill prevention kits shall always be in close proximity when using hazardous materials (e.g., crew trucks and other logical locations). 1. Prior to entering the work site, all field personnel shall know the location of spill kits on crew trucks and at other locations within District facilities. 2. All field personnel shall be advised of these locations and trained in their appropriate use.
6.3	Hazardous Materials Management	The District shall implement measures to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means when removing sediments from the streams. 1. Prior to entering the work site, all field personnel shall know how to respond when toxic materials are discovered. 2. The discharge of any hazardous or non-hazardous waste as defined in Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations shall be conducted in accordance with applicable State and federal regulations. 3. All handling and disposal of sediments shall be performed in accordance with the WDR issued by the RWQCB. The sediment shall ultimately be disposed at a permitted landfill. Any alternative use or disposal shall require RWQCB approval.
6.4	Vehicle and Equipment Fueling	No fueling shall be done in the stream channel or immediate flood plain, unless equipment stationed in these locations is not readily relocated i.e., pumps, generators. For stationary equipment that must be fueled on site, containment shall be provided in such a manner that any accidental spill of fuel shall not be able to enter the water or contaminate sediments that may come in contact with water. Any equipment that is readily moved out of the channel shall not be fueled in the channel or immediate flood plain. All fueling done at the job site shall provide containment to the degree that any spill shall be unable to enter the channel or damage stream vegetation .

BMP	Title	Description
6.5	Vehicle and Equipment Maintenance	No equipment servicing shall be done in the stream channel or immediate flood plain, unless equipment stationed in these locations cannot be readily relocated (i.e., pumps, generators). 1. Any equipment that can be readily moved out of the channel shall not be serviced in the channel or immediate flood plain. 2. All servicing of equipment done at the job site shall provide containment to the degree that any spill shall be unable to enter the channel or damage stream vegetation. 3. If emergency repairs are required in the field, only those repairs necessary to move equipment to a more secure location shall be done in the channel or flood plain. 4. If emergency repairs are required, containment shall be provided equivalent to that done for fueling or servicing.
6.6	Employee/ Contractor Training	All appropriate District staff and contractors shall receive annual training on Stream Maintenance Program BMPs.

BMP	Title	Description
7.1	Discovery of Cultural Remains or Historic Artifacts	Work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met. 1. Work at the location of the find will halt immediately within 50 feet of the find. A "no work" zone shall be established utilizing appropriate flagging to delineate the boundary of this zone, which shall measure at least 50 feet in all directions from the find. 2. The District shall retain the services of a Consulting Archaeologist, who shall visit the discovery site as soon as practicable, and perform minor hand-excavation to describe the archaeological resources present and assess the amount of disturbance. 3. The Consulting Archaeologist shall provide to the District and the Corps, at a minimum, written and digital-photographic documentation of all observed materials, utilizing the guidelines for evaluating archaeological resources for the California Register of Historic Places (CRHP) and National Register of Historic Places (NRHP). Based on the assessment, the District and Corps shall identify the CEQA and Section 106 cultural-resources compliance procedure to be implemented. 4. If the find appears to not meet the CRHP or NRHP criteria of significance, and the Corps archaeologist concurs with the Consulting Archaeologist's conclusions, construction shall continue while monitored by the Consulting Archaeologist. The authorized maintenance work shall resume at the discovery site only after the District has retained a Consulting Archaeologist to monitor and the Watershed Manager has received notification from the Corps to continue work. 5. If the find appears significant, avoidance of additional impacts is the preferred alternative. The Consulting Archaeologist shall determine if adverse impacts to the resources can be avoided. 6. When avoidance is not practical (e.g., maintenance activities cannot be deferred or they must be completed to satisfy the SMP objective), the District shall develop an Action Plan and submit it to the Corps within 48 hours of Consulting Archaeologist's evaluation of the discovery. The action Plan may be submitted via e-mail (rstradford@spd.usace.army.mil). The Action Plan is synonymous with a data-recovery plan. It shall be prepared in accordance with the current professional standards and State guidelines for reporting the results of the work, and shall describe the services of a Native American Consultant and a proposal for curation of cultural materials recovered from a non-grave context. 7. The recovery effort will be detailed in a report prepared by the archaeologist in accordance with current archaeological standards. Any non-grave artifacts will be placed with an appropriate repository. 8. In the event of discovery of human remains (or the find consists of bones suspected to be human), the field crew supervisor shall take immediate steps to secure and protect such remains from vandalism during periods when

BMP	Title	Description
		work crews are absent.) 9. The District or the Consulting Archaeologist shall immediately notify the Santa Clara County Coroner and provide any information that identify the remains as Native American. If the remains are determined to be from a prehistoric Native American, or determined to be a Native American from the ethnographic period, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours of being notified of the remains. The NAHC then designates and notifies within 24 hours a *Most Likely Descendant* (MLD). The MLD has 24 hours to consult and provide recommendations for the treatment or disposition, with proper dignity, of the human remains and grave goods. 10. Preservation in situ is the preferred option. Human remains shall be preserved in situ if continuation of the maintenance work, as determined by the Consulting Archaeologist and MLD, will not cause further damange to the remains. The remains and artifacts shall be documented and the find location carefully backfilled (with protective geo-fabric if desirable) and recorded in District project files. 11. Human remains or cultural items exposed during maintenance that cannot be protected from further damage shall be exhumed by the Consulting Archaeologist at the discretion of the MLD and reburied with the concurrence of the MLD in a place mutually agreed upon by all parties.
7.2	Review of Projects with Native Soil	A cultural resources specialist will conduct a review and evaluation of those sites that would involve disturbance / excavation of native soil previously undisturbed by contemporary human activities to determine their potential for affecting significant cultural resources. The evaluation of the potential to disturb cultural resources will be based on an initial review of archival information provided by the California Historical Resources System/Northwest Information Center (CHRIS/NWIC) in regard to the project area based on a 0.25 mile search radius. It is recommended that this initial archival review be completed by a professional archaeologist who will be able to view confidential site location data and literature to arrive at a preliminary sensitivity determination. If necessary, a further archival record search and literature review (including a review of the Sacred Lands Inventory of the Native American Heritage Commission); and a field inventory of the project area will be conducted to determine the presence/absence of surface cultural materials associated with either prehistoric or historic occupation. The results along with any mitigation and/or management recommendations would be presented in an appropriate report format and include any necessary maps, figures, and correspondence with interested parties. A summary table indicating appropriate management actions (e.g., monitoring during construction, presence/absence testing for subsurface resources; data recovery, etc.) will be developed for each project

BMP	Title	Description
		site reviewed. The management actions will be implemented on site to avoid significant effects to cultural resources.

SEDIMENT REMOVAL

BMP	Title	Description
1.2	Tidal Work Areas	For tidal areas, a downstream cofferdam shall be constructed to prevent the work area from being inundated by tidal flows. By isolating the work area from tidal flows, water quality impacts are minimized. Downstream flows continue through the work area and through pipes within the cofferdam. 1. Installation of coffer dams shall begin at low tide. 2. Waters discharged through tidal coffer dam bypass pipes shall not exceed 50 NTUs over the background levels of the tidal waters into which they are discharged. 3. Coffer dams in tidal areas may be made from earthen material. If earth is used, the downstream and upstream faces shall be covered by a protected covering (e.g., plastic or fabric) if needed to minimize erosion.

BMP	Title	Description
1.3	Dewater/ Bypass Water at Non-tidal Sites	When work in a flowing stream in unavoidable, the entire streamflow shall be diverted around the work area by a barrier. Construction of the barrier shall normally begin in the upstream area and continue in an downstream direction, and the flow shall be diverted only when construction of the diversion is completed. The water diversion plan shall allow stream flows to gravity flow around or through the work site using temporary culverts or stream flow is pumped around the work site using pumps and screened intake hoses. Coffer dam construction shall be adequate to prevent seepage into or from the work area. Coffer dams shall be constructed of river run gravel with a fines content that is less than 15%. Fines are defined as material that is able to pass through a #20 sieve. Coffer dams may also be constructed of sheet piles, inflatable dams, and sand bags. Coffer dams shall be installed both upstream and downstream not more than 100 feet from the extent of the work areas. In-channel berms that only deflect water to one side of the channel during sediment removal, may be constructed of channel material. The enclosure and the supportive material shall be removed when the work is completed and the removal shall normally proceed from downstream in an upstream direction. Normal flows shall be restored to the affected stream immediately upon completion of work at that location. 1. All water shall be discharged in a non-erosive manner (e.g., gravel or vegetated bars, on hay bales, on plastic, on concrete, or in storm drains when equipped with filtering devices, etc.). 2. Sumps or basins may also be used to collect water, where appropriate (e.g., in channels with low flows). 3. Where feasible and appropriate, diversion structures shall be installed on concrete sections of the channels or constructed of materials specified above. Earth fill shall not be used for cofferdams in non-tidal areas. 4. In conjunction with diversion structures, pumps or gravity-fed pipe systems are used to de-water sites. 5. Depending on the channel configurations, sediment removal may occur where the flows are not bypassed around the work site; as long as during excavation activities, a berm of sediment is left between the work area and stream flows to minimize water quality impacts. 6. Diversions shall maintain ambient stream flows below the diversion, and waters discharged below the project site shall not be diminished or degraded by the diversion.

BMP	Title	Description
1.4	Avoid Erosion When Restoring Flows	All temporary diversion structures and the supportive material shall be removed when the work is completed, but no more than 48 hours after work is completed. The removal shall normally proceed from downstream in an upstream direction. Normal flows shall be restored to the affected stream immediately upon completion of work at that location. Flows shall be restored in a manner that minimizes erosion. 1. When diversion structures are removed, to the extent practicable, the ponded flows shall be directed into the low-flow channel within the work site to minimize downstream water quality impacts. 2. Flows shall gradually be restored to the channel to avoid a surge of water that would cause erosion or scouring. 3. Bypassed flows may be slowly reintroduced into the dewatered area by leaving a silt barrier in place to allow water to slow and drop sediment to the extent possible.
1.7	Pump/ Generator Set Operations and Maintenance	Pumps and generators shall be maintained and operated in a manner that minimizes impacts to water quality and aquatic species. 1. Pumps and generators shall be maintained according to manufacturers' specifications to regulate flows to prevent dryback or washout conditions. 2. Pumps shall be operated and monitored to prevent low water conditions, which could pump muddy bottom water, or high water conditions, which creates ponding. 3. Pump intakes shall be screened to prevent uptake of fish and other vertebrates.
1.8	Handle Sediments So As to Minimize Water Quality Impacts	Sediments shall be stored and transported in a manner that minimizes water quality impacts. 1. Wet sediments may be stockpiled outside of a live stream or may be stockpiled within a dewatered stream so water can drain or evaporate before removal. This measure applies to saturated, not damp, sediments and depends upon the availability of a stockpile site. 2. For those stockpiles located outside the channel, water draining from them shall not be allowed to flow back into the creek or into local storm drains that enter the creek, unless water quality protection measures recommended by the RWQCB are implemented. 3. Trucks may be lined with an impervious material (e.g., plastic), or the tail gate blocked with dry dirt or hay bales, for example, or trucks may drain excess water by slightly tilting their loads and allowing the water to drain out. 4. Water shall not drain directly into channels (outside of the work area) or onto city streets without providing water quality control measures. 5. Streets shall be cleaned of mud and/or dirt by street sweeping, as necessary, and not by hosing down the street.
1.9	Soil Stockpiles	If soil is to be stockpiled, no run-off shall be allowed to flow back to creek.

BMP	Title	Description
1.12	Groundwater Management	If high levels of groundwater in a work area are encountered, the water is pumped out of the work site. If necessary to protect water quality, the water shall be directed into specifically constructed infiltration basins, into holding ponds, or onto areas with vegetation to remove sediment prior to the water re-entering a creek. Water pumped into vegetated areas shall be pumped in a manner that will not create erosion around vegetation.
1.13	Prevent Scour Downstream of Sediment Removal	Sites in the transport zone on alluvial fans may cause increased scour downstream if they experience rapid sediment accumulation after sediment removal. Channel reaches up to 500 feet downstream from such sediment removal sites shall be monitored to determine whether accelerated erosion is occurring. If downstream monitoring indicates that erosion is occurring, then remedial action such as rock vortex weirs or similar protection shall be carried out.

