APPENDIX A
SANTA CLARA VALLEY WATER DISTRICT BEST MANAGEMENT PRACTICES

Appendix A. Best Management Practices implemented by the project

Santa Clara Valley Water District Best Management Practices Handbook (Nov. 2005)

B1-2 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.

B1-3 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.

B1-7 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.

B1-8 Remove Temporary Fills as Appropriate

Temporary fills, such as for access ramps, diversion structures, or cofferdams, shall be completely removed upon finishing the work.

B1-9 Minimize Adverse Effects of Herbicides on Non-target Species
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), the Santa Clara County Division of Agriculture, and the U.S. EPA bulletin *Protecting Endangered Species, Interim Measures for Use of Pesticides in Santa Clara County* (USEPA 2000), including the following:

1. Herbicide use shall be reviewed prior to application using information from CDPR and U.S. 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, refer to both the product label for the material being used and the Endangered Species Database maintained by the CDPR and use the lower of the two recommended rates if there is a difference.

B1-10 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), the Santa Clara County Division of Agriculture, and the U.S. EPA bulletin *Protecting Endangered Species, Interim Measures for Use of Pesticides in Santa Clara County* (USEPA 2000). Guidelines for rodenticide use include:

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, and will refine this definition as surveys are conducted to eliminate areas that are separated by barren ground 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 sixth 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 a period of 5 days after the start of the surveys and thereafter, at least once a week, until no more carcasses are found. Any dead raptors

or other non-target wildlife found in the treated area during the carcass surveys shall be turned over to California Department of Fish and Game's pesticide lab for analysis.

B1-11 Migratory Bird Surveys
Migratory bird surveys will be performed prior to any project-related activity that could pose the potential to affect migratory birds. Affected areas will be inspected/monitored prior to commencement of the nesting season, and as frequently as necessary thereafter, to provide deterrence measures and prevent nesting by birds. Inactive bird nests may be removed, with the exception of raptor nests.

During the nesting season, all project areas that may be impacted by construction, including all vegetation, grounds, and bridge(s), will be inspected with sufficient frequency as needed, to identify any new and partially-built nests.

No birds, nests with eggs, or nests with hatchlings shall be disturbed.

B1-12 Migratory Bird Nesting Prevention - Vegetation Clearing
Vegetation can be cleared and maintained to prevent migratory bird nesting. All necessary vegetation clearing will be performed prior to the nesting season, if at all possible. No vegetation will be trimmed back unnecessarily, including trees and/or shrubs growing near the right of way, which overhang onto the work site.

HM-1 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.

HM-2 Types of Pest Control
Pesticide products are to be used only after an assessment has been made regarding environmental, economical, and public health aspects of each of the alternatives. The following pesticides are used by the District:

Pesticide	Use
Herbicides	• To control algae, weeds and undesirable vegetation • To minimize fire hazards • To maintain flood conveyance of waterways • To maintain compliance with State and Federal requirements
Insecticides	• Used only in and around District buildings, or in the case of a serious pest outbreak, on landscape and re-vegetation facilities • Used only after all other methods, such as prevention or natural nontoxic control methods, have proven ineffective • Where required, the lowest toxicity shall be used in accordance with the label and the details of this policy

Pesticide	Use
Rodenticides	• To control burrowing rodents, including ground squirrels, moles and gophers, in District flood control levees • Alternatives such as trapping and smoke bombs are used wherever practical prior to rodenticide use

HM-7 Herbicide Use in Upland Areas
Application of pre emergence (residual) herbicides to upland areas shall not be made within 72 hours of predicted significant rainfall. Predicted significant rainfall for the purposes of this BMP shall be described as local rainfall greater than 0.5 inch in a 24-hour period with greater than a 50% probability of precipitation.

HM-8 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 applications within 20 feet of the low flow channel are limited to July 1st to August 15th. If rain is forecast then application of aquatic herbicide shall be rescheduled.

HM-9 Vehicle and Equipment Cleaning
District vehicles shall be washed only at the approved area in the corporation yard. No washing of District or contractor vehicles shall occur at job sites.

HM-10 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.

HM-11 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.

HM-12 Hazardous Materials Management
Measures shall be implemented to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means.

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.

HM-13 Spill Prevention
Prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water.

1. 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 a creek channel or in areas at the top of a channel bank that may flow into a creek channel.

HM-14 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.

WQ-1 Conduct Work from Top of Bank
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.

WQ-2 Use of Wheel and Track Mounted Vehicles in Stream Bottoms
Field 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. Tracked vehicles (bulldozers, loaders) may cause scarification. Wheeled vehicles may cause compaction. Heavy equipment shall not operate in the live stream.

WQ-3 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.

WQ-4 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.
2. This measure applies to saturated, not damp, sediments and depends upon the availability of a stockpile site.
3. For those stockpiles located outside the channel, water draining from them will 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.
4. 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.
5. Water shall not drain directly into channels (outside of the work area) or onto public streets without providing water quality control measures.
6. Streets shall be cleared of mud and/or dirt by street sweeping (with a water sweeper), as necessary, and not by hosing down the street.

WQ-5 Soil Stockpiles
If soil is to be stockpiled, no run-off shall be allowed to flow back to creek.

WQ-6 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.

WQ-7 Prevent Erosion Downstream of Bank Protection Sites
Increased water velocity at work sites may increase erosion downstream. Project 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.

WQ-10 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:

1. 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.
2. 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.
3. Dry sacked concrete shall not be used in any channel.
4. An area outside of the channel and floodplain shall be designated to clean out concrete transit vehicles.

WQ-12 Dewater/ Bypass Water at Non-tidal Sites

When work in a flowing stream in unavoidable, the entire stream flow shall be diverted around the work area by a barrier. Construction of the barrier shall normally begin in the upstream area and continue in a 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.

WQ-13 Minimize Hardscape in Bank Protection Design
Bank repair techniques appropriate to a given site based on hydraulic and other site conditions shall be selected. 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.

WQ-14 Seeding
For banks that are scraped, an erosion control seed mix shall be used. Temporary earthen access roads will be seeded when site and horticultural conditions are suitable.

WQ-15 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.

WQ-16 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.

WQ-17 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.

WQ-18 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

WQ-21 Sediment/ Turbidity Control for Discharges Less than 50 NTU

To control sediment and turbidity in discharges from project activities where the source is treated water, recycled water, raw water, or groundwater with a turbidity of less than 50 NTU:

1. Characterize the discharge appropriately (follow the Planned Discharge Activities Checklist to ensure the correct BMPs are used):
    a. Identify the source of water.
    b. Determine the volume of the water to be discharged.
    c. Determine if operations may cause the turbidity to be greater than 50 NTU, refer to the BMP Sediment/ Turbidity Control for Discharges Greater than 50 NTU