BMP	Title	Description
2.2	Minimize Stream Access Impacts	District personnel shall use existing access ramps and roads where possible. If temporary access points are necessary, they shall be constructed in a manner that minimizes impacts to streams: 1. Temporary project access points shall be created as close to the work area as possible to minimize running equipment down stream channels and shall be constructed so as to minimize adverse impacts, such as tree removal. 2. When temporary access is removed, remaining disturbed soil shall be stabilized and seeded immediately after construction. 3. Any temporary fill used for access shall be removed upon completion of the project. Channel topography and geometry shall be restored to pre-project conditions to the extent possible.
2.7	Seeding	For banks that are scraped during sediment removal, an erosion control seed mix shall be used. 1. A typical mix may consist of California native grasses (e.g., *Hordeum brachyantherum*, *Elymus glaucus* 'Berkeley,' *Bromus carinatus*) on slopes flatter than 3:1. *Vulpia microstachyes* may be added to the mix where slopes are steeper (e.g., 2:1). 2. Another seed mix may be of 'Escort' sterile wheat to provide a year's worth of protection. This mix is used only if further work is required the following year. 3. Temporary earthen access roads will be seeded when site and horticultural conditions are suitable.

BMP	Title	Description
3.4	Mitten Crab Control Measures	Sediment from the San Francisco Bay Watershed, including that for reuse, will not be removed to areas any farther south than Metcalf Road in south San Jose. This measure is to avoid transporting mitten crabs, a highly invasive, exotic species, to areas where they are not currently found.
3.6	Remove Sediment from One Side of Large Channels in Alternate Years	Some channels are large in the sense that sediment removal operations must be conducted from both sides of the channel. Remove sediment in large channels from one side only in alternate years to minimize vegetation removal and retain emergent vegetation, which is used for food, cover, fish spawning and nursery areas, and wildlife movement corridors. According to the Maintenance Guidelines, this measure applies to the following channel reaches (Station Nos.): 1. Stevens Ck. (0+00–146+00) 2. Calabazas Ck. (0+00–102+00) 3. San Tomas Ck. (0+00–151+40) 4. Alamitos Ck. (42+65–218+00) 5. Guadalupe River (230+00–387+50) 6. Berryessa Ck. (0+00–200+00) 7. Lower Penitencia (0+00–40+00) 8. Silver Ck. (100+00–315+40) 9. Thompson Ck. (0+00–48+00)
3.7	Salvage Native Aquatic Vertebrates from Dewatered Channels	If fisheries or native aquatic vertebrate are present when cofferdams, water bypass structures, and silt barriers are to be installed, a fish and native aquatic vertebrate relocation plan shall be implemented to ensure that fish and native aquatic vertebrates are not stranded: 1. In non-tidal channels, where water is to be diverted, prior to the start of work or during the installation of water diversion structures, native aquatic vertebrates shall be captured in the work area and transferred to another reach as determined by a qualified biologist (refer to Fish Relocation Guidelines) 2. Aquatic invertebrates will not be transferred (other than incidental catches) because of their anticipated abundance and colonization after completion of the repair work.

BMP	Title	Description
3.8	Minimize Effects of Bypass Structures on Steelhead	1. To prevent increases in temperature and decreases in dissolved oxygen (DO), if bypass pipes are used, they shall be properly sized (i.e., larger diameter pipes to better pass the flows). Bypass pipes may also be avoided by creating a low-flow channel or using other methods to isolate the work area. 2. In Non-tidal Areas, diversions on the Guadalupe River, Calero, Los Gatos, Guadalupe, Alamitos, Coyote, Upper Penitencia, Stevens, San Francisquito, Bodfish, Little Arthur, Uvas and Llagas Creeks shall maintain conditions required for fish passage. Diversions shall maintain fish passage when the project meets the following conditions: 1) the length of the area dewatered exceeds 500 feet, and/or 2) the length of time the stream is dewatered exceeds two weeks in length. Conditions for fish passage shall be met as long as the diversion 1) maintains contiguous flows through a low flow channel in the channel bed or an artificial open channel, 2) presents no vertical drops exceeding six (6) inches and follows the natural grade of the site, 3) maintains water velocities that shall not exceed eight feet per second (8 ft/sec), and 4) maintains adequate water depths consistent with normal conditions in the project reach. An artificial channel used for fish passage shall be lined with cobble/gravel. A closed conduit pipe shall not be used for fish passage. The inlets of diversions shall be checked daily to prevent accumulation of debris.
3.10	Conduct In-Channel Work During the Dry Season	Avoid and minimize impacts to salmonids by timing stream maintenance projects in streams where there are or could be salmonids so that the use of heavy equipment in the channel is conducted outside of the migration and spawning season. 1. Minor maintenance activities that occur above ordinary high water and do not impact the riparian corridor may be done at any time of the year. These activities include fence repair, graffiti removal, revegetation maintenance, rodent control, etc. 2. Minor activities will be done in channel if the activity is necessary to provide immediate flood protection. These activities include removal of trash or debris that will impede flows, trash rack cleaning, and pier nose cleaning. These activities will be done in a manner that is sensitive to protection of aquatic resources.

BMP	Title	Description
3.11	Avoid Dewatering an Entire Isolated Stream Reach	Construction sites may be isolated by upstream or downstream barriers, such as culverts. In reaches that contain deep pools, the District shall maintain these pools as refuges by constructing temporary fencing so as to avoid pool destruction when preservation of the pool is not in the construction footprint or a barrier to project access. This BMP does not apply to sediment removal activities that require the removal of all sediment to restore the design capacity.
3.12	Maintain Low-flow Fish Passage	If a nontidal stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to its approximate prior location with appropriate depth for fish passage without creating a possible future bank erosion problem.
3.13	Remove Temporary Fills as Appropriate	Temporary fills, such as for access ramps, diversion structures, or cofferdams, shall be completely removed upon finishing the work.
3.15	Restore Pool Configuration of Channel Bottom	The District shall re-grade the channel bottom at the end of the work project to as close to original conditions as possible. 1. In areas used for migration by salmonids as designated on the District GIS Fisheries coverage, the depth and size of the low flow channel and pools shall emulate the pre-construction conditions as closely as possible, within the finished channel topography. 2. All material used to construct temporary fills shall be removed upon completion of the project.
3.16	Restore Spawning Gravels in Work Site Areas	The District shall replace gravels at the end of construction in potential salmonid spawning reaches. 1. Spawning gravels removed as a result of stream maintenance activities shall be replaced using a gravel/cobble mixture representing the size and relative abundance of gravel/cobbles present pre-project impact. 2. Spawning gravel replacement will be configured to maximize functional benefits including salmonid spawning, aquatic invertebrate production, and juvenile escape cover.

BMP	Title	Description
3.17	Reuse Sediments and Gravels As Appropriate	Where practical, the District will reuse removed sediments and gravels. Sediments that are considered for re-use will be tested for hazardous materials and graded for structure as necessary in order to determine their appropriateness for re-use and consistency with BMPs 1.3 and 3.16. When sediments or gravels are reused, the District will ensure that the reuse does not cause any additional erosion, siltation, or other negative environmental consequences. Reuse will be considered within the context of environmental, regulatory, and fiscal consequences.
4.3	Stabilized Construction Entrance	The District shall implement measures to minimize soil from being tracked onto streets near work sites: 1. Methods used to prevent mud from being tracked out of work sites onto roadways include installing a layer of geotextile mat, followed by a 4-inch thick layer of 1-3- inch diameter gravel on unsurfaced access roads. 2. Access shall be provided as close to the work area as possible, using existing ramps where available and planning work site access so as to minimize disturbance to the creek bed, creek banks, and the surrounding land uses.
5.1	Bay Area Quality Management District Basic Dust Control Measures	The District shall implement Bay Area Quality Management District Basic Control Measures at maintenance sites less than four acres in size. Current measures stipulated by the Bay Area Quality Management District CEQA Guidelines include the following: 1. Active maintenance areas shall be watered at least twice per day unless soils are already sufficiently moist to avoid dust. 2. Trucks hauling sediments and other loose material shall be covered or shall maintain at least two feet of freeboard. 3. Tailgates of trucks shall be sealed. 4. Trucks shall be brushed down before leaving the maintenance site. 5. Unpaved access roads and staging areas that are being used for the maintenance activity shall be watered three times daily, or non-toxic soil stabilizers shall be applied to control dust generation. 6. Paved maintenance site access roads shall be swept when visible soil material is carried onto the roadway.

5.2	Bay Area Quality Management District Enhanced Dust Control Measures	For single maintenance sites greater than four acres, the District shall implement Bay Area Quality Management District Enhanced Dust Control Measures. These measures include the following: 1. Inactive areas shall be sprayed with soil stabilizer or seeded. 2. Exposed stockpiles shall be watered, enclosed, covered, or sprayed with soil stabilizers. 3. Traffic speeds shall be limited to 15 mph. 4. Sandbags or other bank protections shall be installed to prevent silt runoff to roadways. 5. Vegetation in disturbed areas shall be replanted as soon as horticulturally appropriate. For example, plant material may not be ready as soon as the job is done (e.g. willow cuttings have to be collected during winter dormancy).
5.3	Avoid Stockpiling Potentially Odorous Sediments	Some of the sediment removal sites will have sediment that is rich in organic matter decaying in an anaerobic conditions, which generates assorted malodorous gases, such as reduced sulfur compounds. These sediments shall be handled in a manner that avoids impacting sensitive receptors. 1. The District shall avoid stockpiling potentially odorous sediments within 1000 feet of residential areas or other odor sensitive land uses. 2. Where appropriate, odorous stockpiles shall be disposed of at an appropriate landfill.

VEGETATION MANAGEMENT

BMP	Title	Description
1.14	Minimize Sediment Transport Downstream from In-channel Herbicide Sites	Where sediment has accumulated due to vegetation in-channel, herbicide application may result in release of sediment downstream. Prior to herbicide application within active channels, the potential for significant sediment release shall be assessed. If the site has the potential for significant sediment release, then one of two techniques will be considered: 1. Where an area has not been routinely treated with herbicides, new herbicide applications shall be phased over several seasons, or 2. Remove the excess sediment through mechanical means after the vegetation is killed.
1.16	Minimize Local Erosion Increase from In-channel Vegetation Removal	In-channel vegetation removal may result in increased local erosion due to increased flow velocity. To minimize the effect, the toe of the bank shall be protected by leaving vegetation to the maximum extent possible consistent with the maintenance guidelines.
3.18	Herbicide Use in Aquatic Areas	Only herbicides and surfactants registered for aquatic use shall be applied within the banks of channels within 20 feet of any water present. Aquatic herbicide use shall be limited to July 1st through October 15th, except on Guadalupe River, where it is limited to July 1st to August 15th. If rain is forecast within 72 hours, then application of aquatic herbicide shall be rescheduled.

BMP	Title	Description
3.20	Minimize Adverse Effects of Herbicides on Non-target Species	Herbicides are a key component of vegetation management under the SMP. Herbicides shall be used in a manner that minimizes negative environmental effects by avoiding impacts to non-target species. Herbicide use shall be guided by label restrictions and any advisories published by the California Department of Pesticide Regulation (CDPR) or the County Agricultural Commission. The US EPA bulletin *Protecting Endangered Species, Interim Measures for Use of Pesticides in Santa Clara County* provides additional guidelines for herbicide use (US EPA 2000). 1. Herbicide use shall be reviewed annually prior to application using information from CDPR and US EPA maintained in the District GIS database to determine the potential presence of special-status species that could be adversely affected, and the target areas and chemicals used will be modified as necessary. 2. To avoid toxic effects to all life stages of California Red-legged Frogs (RLF), whenever herbicides are to be used in within 1.25 miles of known RLF locations, the District shall refer to both the product label for the material being used and the Endangered Species Database maintained by the California Department of Pesticide Regulation and use the lower of the two recommended rates if there is a difference.
3.22	Herbicide Use in Upland Areas	Application of herbicides to upland areas shall not be made within 72 hours of predicted rainfall.
4.7	Herbicide Use Requirements	All herbicide use shall be consistent with approved product specifications. Applications shall be made by, or under the direct supervision of, State Certified applicators under the direction of a licensed Pest Control Advisor.

BANK PROTECTION

BMP	Title	Description
1.3	Dewater/ Bypass Water at Non-tidal Sites	When work in a flowing stream in unavoidable, the entire streamflow shall be diverted around the work area by a barrier. Construction of the barrier shall normally begin in the upstream area and continue in an downstream direction, and the flow shall be diverted only when construction of the diversion is completed. The water diversion plan shall allow stream flows to gravity flow around or through the work site using temporary culverts or stream flow is pumped around the work site using pumps and screened intake hoses. Coffer dam construction shall be adequate to prevent seepage into or from the work area. Coffer dams shall be constructed of river run gravel with a fines content that is less than 15%. Fines are defined as material that is able to pass through a #20 sieve. Coffer dams may also be constructed of sheet piles, inflatable dams, and sand bags. Coffer dams shall be installed both upstream and downstream not more than 100 feet from the extent of the work areas. In-channel berms that only deflect water to one side of the channel during sediment removal, may be constructed of channel material. The enclosure and the supportive material shall be removed when the work is completed and the removal shall normally proceed from downstream in an upstream direction. Normal flows shall be restored to the affected stream immediately upon completion of work at that location. 1. All water shall be discharged in a non-erosive manner (e.g., gravel or vegetated bars, on hay bales, on plastic, on concrete, or in storm drains when equipped with filtering devices, etc.). 1. Sumps or basins may also be used to collect water, where appropriate (e.g., in channels with low flows). 2. Where feasible and appropriate, diversion structures shall be installed on concrete sections of the channels or constructed of materials specified above. Earth fill shall not be used for cofferdams in non-tidal areas. 3. In conjunction with diversion structures, pumps or gravity-fed pipe systems are used to de-water sites. 4. Depending on the channel configurations, sediment removal may occur where the flows are not bypassed around the work site; as long as during excavation activities, a berm of sediment is left between the work area and stream flows to minimize water quality impacts. 5. Diversions shall maintain ambient stream flows below the diversion, and waters discharged below the project site shall not be diminished or degraded by the diversion.

BMP	Title	Description
1.4	Avoid Erosion When Restoring Flows	All temporary diversion structures and the supportive material shall be removed when the work is completed, but no more than 48 hours after work is completed. The removal shall normally proceed from downstream in an upstream direction. Normal flows shall be restored to the affected stream immediately upon completion of work at that location. Flows shall be restored in a manner that minimizes erosion. 1. When diversion structures are removed, to the extent practicable, the ponded flows shall be directed into the low-flow channel within the work site to minimize downstream water quality impacts. 2. Flows shall gradually be restored to the channel to avoid a surge of water that would cause erosion or scouring. 3. Bypassed flows may be slowly reintroduced into the dewatered area by leaving a silt barrier in place to allow water to slow and drop sediment to the extent possible.
1.5	Erosion and Sediment Control Measures	Erosion control methods shall be used as appropriate during all phases of routine maintenance projects to control sediment and minimize water quality impacts. The District shall prevent erosion on steep slopes by using erosion control material according to manufacturer's specifications. All construction related erosion control methods shall be removed at the completion of the project. Appropriate measures include, but are not limited to, the following: 1. Silt Fences 2. Straw Bale Barriers 3. Brush or Rock Filters 4. Storm Drain Inlet Protection 5. Sediment Traps 6. Sediment Basins 7. Erosion Control Blankets and Mats 8. Soil Stabilization i.e. Tackified straw with seed, jute or geotextile blankets, etc. The following Bay Area Stormwater Management Agency Association BMPs provide guidance and specifications as to implementation of the erosion control measures described: SC-3. Sediment Basins SC-4. Straw or Sand Bag Barriers SC-5. Sediment Traps SC-6. Silt Fences SS-1. Erosion Control Blankets, Mats, and Geotextiles VR-1. Brush or Rock Filters VR-2. Check Dams VR-4b. Temporary Outlet Protection VR-4b. Storm Drain Inlet Protection WD-1. Earth Dike WD-1. Slope Drain WD-3. Temporary Drains and Swales

BMP	Title	Description
1.7	Pump/ Generator Set Operations and Maintenance	Pumps and generators shall be maintained and operated in a manner that minimizes impacts to water quality and aquatic species. 1. Pumps and generators shall be maintained according to manufacturers' specifications to regulate flows to prevent dryback or washout conditions. 2. Pumps shall be operated and monitored to prevent low water conditions, which could pump muddy bottom water, or high water conditions, which creates ponding. 3. Pump intakes shall be screened to prevent uptake of fish and other vertebrates.
1.10	Avoid Exposing Soils with High Mercury Levels	Bank Protection projects in portions of the Guadalupe River watershed affected by historical mercury mining may expose soils containing mercury which may affect stream water quality. 1. In the specified channel reaches in the Guadalupe River Basin, soils that are likely to be disturbed or excavated shall be tested for Mercury (Hg). Soils shall be remediated if: a. disturbed or excavated soils exposed to flood flows below the 2.33-year channel flow level exceed 1 ppm Hg, or b. disturbed or excavated soils above the 2.33-year flow level exceed 20 ppm Hg. 2. Remediation may be accomplished either by: a. treating the site so that contaminated soils excavated for the purpose of installing bank protection shall not be susceptible to erosion, or b. by further excavating contaminated soils and replacing them with clean fill or other bank protection materials that are free from contaminants. c. Soils with mercury concentrations exceeding 20 mg/kg shall be removed and disposed of in a Class I landfill following established work practices and hazard control measures. 3. To ensure worker safety is protected during bank protection projects with elevated mercury concentrations in the exposed surfaces, personal protective equipment will be required during project construction to maintain exposure below levels established by the Occupational Safety and health Agency (OSHA).

BMP	Title	Description
1.11	Concrete Use Near Waterways	Concrete that has not been cured is alkaline and can increase the pH of the water; fresh concrete shall be isolated until it no longer poses a threat to water quality using the following appropriate measures: 3. Wet sacked concrete shall be excluded from the wetted channel for a period of two weeks after installation. During that time, the wet sacked concrete shall be kept moist (such as covering with wet carpet) and runoff from the wet sacked concrete shall not be allowed to enter a live stream. 4. Poured concrete shall be excluded from the wetted channel for a period of two weeks after it is poured. During that time, the poured concrete shall be kept moist, and runoff from the wet concrete shall not be allowed to enter a live stream. Commercial sealants (e.g., Deep Seal, Elasto-Deck Reservoir Grade) may be applied to the poured concrete surface where difficulty in excluding water flow for a long period may occur. If a sealant is used, water shall be excluded from the site until the sealant is dry. 5. Dry sacked concrete shall not be used in any channel. 6. An area outside of the channel and floodplain shall be designated to clean out concrete transit vehicles.
1.12	Groundwater Management	If high levels of groundwater in a work area are encountered, the water is pumped out of the work site. If necessary to protect water quality, the water shall be directed into specifically constructed infiltration basins, into holding ponds, or onto areas with vegetation to remove sediment prior to the water re-entering a creek. Water pumped into vegetated areas shall be pumped in a manner that will not create erosion around vegetation.
1.15	Prevent Erosion Downstream of Bank Protection Sites	Increased water velocity at bank protection sites may increase erosion downstream. Bank stabilization site design shall assess hydraulic effects immediately upstream and downstream of the work area. If the hardscape revetment would cause significant increase in erosion potential, downstream energy dissipation features such as pools or grade control structures shall be considered in the design. If the evaluation identifies possible downstream impacts, proactive protection of these areas shall be provided. Such measures include, but are not limited to, appropriately keyed-in coir logs, riparian enhancement planting, strategic placement of rock, and flow deflectors.

BMP	Title	Description
2.2	Minimize Stream Access Impacts	District personnel shall use existing access ramps and roads where possible. If temporary access points are necessary, they shall be constructed in a manner that minimizes impacts to streams: 3. Temporary project access points shall be created as close to the work area as possible to minimize running equipment down stream channels and shall be constructed so as to minimize adverse impacts, such as tree removal. 4. When temporary access is removed, remaining disturbed soil shall be stabilized and seeded immediately after construction. 5. Any temporary fill used for access shall be removed upon completion of the project. Channel topography and geometry shall be restored to pre-project conditions to the extent possible.
2.3	Minimize Hardscape in Bank Protection Design	The District shall select bank repair techniques appropriate to a given site based on hydraulic and other site conditions. Refer to SMP Appendix E. Programmatic Impact Assessment and Mitigation for Routine Bank Protection Activities . 1. Biotechnical repair methods include live construction, willow wattling, erosion control blankets, brush matting, and installation of root wads and boulders in banks. 2. The repair shall be designed and installed so that it will be self-sustaining and use vegetation that adds structural integrity to the stream bank.

BMP	Title	Description
2.4	Success Criteria for Bank Protection Plantings	Monitoring shall be conducted annually for a minimum period of five (5) years or until success criteria for planting is met a minimum of two years after irrigation has been removed at the planting densities stated in the FEIR (See FEIR, Appendix E, page X-2)]. Revegetation will be judged successful and meeting full compliance if it meets these criteria: 1. 70% of the original number of plants installed are alive and healthy at the end of 5 years or 2. A site has 50% absolute cover of native vegetation within the 5-year period. If a site meets either of these requirements it will be judged as successful and monitoring will cease. 3. There will be no requirement for species diversity on bank protection projects. A variety of species replicating the natural plant community will be installed but ratios may adjust due to site conditions. A site will not be penalized due to a change in ratios or individual species dropping out. 4. Plants will be installed per the Protocol for Revegetation of Bank Protection Projects. Trees will have an average spacing of 10-12 feet and shrubs an average spacing of 6-8 feet. 5. New plantings may be installed at any time during the 5-year period. No approvals will be required for additional planting or design changes such as species selection, container size, etc. 6. Pole plantings done at the toe of the bank or in rock will be exempt from these criteria in regard to spacing and survival. Pole plantings will be installed wherever possible but, due to the highly variable success rate related to soil and water conditions, these plantings should not be evaluated in the same manner. The success of pole planting efforts will be included in annual reports but this particular planting element will not be factored into the quantitative success criteria. 7. A site that has extraordinary constraints may have a separate revegetation design submitted for approval at the time of the design review. Upon regulatory approval, the success criteria associated with individual designs shall supercede these general criteria.
2.5	Planting	Planting for erosion control and habitat restoration shall be in accordance with District revegetation guidelines with the following exception: a. Dri-Water shall not be used as a method of irrigation.

BMP	Title	Description
2.6	Mulching	Bark and other wood products shall be used as needed to prevent erosion of bare soil after construction is completed. 1. All newly planted and/or bare soil (excluding bare channel bottoms) in maintenance areas shall have a minimum 3" thick layer of bark or mulch installed except when the area is seeded. In that case, the thickness of the mulch layer shall not exceed ½ inch. 2. This bark or mulch can be ground-up woody products and/or leaves from either native material or from soil suppliers. 3. No non-native material that has allelopathic compounds (*Eucalyptus* spp.) or weed seeds shall be used as mulch in areas where it has the potential to inhibit native revegetation. Such areas would include flood plains and revegetation sites. 4. Any material imported from outside the District that is to be used as mulch shall be certified as weed-free.
2.8	Replace Trees	The District shall replace trees as follows: 1. Native trees that are lost to bank protection impacts shall be replaced at a 3:1 ratio and non-native trees that are lost shall be replaced at a 2:1 ratio. 2. Trees removed for installation of bank protection measures shall be replaced at the site, if feasible, or at the mitigation site created for that bank protection activity. 3. The Plant Selection Criteria, Planting Techniques, Maintenance, and Monitoring/Reporting protocols prescribed by the "Protocol for Revegetation Associated with Bank Protection" (Appendix E of SMP) shall be implemented, as applicable to tree replacement. 4. Replacement of heritage-sized trees (greater than 18 inches dbh) will be consistent with local ordinances.
2.9	Site Maintenance for Bank Protection Plantings	Follow-up maintenance shall be performed on sites that have been seeded and planted. 1. Maintenance shall include replacing dead or dying plants where appropriate, weeding, removing non-native plant colonizers, and ensuring that all plants receive sufficient water. 2. Irrigation shall be implemented as needed throughout the establishment period.

BMP	Title	Description
3.5	Minimize Loss of Aquatic Habitat from Bank Protection Work	Follow SMP Appendix E. Programmatic Impact Assessment and Mitigation for Routine Bank Protection Activities.
3.7	Salvage Native Aquatic Vertebrates from Dewatered Channels	If fisheries or native aquatic vertebrate are present when cofferdams, water bypass structures, and silt barriers are to be installed, a fish and native aquatic vertebrate relocation plan shall be implemented to ensure that fish and native aquatic vertebrates are not stranded: 1. In non-tidal channels, where water is to be diverted, prior to the start of work or during the installation of water diversion structures, native aquatic vertebrates shall be captured in the work area and transferred to another reach as determined by a qualified biologist (refer to Fish Relocation Guidelines) 2. Aquatic invertebrates will not be transferred (other than incidental catches) because of their anticipated abundance and colonization after completion of the repair work.
3.8	Minimize Effects of Bypass Structures on Steelhead	1. To prevent increases in temperature and decreases in dissolved oxygen (DO), if bypass pipes are used, they shall be properly sized (i.e., larger diameter pipes to better pass the flows). Bypass pipes may also be avoided by creating a low-flow channel or using other methods to isolate the work area. 2. In Non-tidal Areas, diversions on the Guadalupe River, Calero, Los Gatos, Guadalupe, Alamitos, Coyote, Upper Penitencia, Stevens, San Francisquito, Bodfish, Little Arthur, Uvas and Llagas Creeks shall maintain conditions required for fish passage. Diversions shall maintain fish passage when the project meets the following conditions: 1) the length of the area dewatered exceeds 500 feet, and/or 2) the length of time the stream is dewatered exceeds two weeks in length. Conditions for fish passage shall be met as long as the diversion 1) maintains contiguous flows through a low flow channel in the channel bed or an artificial open channel, 2) presents no vertical drops exceeding six (6) inches and follows the natural grade of the site, 3) maintains water velocities that shall not exceed eight feet per second (8 ft/sec), and 4) maintains adequate water depths consistent with normal conditions in the project reach. An artificial channel used for fish passage shall be lined with cobble/gravel. A closed conduit pipe shall not be used for fish passage. The inlets of diversions shall be checked daily to prevent accumulation of debris.

BMP	Title	Description
3.9	Retain Woody Materials and Vegetation	Woody material (including live leaning trees, dead trees, tree trunks, large limbs, and stumps) will be retained unless it is threatening a structure or impedes reasonable access. 1. Retain and flag stumps, snags, and branches in channels that can create fish habitat. 2. Ensure that this woody debris does not impede water flow and does not contribute to erosion. 3. When woody material is removed, priority will be given to reuse of the materials in bank protection projects. Non-native species containing allelopathic compounds shall not be used for construction of bank protection projects. Woody materials may also be used as mulch. (See BMP 2.6) 4. When retention will not compromise flood management system reliability, woody vegetation shall be left in place.
3.10	Conduct In-Channel Work During the Dry Season	Avoid and minimize impacts to salmonids by timing stream maintenance projects in streams where there are or could be salmonids so that the use of heavy equipment in the channel is conducted outside of the migration and spawning season. 1. Minor maintenance activities that occur above ordinary high water and do not impact the riparian corridor may be done at any time of the year. These activities include fence repair, graffiti removal, revegetation maintenance, rodent control, etc. 2. Minor activities will be done in channel if the activity is necessary to provide immediate flood protection. These activities include removal of trash or debris that will impede flows, trash rack cleaning, and pier nose cleaning. These activities will be done in a manner that is sensitive to protection of aquatic resources.
3.11	Avoid Dewatering an Entire Isolated Stream Reach	Construction sites may be isolated by upstream or downstream barriers, such as culverts. In reaches that contain deep pools, the District shall maintain these pools as refuges by constructing temporary fencing so as to avoid pool destruction when preservation of the pool is not in the construction footprint or a barrier to project access. This BMP does not apply to sediment removal activities that require the removal of all sediment to restore the design capacity.
3.12	Maintain Low-flow Fish Passage	If a nontidal stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to its approximate prior location with appropriate depth for fish passage without creating a possible future bank erosion problem.
3.13	Remove Temporary Fills as Appropriate	Temporary fills, such as for access ramps, diversion structures, or cofferdams, shall be removed upon finishing the work.
3.14	Maintain or Provide Escape Cover	Stable undercut banks (generally those maintained by roots or boulders) shall remain in place. Larger boulders ($2-foot diameter) with minimum 4-12" gaps used for rip-rap may provide cavities as escape cover that are not provided by sacked concrete, small rip-rap, or larger rip-rap with small rock in-fill.

BMP	Title	Description
3.15	Restore Pool Configuration of Channel Bottom	District shall re-grade the channel bottom at the end of the work project to The as close to original conditions as possible. 1. In areas used for migration by salmonids as designated on the District GIS Fisheries coverage, the depth and size of the low flow channel and pools shall emulate the pre-construction conditions as closely as possible, within the finished channel topography. 2. All material used to construct temporary fills shall be removed upon completion of the project.
3.16	Restore Spawning Gravels in Work Site Areas	The District shall replace gravels at the end of construction in potential salmonid spawning reaches. 1. Spawning gravels removed as a result of stream maintenance activities shall be replaced using a gravel/cobble mixture representing the size and relative abundance of gravel/cobbles present pre-project impact. 2. Spawning gravel replacement will be configured to maximize functional benefits including salmonid spawning, aquatic invertebrate production, and juvenile escape cover.

BMP	Title	Description
4.3	Stabilized Construction Entrance	The District shall implement measures to minimize soil from being tracked onto streets near work sites: 1. Methods used to prevent mud from being tracked out of work sites onto roadways include installing a layer of geotextile mat, followed by a 4-inch thick layer of 1-3- inch diameter gravel on unsurfaced access roads. 2. Access shall be provided as close to the work area as possible, using existing ramps where available and planning work site access so as to minimize disturbance to the creek bed, creek banks, and the surrounding land uses.
5.1	Bay Area Quality Management District Basic Dust Control Measures	The District shall implement Bay Area Quality Management District Basic Control Measures at maintenance sites less than four acres in size. Current measures stipulated by the Bay Area Quality Management District CEQA Guidelines include the following: 1. Active maintenance areas shall be watered at least twice per day unless soils are already sufficiently moist to avoid dust. 2. Trucks hauling sediments and other loose material shall be covered or shall maintain at least two feet of freeboard. 3. Tailgates of trucks shall be sealed. 4. Trucks shall be brushed down before leaving the maintenance site. 5. Unpaved access roads and staging areas that are being used for the maintenance activity shall be watered three times daily, or non-toxic soil stabilizers shall be applied to control dust generation. 6. Paved maintenance site access roads shall be swept when visible soil material is carried onto the roadway
5.2	Bay Area Quality Management District Enhanced Dust Control Measures	For single maintenance sites greater than four acres, the District shall implement Bay Area Quality Management District Enhanced Dust Control Measures. These measures include the following: 1. Inactive areas shall be sprayed with soil stabilizer or seeded. 2. Exposed stockpiles shall be watered, enclosed, covered, or sprayed with soil stabilizers. 3. Traffic speeds shall be limited to 15 mph. 4. Sandbags or other bank protections shall be installed to prevent silt runoff to roadways. 5. Vegetation in disturbed areas shall be replanted as soon as horticulturally appropriate. For example, plant material may not be ready as soon as the job is done (e.g. willow cuttings have to be collected during winter dormancy).

MINOR MAINTENANCE

BMP	Title	Description
1.1	Conduct Work During Low Flow Periods	For minor work activities that will occur in the channel, work shall be conducted from the top of the bank if access is available and there are flows in the channel.
1.7	Pump/ Generator Set Operations and Maintenance	Pumps and generators shall be maintained and operated in a manner that minimizes impacts to water quality and aquatic species. 1. Pumps and generators shall be maintained according to manufacturers' specifications to regulate flows to prevent dryback or washout conditions. 2. Pumps shall be operated and monitored to prevent low water conditions, which could pump muddy bottom water, or high water conditions, which creates ponding. 3. Pump intakes shall be screened to prevent uptake of fish and other vertebrates.
3.9	Retain Woody Materials and Vegetation	Woody material (including live leaning trees, dead trees, tree trunks, large limbs, and stumps) will be retained unless it is threatening a structure or impedes reasonable access. 1. Retain and flag stumps, snags, and branches in channels that can create fish habitat. 2. Ensure that this woody debris does not impede water flow and does not contribute to erosion. 3. When woody material is removed, priority will be given to reuse of the materials in bank protection projects. Non-native species containing allelopathic compounds shall not be used for construction of bank protection projects. Woody materials may also be used as mulch. (See BMP 2.6) 4. When retention will not compromise flood management system reliability, woody vegetation shall be left in place.

BMP	Title	Description
3.21	Minimize Rodenticide Impacts on Non-target Species	Burrowing rodents are controlled to minimize damage to levees on streams and canals. Rodent control areas shall be reviewed for the potential presence of special-status species and the rodent control methods tailored to minimize non-target species impacts. When chemical control is necessary, the use shall be guided by label restrictions and any advisories published by the California Department of Pesticide Regulation (CDPR) or the County Agricultural Commission. The EPA bulletin *Protecting Endangered Species, Interim Measures for Use of Pesticides in Santa Clara County* provides additional guidelines for rodenticide use (USEPA 2000). 1. Within the potential range of salt marsh harvest mouse (SMHM) (as designated on the District's GIS), lethal rodent control methods shall not be used. The District defines potential SMHM habitat as all areas north of Highway 237 as shown in Figure IV B11, and will refine this definition as surveys are conducted to eliminate areas that are separated by barren ground by at least 30 yards from any halophytic vegetation. 2. Prior to rodent control measures being employed, a qualified biologist shall conduct protocol surveys to determine the presence of Burrowing Owls. a. The location of Burrowing Owls shall be identified on the District's GIS system. b. A ½ mile buffer zone around burrowing owl locations shall be established. c. If necessary alternative methods of rodent control shall be determined by a qualified biologist. 3. The rodenticide applicator shall remove carcasses of poisoned animals, when they are found, to minimize secondary toxic effects on Raptors or other wildlife. Carcass survey and disposal shall be performed in the treated area beginning on the third day following the initial exposure of toxic baits. Any exposed carcasses shall be disposed of in a manner inaccessible to wildlife. Carcass surveys shall continue for at least 5 days after toxic baiting has ceased and thereafter, at least once a week, until no more carcasses are found. Any dead Raptors or other wildlife found in the treated area during the carcass surveys shall be turned over to CDFG's pesticide lab for analysis

Appendix F: Comments and Responses to Comments

RESPONSE-TO-COMMENTS
Hacienda and Deep Gulch Remediation Project - Almaden Quicksilver County Park
Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND)
August 24, 2010

Agencies, Organizations, Businesses and Individuals Who Received the Draft IS/MND

- David Cooke, Allen Matkins Esq. for Myers Industries, Inc. and Buckhorn, Inc.
- Jerry George, Pillsbury Law, (County legal advisor)
- Gamini Rajapakse, Senior Civil Engineer, Santa Clara County Roads and Airports Department
- California Department of Fish and Game
- California Department of Toxic Substance Control
- California Regional Water Quality Control Board - San Francisco Bay Region
- County of Santa Clara, County Counsel, Katherine Harasz
- County of Santa Clara Planning Department
- County of Santa Clara Roads and Airports Department
- Santa Clara Valley Water District
- U.S. Fish & Wildlife Service

Comment Letters Received on the Draft IS/MND

1) California Regional Water Quality Control Board, San Francisco Bay Region – Brian Wines
2) Santa Clara County Roads and Airports Department – Amir Douraghy
3) Santa Clara County Roads and Airports Department – Gamini Rajapakse
4) Santa Clara Valley Water District – Ben Davis
5) Myers Industries, Inc. and Buckhorn, Inc. – David Cooke
6) Kitty Monahan
7) Mike Boulland
8) Oral Comments Received at the New Almaden Public Hearing, August 9, 2010

RESPONSES TO COMMENTS

Comment Letter 1:
California Regional Water Quality Control Board, San Francisco Bay Region – Brian Wines

Comment 1-1. Section 1.3, Interagency Collaboration, Regulatory Review and Permitting, page 2 and Table 1. The discussion of Water Board regulation of jurisdictional waters should be expanded to clarify that the Water Board has regulatory authority over wetlands and waterways under both the federal Clean Water Act (CWA) and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the Water Board has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications (certifications) under Section 401 of the CWA, which are issued in combination with permits issued by the Army Corps of Engineers (ACOE), under Section 404 of the CWA. When the Water Board issues Section 401 certifications, it

simultaneously issues general Waste Discharge Requirements for the project, under the Porter-Cologne Water Quality Control Act. Activities in areas that are outside of the jurisdiction of the ACOE (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high water mark) are regulated by the Water Board, under the authority of the Porter-Cologne Water Quality Control Act. Activities that lie outside of ACOE jurisdiction may require the issuance of either individual or general waste discharge requirements (WDRs) from the Water Board.

Response: This language has been added to Section 1.3:
"~~A~~Also, on a state level, the RWQCB has regulatory authority over wetlands and waterways under both the federal Clean Water Act (CWA) and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the RWQCB has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications (certifications) under Section 401 of the CWA, which are issued in combination with permits issued by the Army Corps of Engineers (ACOE), under Section 404 of the CWA. Activities that lie outside of ACOE jurisdiction may also require the issuance of either individual or general waste discharge requirements (WDRs) from the RWCQB."

Comment 1-2. Section 2.12, Temporary Dewatering and Crossings of Alamitos Creek, pages 13 and 14. Text in this section of the ISMND proposes to place clean earthen fill over geotextile fabric above culverted, temporary creek crossings. In the event of unexpected high flows, this dirt could be washed down stream and potentially foul spawning gravel in the creek. Because of this, the Water Board only allows clean gravel to be used as temporary fill in streams with anadromous fish populations.

Response: Check dams and temporary fill will be constructed of either sand bags or clean gravel and visqueen plastic sheeting. All fill material placed in the creek will be removed after completion of work. Sentence 3 in the first paragraph under section 2.12 has been revised as follows:
"~~A~~At a minimum, these crossings would consist of check dams, culverts and temporary clean gravel ~~earthen~~ fill to channel stream flows into a culverted crossings."

Comment 1-3. BIO-9 Measures, page 42. Text in this section of the ISMND states that a Riparian Mitigation and Monitoring Plan (MMP) will be developed as part of the Streambed Alteration Agreement. The text should be revised to clarify that the MMP will also be required as a component of the CWA Section 401 certification/Waste Discharge Requirements that will be issued for the Project by the Water Board (See Comment 1).

Response: BIO-9 Measure (b) has been revised as follows:
"~~b~~. Develop a Riparian Mitigation and Monitoring Plan as part of the Streambed Alteration Agreement required by the CDFG and as a component of the CWA Section 401 certification/Waste Discharge Requirements that will be issued for the Project by the RWCQB. The plan will mitigate tree loss on a 3:1 basis and will restore the riparian understory and ground cover on at least a 1:1 area (SF) basis. The plan will be developed by qualified biologist and must be approved by the ~~CDFG~~ appropriate agencies."

Comment 1-4. Text in this section also proposes to monitor vegetation at the site for three years after the Riparian MMP is implemented. Three years is an unacceptably short monitoring period

when trees must be planted as part of the Project's mitigation measures. Trees usually require about 3 years of irrigation before their roots are well enough established to sustain them. Several years of monitoring are needed to verify that the root systems of the trees are sufficiently well established to support the trees in wet and dry years. The Water Board usually requires a minimum of 10 years of monitoring of riparian trees.

Response: The ***Final Almaden Quicksilver Restoration Plan and Environmental Assessment*** (USFWS & CDFG, 2008) in the section, *Success Criteria and Monitoring*, states ―Re establishment and survival of native species will be inspected annually for up to three years after project completion." In the absence of other requirements, County is using this statement as guidance for the vegetation monitoring period.

Comment 1-5. BIO Impact 10, page 42. Text in this section of the ISMND only discusses waters subject to federal jurisdiction. The text should be revised to cover waters that are subject to State jurisdiction (See Comment 1).

Response: The appropriate place to discuss the RWCQB authority is in the Discussion section of Biological Resources. The first paragraph under the Discussion section will be revised as follows:

―Natural communities in the project area include stream/aquatic, freshwater wetland, foothill riparian woodland, foothill oak woodland, chaparral, and open grassland. Several of these communities as well as species or individuals within these communities are protected by law. Stream and wetland communities are protected by the Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. California Department of Fish and Game (CDFG) Code Section 1602 requires that lead agencies work with CDFG to develop a Stream Alteration Agreement when stream habitats and riparian zones are impacted by a project. Riparian zone protection is also required by the County of Santa Clara General Plan (1994). The Regional Water Quality Control Board (RWQCB) has regulatory authority over wetlands and waterways under both the federal Clean Water Act (CWA) and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the RWQCB has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications (certifications) under Section 401 of the CWA, which are issued in combination with permits issued by the Army Corps of Engineers (ACOE), under Section 404 of the CWA. When the RWCQB issues Section 401 certifications, it simultaneously issues general Waste Discharge Requirements for the project, under the Porter-Cologne Water Quality Control Act. Activities in areas that are outside of the jurisdiction of the ACOE (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high water mark) are regulated by the RWCQB under the authority of the Porter-Cologne Water Quality Control Act. Activities that lie outside of ACOE jurisdiction may require the issuance of either individual or general waste discharge requirements (WDRs) from the Water Board."

Comment 1-6. BIO Impact 10, page 43. Text in this section of the ISMND proposes to monitor any created wetlands for 3 years. The Water Board requires a minimum of five years of monitoring for created wetlands.

Response: The ***Final Almaden Quicksilver Restoration Plan and Environmental Assessment***

(USFWS & CDFG, 2008) in the section, *Success Criteria and Monitoring*, states ―Re establishment and survival of native species will be inspected annually for up to three years after project completion." In the absence of other requirements, the County is using this statement as guidance for the vegetation monitoring period.

Comment 1-7. HYD-2 Measures, page 72. The preferred erosion repair methods in Table 6 include the use of vegetated geogrids and cellular confinement systems. The Water Board strongly prefers that all such materials be composed of biodegradable materials.

Response: As noted in the Public Draft IS/MND, the County will implement measures and techniques for preventing soil erosion as given in the ***Guidelines and Standards for Land Use Near Streams***. These methods focus on bioengineering for slope stabilization and erosion control. The County will use biodegradable materials to the extent feasible and recognizes that methods such as concrete crib walls, gabions, concrete block, sacked concrete, and gunite slope protection are not recommended under most conditions. Some hardscape erosion control—potentially including a concrete cut-off wall and boulders--will be required in targeted areas of slope instability and intense stream erosion. Such features will be kept to a minimum.

Comment 1-8. HYD-2 Measures, page 73. Text describing work in the creek channel and mitigation measures should be modified to require that a fluvial geomorphologist be present to design and oversee restoration of the creek channels. If the bed and/or banks of a creek are altered by excavation, this can trigger headcuts or other erosion mechanisms. Care must be taken to prevent Project-related excavation from destabilizing the creek channels.

Response: Very little excavation in creek channels will occur in this project, but for what will occur, County staff and their consultants have the expertise to design the calcine removal and creek channel restoration. A geotechnical consultant will observe operations where calcine is along creeks and in unstable areas are removed to prevent slides or changes to creek morphology.

Comment 1-9. HYD-2 Measures, page 74. Text on page 74 describes temporarily bypassing creek flows around the work site. The text states that a permit will be required from the California Department of Fish and Game and that the Water Board will issue a Clean Water Act Section 402 permit for the diversion. The design and operation of the diversion structure will actually be subject to Water Board jurisdiction under a Clean Water Act Section 401 certification.

Response: The answer under Question 22 on page 74 will be revised as follows:
―The project will temporarily divert stream water into pipes along approximately 600 ft of Alamitos Creek. These diversions will be temporary, occurring from approximately April 15 to October 15. The County will obtain a CDFG Stream Bed Alteration Agreement. ~~and permits from the RWQCB, related to Clean Water Act Section 402 which regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program~~. The design and operation of the diversion structure will be subject to RWQCB jurisdiction under a Clean Water Act Section 401 certification. *Less than significant with mitigations incorporated* (**BIO-9**)."

Comment Letter 2:
Santa Clara County Roads and Airports Department – Amir Douraghy

Thank you for the opportunity to comment on the subject project. I visited the site and have no comments.

Comment Letter 3:
Santa Clara County Roads and Airports Department – Gamini Rajapakse

We have no comments on the Draft Initial Study/ Mitigated Negative Declaration for the project. Please send the updated schedule for the project, so we can secure the anticipated funding for the project.

Comment Letter 4:
Santa Clara Valley Water District – Ben Davis

The Santa Clara Valley Water District (District) has reviewed the Draft Initial Study and Mitigated Negative Declaration for the Hacienda Deep Gulch Remediation Project received on July 20, 2010.

Comment 4-1. As the proposed remediation project on the subject site is not located on District easement or fee title right of way, therefore in accordance with District Water Resource Protection Ordinance, a District permit is not required for this project. Though the project does not require a District permit the District recommends that plants used for mitigation be grown from the Alamitos Creek watershed to protect the genetic integrity of the local native riparian plants and in accordance with the "Guidelines and Standards for land use near streams".

Response: Trees are being grown for the mitigation and the material has come from local watersheds. The same will be true for understory plants, to the greatest extent feasible. No plants known to be invasive or non-native will be planted in the mitigation. The County will follow the direction for plant material in ***Guidelines and Standards for Land Use near Streams*** to the greatest extent feasible.

Comment Letter 5:
Myers Industries, Inc. and Buckhorn, Inc. – David Cooke

Comment 5-1. Section 2.2, page 7 of 100. The PMND states: "The County purchased 3,600 acres from the New Idria Mining Chemical Company, the predecessor to Meyers Industries [sic], in 1973 and 1975 to create AQS County Park." This statement is inaccurate and should be corrected. Records demonstrate that the County acquired real property that now comprises a portion of the AQS County Park from the New Idria Mining & Chemical Company ("NIMCC") in two transactions, the first in 1973, the second in 1975. NIMCC is not a predecessor to Myers Industries, Inc. Additionally, the area historically known as the "Hacienda Furnace Yard" area,

which comprises all or a large majority of the Project area, was not owned by NIMCC and was not conveyed to the County in either of these two transactions. Rather, Buckhorn understands that the Hacienda Furnace Yard area and surrounding properties were acquired by the County in one or more subsequent transactions from one or more other prior owners in the late 1970's or early 1980's, and that the County thereafter incorporated these areas into the AQS County Park. Since the focus of the PMND is on the Project area, this historical section should be revised not only to correct the errors described above but also to explain the history of the County's acquisition of the real property on which the Project is situated.

Response: The second paragraph under section 2.2 will be revised as follows:
~~"~~The County purchased 3,600 acres from the New Idria Mining Chemical Company~~, the predecessor to Meyers Industries,~~ in 1973 and 1975 to create AQS County Park. The Hacienda Furnace Yard and Jacques Ridge areas were purchased later and added to the Park."

Comment 5-2. Section 2.2, page 8 of 100. The PMND states: "The elevated mercury levels and the highly detrimental effect of methylated mercury on wildlife and humans have been well documented. The historic mercury mining operations and remaining calcine piles at AQS County Park are one part of this mercury pollution problem." While it is true that, as a general matter, significant documentation exists regarding the detrimental effect of methylated mercury on wildlife and humans, the residual impacts, if any, of remaining calcine deposits on human and ecological receptors after the major remediation projects conducted at the AQS Park from 1998-2000 have not, to Buckhorn's knowledge, been subjected to systematic or detailed studies. The PMND's description of current conditions relating to human and ecological health impacts of residual mercury-bearing materials should be revised to reflect the fact that major remediation activities have already taken place.

Response: While this project description is mostly derived from the ***Final Almaden Quicksilver Restoration Plan and Environmental Assessment***, nevertheless, we will delete this paragraph in Section 2.2 on page 8 from the text:
~~"Mercury occurs naturally in this area and continues to seep from the landscape and the piles of remaining calcines into Alamitos Creek, a tributary to the Guadalupe River. Mercury mining and the remaining calcines have delivered mercury to the local rivers in the watershed and have contributed to the mercury contamination of the South San Francisco Bay. The elevated mercury levels and the highly detrimental effect of methylated mercury on wildlife and humans have been well documented. The historic mercury mining operations and remaining calcine piles at AQS County Park are one part of this mercury pollution problem.~~"

Comment 5-3. The PMND states: "County Parks is required under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as the Superfund Law, to proceed with remediation and restoration of the former mining lands." This statement is inaccurate, as it implies that the AQS is a Superfund site subject to remedial action under the supervision of the federal government, which is not the case. Furthermore, CERCLA does not require the remediation and restoration of "former mining lands." Rather, the County is required to perform the Project pursuant to the terms of a settlement, documented in a federal consent decree entered in 2005, of a threatened claim by public agency trustees of natural resources for alleged natural resource damages under CERCLA. The PMND should be corrected accordingly.

Response: The appropriate paragraph on page 8 will be changed as follows:
~~T~~he County of Santa Clara ~~Parks~~ is required pursuant to terms of the settlement agreement, document in the 2005 consent decree, ~~under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as the Superfund Law,~~ to proceed with removal of visible calcines deposited at Upper Hacienda, Lower Hacienda and Deep Gulch and remediation and restoration of these areas. The U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) were appointed as the natural resource Trustee agencies for this action. The Trustees undertook a natural resource damage assessment (NRDA) ~~with the potentially responsible parties (current and former owners of the lands mined for mercury)~~ to ~~and~~ develop the Final Almaden Quicksilver Restoration Plan and Environmental Assessment (RP/EA) (USFWS & CDFG, 2008). This plan follows previous remediation actions undertaken at AQS County Park in 1998-2000. The RP/EA (2008) states that ~~r~~remedial actions were completed at five former mercury ore extraction or processing areas in Almaden Quicksilver Park from 1998-2000.""

Comment 5-4. The PMND goes on to state: "The Trustees undertook a natural resource damage assessment (NRDA) with the potentially responsible parties (current and former owners of the lands mined for mercury) to develop the Final Almaden Quicksilver Restoration Plan and Environmental Assessment (RPIEA) (USFWS & CDFG, 2008)." This is inaccurate, While it is true tbat the Trustee agencies undertook to conduct a natural resource damages assessment and that they communicated during the course of that assessment with public agency and private entities that had been identified as parties potentially responsible for those damages, it is not true that the NRDA was conducted with the potentially responsible parties to develop the Final RPIEA. The Final RP/EA was prepared after the 2005 consent decree resolved the Trustees' natural resource damages claim, and at least some of the potentially responsible parties who were involved in the 2005 settlement were not involved in the development of the RP/EA or in the activities that led up to its adoption. The PMND should be corrected accordingly.

Response: This sentence in Section 2.2 on page 8 has been revised as follows:
~~T~~he Trustees undertook a natural resource damage assessment (NRDA). ~~with the potentially responsible parties (current and former owners of the lands mined for mercury)~~ Information from the NRDA was used to ~~and~~ develop the Final Almaden Quicksilver Restoration Plan and Environmental Assessment (RP/EA) (USFWS & CDFG, 2008).

Comment 5-5. In the same section, the PMND goes on to state: "The Final RPIEA evaluates five additional restoration projects for removing the remaining calcines. There are two primary projects – Jacques Gulch and Hacienda Furnace Yard - and three compensatory projects, Coyote Creek *Arundo* Removal, Hillsdale Bridge Fish Barrier Removal, and Ravenswood Marsh Predator Control." This statement should be corrected to state, more accurately, that "[T]he Final RP/EA evaluates two additional restoration projects for removing the remaining calcines - the primary projects known as the Jacques Gulch and Hacienda Furnace Yard projects - and three compensatory projects ...."

Response: The appropriate paragraph in Section 2.2 on page 8 has been revised as follows:
~~T~~he Final RP/EA evaluates five additional restoration projects for remediating the natural

resource damages. ~~removing the remaining calcines.~~ There are two primary projects, Jacques Gulch and Hacienda Furnace Yard, which involve the removal of remaining calcines, and three compensatory projects, Coyote Creek *Arundo* Removal, Hillsdale Bridge Fish Barrier Removal, and Ravenswood Marsh Predator Control."

Comment 5-6. Section 2.4. page 9 of 100. The PMND states: "In April 2000, the County of Santa Clara with other local municipalities and companies were identified as potentially responsible parties (PRP) by the U.S. Department of Interior and the State of California (the Trustees) for natural resources damages act (NRDA)." This statement is inaccurate. The Trustees who alleged the occurrence of natural resource damages were the U.S. Department of the Interior and the State Department of Fish & Game (not the State of California as such). Also, these Trustees identified parties potentially responsible for natural resource damages, not for "natural resource damages act," or for "NRDA" (initials which, as used previously in the PMND, stand for "natural resource damages assessment").

Response: The text on page 9 will be revised as follows:
"~~I~~In April 2000, the County of Santa Clara with other local municipalities and companies were identified as potentially responsible parties (PRP) by the U.S. Department of Interior and the ~~State of~~ California Department of Fish and Game (the Trustees) for natural resources damages. ~~act (NRDA).~~ In July 2005, a Consent Decree settlement was reached between PRP and the Trustees."

Comment 5-7. Section 4. page 52 of 100. The PMND states: "The project is required under the Superfund Law to remove and/or stabilize the mercury containing calcine deposits that remain from mining activities and restore the natural contours of the landscape and native foothill riparian and oak woodland vegetation." As noted above, the reference to the Superfund Law is incorrect, and this statement should be corrected as recommended above. Additionally, the RP/EA requires removal and/or stabilization of visible mercury containing calcine deposits within specified areas, along with specified post-removal restoration activities. These areas comprise the project area as defined in the PMND. The PMND should be corrected accordingly.

Response: The paragraph in Cultural Resources under question 4 will be revised as follows:
"~~T~~The project site is located within the New Almaden Historic District. The project requires removal and/or stabilization of visible mercury containing calcine deposits within specified areas ~~is required under the Superfund Law to remove and/or stabilize the mercury containing calcine deposits that remain from mining activities~~ and the project will restore the natural contours of the landscape and native foothill riparian and oak woodland vegetation."

Comment 5-8. Appendix B - *Identification of Wetlands and Waters of the US.* Section 1.3. page 1. The second and third paragraphs of this section contain numerous factual errors similar to those detailed above, and should be corrected in the same manner and for the same reasons discussed above.

Response: The appropriate changes have been made to these sections.

Comment 5-9. Appendix C - *Technical Report for Cultural Resources Initial Study.* Section

2.0. page 2. The second paragraph of this section contains factual errors similar to those detailed above, and should be corrected in the same manner and for the same reasons discussed above.

Response: The appropriate changes have been made to this section.

Comment Letter 6:
Kitty Monahan

Comment 6-1. Page 5: Cul-2 Measures. The retort along Deep Gulch Creek is of historic significance and must be saved.

Response: The IS/MND identifies the retort as a historic structure. Mitigation measures (Mitigation Measure Cul-2 A. Historic Resource #y44 – Retort) to develop an appropriate historic context and document the historic resource are included in the project.

Comment 6-2. Remove the retort and place it next to the historic equipment in the overflow parking area of Hacienda Park Entrance. Members of The New Almaden Quicksilver County Park Association will restore it and eventually add it to their out-door display.

Response: County Parks will instruct the contractor to remove the metal elements of the retort and place them in a secure location in the park. Contractor shall follow the mitigation measures for hazardous materials because of possible mercury contamination of the retort structure.

Comment Letter 7:
Mike Boulland

7-1 Jacque Gulch
Comment 7-1-1. Is the Jacque Gulch project completed?

Response: Jacques Gulch is a Santa Clara Valley Water District (SCVWD) project, substantially completed in 2009. Contact SCVWD for additional information.

***7-2 Hacienda Project** - Los Alamitos Road Washout*
Comment 7-2-1. Why did the erosion occur and cause the Los Alamitos road to wash out?

Response: Los Alamitos Road was investigated and the repair work was designed and constructed by the County Roads and Airports Department. Please refer to this Department for further information.

Comment 7-2-2. Will the erosion below of the Los Alamitos Road washout be addressed and repaired during Hacienda project?

Response: Our task in this project is to remove the remaining calcine material at the site. The Los Alamitos Road washout was repaired by R&A in 2008. County Parks and Recreation Department (County Parks) is not aware of any other major erosion problems at the site.

Comment 7-2-3. What are you going to do to make sure there is no erosion below the road washout?

Response: The County Roads and Airport Department are the owners of Alamitos Road. R&A repaired the washout in 2008. County Parks task is to remove the remaining calcine material in the project site. In order to minimize erosion, the current design calls for installation of riprap or other appropriate erosion control methods at all creek bank areas that will be exposed after removal of calcine material.

Comment 7-2-4. Do your plans include measures to prevent erosion downstream? In the park? In the Village?

Response: Erosion is a natural phenomena and it may be controlled or minimize, but can not be prevented. The current project design calls for installation of various erosion control measures at all areas that will be disturbed in the process of removal of calcine materials. Control of erosion in the Village is not the responsibility of County Parks.

Comment 7-2-5. Last time repairs took a long time to fix the road, if damage occurs to the road or downstream how quickly it be repaired?

Response: Road repair is the responsibility of County Roads and Airport Department, not County Parks. The current project design calls for installation of various erosion control measures at all areas that will be disturbed in the process of removal of calcine materials.

Comment 7-2-6. Have you undertaken a hydrologic engineering study to make sure the channel improvement and straightening of Los Alamitos Creek will not cause trouble downstream?

Response: County Parks' consultant (CH2M HILL) conducted hydraulic studies for the 1998 remediation at the site. This study was revised for the current project. This project's aim is to remove the remaining calcine material at the site, not to improve the channel or straighten Alamitos Creek. As a result of calcine removal at UH-1, UH-2 and AC-2, the project design calls for the creek channel at these locations to be made wider by 3' to 5'. This may tend to reducing the creek channel flow velocity, which is beneficial.

Comment 7-2-7. There is a logjam downstream next to the road washout? What will happen to the logjam? Could the Logjam area be included in the Hydrological study?

Response: The logjam opposite the previous road washout will be removed in order to install a check dam to divert the creek flow away from the calcine deposits at the Upper Hacienda Area. Logjams can cause the creek to meander and change course. The creek meandering at this location started soil erosion below the road and was one of the causes of the washout.

Comment 7-2-8. Will new stream boundaries be designed to slow the speed of the water?

Response: There will be no change in the stream boundaries other than the areas mentioned in the response to Comment 7-2-6, above. The stream velocity (speed of water) is a factor of the creek bottom slope, creek configurations, and flow quantity. Construction of the project will not negatively alter any of these parameters.

7-3 Deep Gulch Creek

Comment 7-3-1. Do you plan to straighten out Deep Gulch Creek like you did at Jacques Gulch creek?

Response: No, the project will not change the basic morphology of Deep Gulch or Alamitos Creek and neither will be straightened. As noted previously, Jacques Gulch is a Santa Clara Valley Water District (SCVWD) project.

Comment 7-3-2. Did you have a hydrologist look at the engineering of the Deep Gulch creek?

Response: No, since work at Deep Gulch area will be limited to removal of calcine material at certain locations from the eastern creek bank and stabilizing the newly formed bank. There is no work planned in the creek proper.

Comment 7-3-3. We are concerned that at the confluence of Deep Gulch Creek and Los Alamitos Creek will be affected by your project. We are concerned with the increased speed of channel improvement and downstream erosions.

Response: The project will not affect the confluence of Deep Gulch and Alamitos Creek. There is no work planned for that area and so there will be no effect. See responses to Comments 7-2-6, 7-2-7 and 7-2-8, above.

Comment 7-3-4. What plans are being designed to slow the flow of the creek during a high flood season?

Response: This is not a flood control project and work will not address water flow issues. This project will remove calcine material along the creek slopes. Also see responses to Comments 7-2-6, 7-2-7 and 7-2-8, above.

Negative Declaration - The CEQUA is declaring a Negative Declaration or no environmental impact with this project.

Comment 7-3- 5. If you are doing a Hydrological Report and not straightening for both creeks we agree with the statement of declaring a Negative Declaration. If you are not doing a Hydrological Report for both creeks and straightening the stream banks, we disagree the statement of declaring a negative declaration for the project and feel the change in the speed of the water flow will have a direct environmental impact on all downstream property owners.

Response: The project is a remediation and restoration project to remove calcine materials. As

mentioned above, the project does not involve alterations to the creek or straightening of the creek channel. Information about the project can be found in the project description and Initial Study/Mitigated Negative Declaration (IS/MND) that was prepared for the project. The IS/MND provides the environmental review for the removal of the remaining visible calcine deposits and identifies potential environmental impacts. The IS/MND proposes mitigation measures that would reduce such impacts to less than significant levels. These Mitigation Measures are identified in the Mitigation Monitoring and Reporting Program included in the IS/MND.

8) ***Oral Comments – Summary of Comments Received at the Public Meeting in New Almaden August 9, 2010***

a. How old are the trees to be removed from along the Mine Hill Trail? Will the view be the same in our lifetime? Is the big oak near the interpretive sign being removed? Are the trees growing in the calcine? Will the loss of the bay trees results in stress on the oak trees? Are you replanting trees?

Response: We don't know the ages of the trees for certain, but they are probably in the 75-100 year range. The project will remove 4 trees along Mine Hill Trail and the view will not be the same in our lifetimes. The County will be replacing trees on a 3:1 basis, and some of these trees will take many decades to become large trees. However, we will also plant fast growing native species that, within a decade or less, will provide habitat and aesthetically enhance the Deep Gulch area. We don't know specifically which tree is meant by the ~~"b~~ig oak near the interpretive sign", but 4 trees in the vicinity of the sign will be removed, 3 valley oaks approximately 15/20 inches (double trunk), 24 inches and 44 inches in diameter and a multi-trunk bay laurel, with trunks 3-10 inches in diameter. Some of the trees are growing in the calcine. Loss of bay trees may stress the oaks, but we will plant native understory and fast growing tree species to enhance the oak community and benefit existing trees.

b. Do you plan to use riprap like at Jacques Gulch? Will the rip-rap be as extensive as the existing? Will the creek have more of the same ~~"a~~rtificial" look as exists now as a result of the previous rip-rap?

Response: No, this project will not use riprap as was used at Jacques Gulch. This project is very different. Riprap, engineered elements, and artificial materials will be used only when absolutely needed to prevent significant stream or hillside erosion. The project will use bioengineered elements such as root wads, plantings and tree trunks to stabilize slopes and will use biodegradable materials to the greatest extent feasible. The creek will not have an ~~"a~~rtificial look". A primary goal of the project is to leave the affected areas with natural contours and to revegetate those areas with native species. The Draft IS/MND states, under **HYD-2 Measures** that the County will:
~~"I~~mplement measures and techniques for preventing soil erosion as given in the ***Guidelines and Standards for Land Use Near Streams***. In particular Chapter 4, pages 4.81-4.84 and 4.92-4.106 provides a range of recommended soil and slope stabilization methods (See Table 6 – Preferred Erosion Repair Methods from Chapter 4). Methods not recommended are given on pages 4.107-4.109 and include concrete crib walls, gabions, concrete block, sacked concrete, and gunite slope protection."

c. The erosion coming from the street at Upper Hacienda is also the result of a pond draining from Cinnabar Hills Road. Will the erosion protection around the outfall accommodate this added drainage?

Response: The erosion protection around the outfall will be sized and implemented to accommodate the drainage coming through the outfall, no matter where that water originates.

d. Why did Almaden Road washout? Will this project affect Almaden Road? Whom do we contact if the road fails?

Response: Please see responses to Comment letter 7. Alamitos Road is owned by the County of Santa Clara Roads and Airports Department. The Roads & Airports Department phone number is (408) 573-2400.

e. Where will the calcine material be hauled? Will it be trucked on the weekends or weekdays? Is there room remaining at the disposal site?

Response: The calcine will be hauled to the "San Francisco Open Cut" using Mine Hill Trail and Wood Road as haul routes to the consolidation area. Hauling would be limited to weekdays between 7am and 5pm. There is adequate capacity at the disposal site.

f. Is the speed of the water being addressed? Will the logjam near the Upper Hacienda site be removed? Will the creek flows affect our properties located downstream of the project? If you remove the logjam will the water speed up and cause damage or flooding on my property? We do not want the creek straightened. We want more sinuosity.

Response: The creek flow velocity (speed of water) will not be addressed because this is not a creek channel modification or alteration project. The project is to remove calcine material from portions of the creek bank. The logjam at Upper Hacienda will be removed in order to install a temporary check dam to divert the creek flow away from the calcine deposits and to enable a creek crossing in order to access and remove calcine material. Removal of the logjam should not affect the creek velocity. This project's aim is to remove the remaining calcines material at the site and it is not to improve the channel or straighten Alamitos Creek.

g. We do not want riprap. How do we get away from riprap? Can you use round boulders? We want a more natural approach to creek bank armoring. We want trees and natural materials.

Response: As noted in the response to question b, above, riprap, engineered elements, and artificial materials will be used only when absolutely needed to prevent significant stream or hillside erosion. A primary goal of the project is to return the slopes to natural contours and to cover with native vegetation. The project will use a more natural approach to creek bank armoring such as bioengineered elements such as root wads, plantings and tree trunks to stabilize slopes and will use biodegradable materials to the greatest extent feasible.

h. How long does geo-fabric last?

Response: Such materials may last 5-10 years, depending on the material. The County will use biodegradable material whenever possible.

i. Did you find the Vichy Springs Well?

Response: Yes, it is located under the Almaden Road Bridge. This feature is discussed in the Cultural Section of the project's Initial Study/Mitigated Negative Declaration.

j. We know of a 14" metal pipe upstream of the Almaden Road Bridge. Did you find it?

Response: None of the consultants nor the County staff planning this project found such a pipe.

k. How far up Deep Gulch will the project extend?

Response: The project extends no further than approximately 20ft up the Gulch from the retort. The project stops short of where the path bends sharply to the right.

l. There seems to be many project uncertainties. How will contractors bid this project?

Response: The project design is 60% complete and this document, in order not to limit the design Engineer choice, provides options and discusses the impacts of these options then provides mitigations to these impacts. As we progress in the project design and design choices are made these uncertainties will disappear.

m. What is the construction schedule?

Response: The Project is expected to begin in Fall/Winter 2010 and end in Winter 2012. As noted in the IS/MND Project Description, "The Hacienda and Deep Gulch Remediation Project is proposed to occur in two phases. The project will begin with tree removal and brushing in the winter between November 1 and January 31. This first phase will be undertaken outside of the breeding bird season to facilitate construction the following summer. Calcine removal, grading, any possibly additional tree removal and revegetation will occur the following summer during the permitted in stream work window which typically begins April 15 and runs through October 15. A certified arborist will be on site to supervise tree pruning, removal and protection. Revegetation planting will extend into the fall and early winter to ensure the highest potential for planting success during the cooler, rainy season. Construction will typically occur on weekdays."

n. Who is paying for this project?

Response: County Parks applied for and received tentative approval for a grant from the Federal Coast Impact Program for the project. Furthermore, the County has a cost sharing agreement with Myers Industries, Inc. and Buckhorn, Inc. (collectively, "Buckhorn") for the project design and construction.

o. Who do we contact if there is downstream flooding or damage to our property after the project is completed?

Response: Santa Clara Valley Water District (SCVD) is the authority who controls the creek flow and they operate under the guidelines of the State Division of Safety of Dams, Department of Water Resources (DOSOD) regulations. SCVWD phone number is (408) 265-2600 and DOSOD phone number is (916) 227-4644.

COMMENTS

Hacienda and Deep Gulch Remediation Project - Almaden Quicksilver County Park

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Cathleen Cox
Acting Director

August 18, 2010

Mohamed Assaf
County of Santa Clara, Parks and Recreation Department
298 Garden Hill Drive
Los Gatos, CA 95070

Subject: Hacienda and Deep Gulch Remedian Project, Almaden Quicksilver County Park
SCH#: 2010072049

Dear Mohamed Assaf:

The State Clearinghouse submitted the above named Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on August 17, 2010, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

RECEIVED
AUG 24 2010
SCC Parks & Recreation

Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2010072049
Project Title Hacienda and Deep Gulch Remedian Project, Almaden Quicksilver County Park
Lead Agency Santa Clara County

Type Neg Negative Declaration

Description The Hacienda and Deep Gulch Remediation Project (Project) is a mercury remediation and habitat restoration project in the Hacienda Furnace Yard Area of Almaden Quicksilver County Park (AQS County Park) and beneath the Alamitos Creek Bridge on Alamitos Road. AQS Park is a 3,977 acres area owned and operated by County of Santa Clara Roads and Airports Department. The project includes the removal of remnant mining waste material, grading to create stable creek banks at Alamitos Creek and Deep Gulch area, stabilizing and hydro-seeding all disturbed areas, and re-vegetation of the creek banks along Alamitos Creek and Deep Gulch within Almaden Quicksilver County Park.

Lead Agency Contact

Name Mohamed Assaf
Agency County of Santa Clara, Parks and Recreation Department
Phone (408) 355-2201 **Fax**
email
Address 298 Garden Hill Drive
City Los Gatos **State** CA **Zip** 95070

Project Location

County Santa Clara
City
Region
Lat / Long 37° 10' 39" N / 121° 49' 53" W
Cross Streets Almaden Road, Alamitos Road
Parcel No. 583-20-004, 583-23-019
Township 09S **Range** 01E **Section** 02 **Base**

Proximity to:

Highways
Airports
Railways
Waterways Alamitos Creek
Schools
Land Use Parks Recreation/Hillside & H1 - Historic Preservation Zoning District/Regional Parks Existing.

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Geologic/Seismic; Noise; Recreation/Parks; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Wetland/Riparian; Landuse

Reviewing Agencies Resources Agency; Department of Fish and Game, Region 5; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; Regional Water Quality Control Board, Region 2; Department of Toxic Substances Control; Native American Heritage Commission

Date Received 07/19/2010 **Start of Review** 07/19/2010 **End of Review** 08/17/2010

Note: Blanks in data fields result from insufficient information provided by lead agency.

California Regional Water Quality Control Board
San Francisco Bay Region

Linda S. Adams
Secretary for
Environmental Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Arnold Schwarzenegger
Governor

August 16, 2010
CIWQS Place ID No. 756038

Sent via electronic mail: No hardcopy to follow

Count of Santa Clara, Parks and Recreation Department
298 Garden Hill Drive
Los Gatos, CA 95070

Attn: Mohamed Assaf (mohamed.assaf@prk.sccgov.org)

Re: Comments on the Draft Initial Study / Mitigated Negative Declaration for the Hacienda and Deep Gulch Remediation Project, Almaden Quicksilver County Park SCH No.: 2010072049

Dear Mr. Assaf:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff appreciate the opportunity to review the *Draft Initial Study / Mitigated Negative Declaration (ISMND) for the Hacienda and Deep Gulch Remediation Project, Almaden Quicksilver County Park***.** The ISMND evaluates potential environmental impacts associated with the removal of historic calcine deposits from Alamitos Creek and Deep Gulch in the Almaden Quicksilver County Park (Project). The Project's goal is to provide long-term benefits to the watershed by removing historic mercury deposits, but the removal actions will have temporary impacts to waters of the State. Water Board staff have the following comment on aspects of the Project that may impact waters of the State.

Comment 1
Section 1.3, Interagency Collaboration, Regulatory Review and Permitting, page 2 and Table 1
The discussion of Water Board regulation of jurisdictional waters should be expanded to clarify that the Water Board has regulatory authority over wetlands and waterways under both the federal Clean Water Act (CWA) and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the Water Board has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications (certifications) under Section 401 of the CWA, which are issued in combination with permits issued by the Army Corps of Engineers (ACOE), under Section 404 of the CWA. When the Water Board issues Section 401 certifications, it simultaneously issues general Waste Discharge Requirements for the project, under the Porter-Cologne Water Quality Control Act. Activities in areas that are outside of the jurisdiction of the ACOE (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high water mark) are regulated by the Water Board, under the authority of the Porter-Cologne Water Quality Control Act. Activities

that lie outside of ACOE jurisdiction may require the issuance of either individual or general waste discharge requirements (WDRs) from the Water Board.

Comment 2.
Section 2.12, Temporary Dewatering and Crossings of Alamitos Creek, pages 13 and 14.
Text in this section of the ISMND proposes to place clean earthen fill over geotextile fabric above culverted, temporary creek crossings. In the event of unexpected high flows, this dirt could be washed down stream and potentially foul spawning gravel in the creek. Because of this, the Water Board only allows clean gravel to be used as temporary fill in streams with anadromous fish populations.

Comment 3.
BIO-9 Measures, page 42.
Text in this section of the ISMND states that a Riparian Mitigation and Monitoring Plan (MMP) will be developed as part of the Streambed Alteration Agreement. The text should be revised to clarify that the MMP will also be required as a component of the CWA Section 401 certification/Waste Discharge Requirements that will be issued for the Project by the Water Board (See Comment 1).

Text in this section also proposes to monitor vegetation at the site for three years after the Riparian MMP is implemented. Three years is an unacceptably short monitoring period when trees must be planted as part of the Project's mitigation measures. Trees usually require about 3 years of irrigation before their roots are well enough established to sustain them. Several years of monitoring are needed to verify that the root systems of the trees are sufficiently well established to support the trees in wet and dry years. The Water Board usually requires a minimum of 10 years of monitoring of riparian trees.

Comment 4.
BIO Impact 10, page 42.
Text in this section of the ISMND only discusses waters subject to federal jurisdiction. The text should be revised to cover waters that are subject to State jurisdiction (See Comment 1).

Comment 5.
BIO Impact 10, page 43.
Text in this section of the ISMND proposes to monitor any created wetlands for 3 years. The Water Board requires a minimum of five years of monitoring for created wetlands.

Comment 6.
HYD-2 Measures, page 72.
The preferred erosion repair methods in Table 6 include the use of vegetated geogrids and cellular confinement systems. The Water Board strongly prefers that all such materials be composed of biodegradable materials.

Comment 7.
HYD-2 Measures, page 73.
Text describing work in the creek channel and mitigation measures should be modified to require that a fluvial geomorphologist be present to design and oversee restoration of the creek channels. If the bed and/or banks of a creek are altered by excavation, this can trigger headcuts or other erosion mechanisms. Care must be taken to prevent Project-related excavation from destabilizing the creek channels.

Comment 8.
HYD-2 Measures, page 74.
Text on page 74 describes temporarily bypassing creek flows around the work site. The text states that a permit will be required from the California Department of Fish and Game and that the Water Board will issue a Clean Water Act Section 402 permit for the diversion. The design and operation of the diversion structure will actually be subject to Water Board jurisdiction under a Clean Water Act Section 401 certification.

If you have any questions, please contact me at (510) 622-5680, or via e-mail at bwines@waterboards.ca.gov.

Sincerely,

Brian Wines
Water Resources Control Engineer
South and East Bay Watershed Section

cc: State Clearinghouse (state.clearinghouse@opr.ca.gov)

Comment Letter 2

From: Amir Douraghy [mailto:Amir.Douraghy@rda.sccgov.org]
Sent: Friday, August 06, 2010 1:33 PM
To: Assaf, Mohamed
Subject: Hacienda and Deep Gulch Remediation Project

Mohamed,

Thank you for the opportunity to comment on the subject project. I visited the site and have no comments.

Amir

http://www.parkhere.org/portal/site/parks/parkschp?path=%2Fv7%2FParks%20and%20Recreation%2C%20Department%20of%20%28DEP%29%2FPlanning%20and%20Development%2FHacienda%20%26%20Deep%20Gulch%20Remediation%20Project%20Almaden%20Quicksilver%20County%20Park

Comment Letter 3

From: Gamini Rajapakse [mailto:Gamini.Rajapakse@rda.sccgov.org]
Sent: Friday, August 13, 2010 11:04 AM
To: Assaf, Mohamed
Cc: Amir Douraghy; Barni Roncal
Subject: Hacienda Deep Gulch Remediation Project - 37C0160

Mohamed,

We have no comments on the Draft Initial Study/ Mitigated Negative Declaration for the project.

http://www.parkhere.org/portal/site/parks/parkschp?path=%2Fv7%2FParks%20and%20Recreation%2C%20Department%20of%20%28DEP%29%2FPlanning%20and%20Development%2FHacienda%20%26%20Deep%20Gulch%20Remediation%20Project%20Almaden%20Quicksilver%20County%20Park

Please send the updated schedule for the project, so we can secure the anticipated funding for the project.

Thank you,

Gamini Rajapakse
Senior Civil Engineer
County of Santa Clara
Roads and Airports Department
101 Skyport Drive
San Jose, CA 95110
Ph. (408) 573-2497
Fx. (408) 441-0276

Comment Letter 4

Santa Clara Valley Water District
SM

5750 ALMADEN EXPWY
SAN JOSE, CA 95118-3686
TELEPHONE (408) 265-2600
FACSIMILE (408) 266-0271
www.valleywater.org
AN EQUAL OPPORTUNITY EMPLOYER

File: 23231
Alamitos Creek

August 5, 2010

Mr. Mohamed Assaf, P.E.
Project Manager
County of Santa Clara
Department of Parks and Recreation
298 Garden Hill Drive
Los Gatos, CA 95032-7669

Subject: Hacienda Deep Gulch Remediation Project, Almaden Quicksilver County Park
Draft Initial Study/ Mitigated Negative Declaration (July 2010)

Dear Mr. Assaf:

The Santa Clara Valley Water District (District) has reviewed the Draft Initial Study and Mitigated Negative Declaration for the Hacienda Deep Gulch Remediation Project received on July 20, 2010.

As the proposed remediation project on the subject site is not located on District easement or fee title right of way, therefore in accordance with District Water Resource Protection Ordinance, a District permit is not required for this project. Though the project does not require a District permit the District recommends that plants used for mitigation be grown from the Alamitos Creek watershed to protect the genetic integrity of the local native riparian plants and in accordance with the "Guidelines and Standards for land use near streams".

We appreciate the opportunity to comment on the Mitigated Negative Declaration and Draft Initial Study. If you have any questions or need further information, please contact me at (408)265-2607, extension 3276.

Sincerely,

Ben Davis

Ben Davis
Assistant Engineer
Community Projects Review Unit

cc: S. Tippets, K. Turner, C. Haggerty, B. Davis, File

23231_53311bd08-05

Allen Matkins

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David D. Cooke
E-mail: dcooke@allenmatkins.com
Direct Dial: 415.273.7459 File Number: 235933-00003/ 0.0

Via FedEx

August 11, 2010

County of Santa Clara
Department of Parks & Recreation
Planning and Development Section
298 Garden Hill Drive
Los Gatos, CA 95032
Attn.: Mohamed Assaf, Senior Facilities Engineer

Re: Hacienda and Deep Gulch Remediation Project
Proposed Mitigated Negative Declaration

Dear Mr. Assaf:

On behalf of Myers Industries, Inc. and Buckhorn, Inc. (collectively, "Buckhorn"), I take this opportunity to provide the following brief comments on the Proposed Mitigated Negative Declaration ("PMND") for the Hacienda and Deep Gulch Remediation Project, dated July 12, 2010.

Section 2.2, page 7 of 100:

The PMND states: "The County purchased 3,600 acres from the New Idria Mining Chemical Company, the predecessor to Meyers Industries [sic], in 1973 and 1975 to create AQS County Park." This statement is inaccurate and should be corrected. Records demonstrate that the County acquired real property that now comprises a portion of the AQS County Park from the New Idria Mining & Chemical Company ("NIMCC") in two transactions, the first in 1973, the second in 1975. NIMCC is not a predecessor to Myers Industries, Inc. Additionally, the area historically known as the "Hacienda Furnace Yard" area, which comprises all or a large majority of the Project area, was not owned by NIMCC and was not conveyed to the County in either of these two transactions. Rather, Buckhorn understands that the Hacienda Furnace Yard area and surrounding properties were acquired by the County in one or more subsequent transactions from one or more other prior owners in the late 1970's or early 1980's, and that the County thereafter incorporated these areas into the AQS County Park. Since the focus of the PMND is on the Project area, this historical section should be revised not only to correct the errors described above but also to explain the history of the County's acquisition of the real property on which the Project is situated.

Section 2.2, page 8 of 100:

The PMND states: "The elevated mercury levels and the highly detrimental effect of methylated mercury on wildlife and humans have been well documented. The historic mercury mining operations and remaining calcine piles at AQS County Park are one part of this mercury pollution problem." While it is true that, as a general matter, significant documentation exists regarding the detrimental effect of methylated mercury on wildlife and humans, the residual impacts, if any, of remaining calcine deposits on human and ecological receptors after the major remediation projects conducted at the AQS Park from 1998-2000 have not, to Buckhorn's knowledge, been subjected to systematic or detailed studies. The PMND's description of current conditions relating to human and ecological health impacts of residual mercury-bearing materials should be revised to reflect the fact that major remediation activities have already taken place.

The PMND states: "County Parks is required under the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as the Superfund Law, to proceed with remediation and restoration of the former mining lands." This statement is inaccurate, as it implies that the AQS is a Superfund site subject to remedial action under the supervision of the federal government, which is not the case. Furthermore, CERCLA does not require the remediation and restoration of "former mining lands." Rather, the County is required to perform the Project pursuant to the terms of a settlement, documented in a federal consent decree entered in 2005, of a threatened claim by public agency trustees of natural resources for alleged natural resource damages under CERCLA. The PMND should be corrected accordingly.

The PMND goes on to state: "The Trustees undertook a natural resource damage assessment (NRDA) with the potentially responsible parties (current and former owners of the lands mined for mercury) to develop the Final Almaden Quicksilver Restoration Plan and Environmental Assessment (RP/EA) (USFWS & CDFG, 2008)." This is inaccurate. While it is true that the Trustee agencies undertook to conduct a natural resource damages assessment and that they communicated during the course of that assessment with public agency and private entities that had been identified as parties potentially responsible for those damages, it is not true that the NRDA was conducted with the potentially responsible parties to develop the Final RP/EA. The Final RP/EA was prepared after the 2005 consent decree resolved the Trustees' natural resource damages claim, and at least some of the potentially responsible parties who were involved in the 2005 settlement were not involved in the development of the RP/EA or in the activities that led up to its adoption. The PMND should be corrected accordingly.

In the same section, the PMND goes on to state: "The Final RP/EA evaluates five additional restoration projects for removing the remaining calcines. There are two primary projects – Jacques Gulch and Hacienda Furnace Yard – and three compensatory projects, Coyote Creek *Arundo* Removal, Hillsdale Bridge Fish Barrier Removal, and Ravenswood Marsh Predator Control." This statement should be corrected to state, more accurately, that "[T]he Final RP/EA evaluates two

additional restoration projects for removing the remaining calcines – the primary projects known as the Jacques Gulch and Hacienda Furnace Yard projects – and three compensatory projects . . . ."

Section 2.4, page 9 of 100:

The PMND states: "In April 2000, the County of Santa Clara with other local municipalities and companies were identified as potentially responsible parties (PRP) by the U.S. Department of Interior and the State of California (the Trustees) for natural resources damages act (NRDA)." This statement is inaccurate. The Trustees who alleged the occurrence of natural resource damages were the U.S. Department of the Interior and the State Department of Fish & Game (not the State of California as such). Also, these Trustees identified parties potentially responsible for natural resource damages, not for "natural resource damages act," or for "NRDA" (initials which, as used previously in the PMND, stand for "natural resource damages assessment").

Section 4, page 52 of 100:

The PMND states: "The project is required under the Superfund Law to remove and/or stabilize the mercury containing calcine deposits that remain from mining activities and restore the natural contours of the landscape and native foothill riparian and oak woodland vegetation." As noted above, the reference to the Superfund Law is incorrect, and this statement should be corrected as recommended above. Additionally, the RP/EA requires removal and/or stabilization of visible mercury containing calcine deposits within specified areas, along with specified post-removal restoration activities. These areas comprise the project area as defined in the PMND. The PMND should be corrected accordingly.

Appendix B – *Identification of Wetlands and Waters of the U.S.*, Section 1.3, page 1:

The second and third paragraphs of this section contain numerous factual errors similar to those detailed above, and should be corrected in the same manner and for the same reasons discussed above.

Appendix C – *Technical Report for Cultural Resources Initial Study*, Section 2.0, page 2:

The second paragraph of this section contains factual errors similar to those detailed above, and should be corrected in the same manner and for the same reasons discussed above.

Although it has provided these comments in writing, Buckhorn reserves the right to provide additional comments at the public hearing on the PMND and the Project approval.

Buckhorn appreciates the opportunity to comment on the PMND. Please do not hesitate to contact me if you have any questions.

Very truly yours,

David D. Cooke

DDC

cc: Sal Incanno
Scott James

8/10/2010

Report to Proposed Mitigated Negative Declaration

DEEP GULCH

Page 5: Cul-2Measures:
The retort along Deep Gulch Creek is of historic significance and must be saved. Remove the retort and place it next to the historic equipment in the overflow parking area of Hacienda Park Entrance. Members of The New Almaden Quicksilver County Park Association will restore it and eventually add it to their out-door display.

Kitty Monahan
408-288-6541

To: Julie Mark
Santa Clara County Parks and Recreation
From : FOLAW
Mike Boulland
P.O. Box 5
New Almaden, Ca 95042
Ph 408 268 2703
Date: 8/9/10
Re: Hacienda Project - CEQUA Questions

FOLAW
Hacienda Project
CEQUA Meeting
Santa Clara County Parks and Recreation

Jacque Gulch

1. Is the Jacque Gulch project completed?

Hacienda Project
Los Alamitos Road Washout

1. Why did the erosion occur and cause the Los Alamitos road to wash out?

2. Will the erosion below of the Los Alamitos Road washout be addressed and repaired during Hacienda project?

3. What are you going to do to make sure there is no erosion below the road washout?

4. Do your plans include measures to prevent erosion downstream? In the park? In the Village?

5. Last time repairs took a long time to fix the road, if damage occurs to the road or downstream how quickly it be repaired?

6. Have you undertaken a hydrologic engineering study to make sure the channel improvement and straightening of Los Alamitos Creek will not cause trouble downstream?

8. There is a log jam downstream next to the road washout? What will happen to the log jam? Could the Log Jam area be included in the Hydrological study?

9. Will new stream boundaries be designed to slow the speed of the water?

Deep Gulch Creek

1. Do you plan to straighten out Deep Gulch Creek like you did at Jacques Gulch creek?

2. Did you have a hydrologist look at the engineering of the Deep Gulch creek?

3. We are concerned that at the confluence of Deep Gulch Creek and Los Alamitos Creek will be affected by your project? We are concerned with the increased speed of channel improvement and downstream erosions?

4. What plans are being designed to slow the flow of the creek during a high flood season?

Negative Declaration

The CEQUA is declaring a Negative Declaration or no environmental impact with this project.

1. If you are doing a Hydrological Report and not straightening for both creeks we agree with the statement of declaring a Negative Declaration.

2. If you are not doing a Hydrological Report for both creeks and straightening the stream banks, we disagree the statement of declaring a negative declaration for the project and feel the change in the speed of the water flow will have a direct environmental impact on all downstream property owners.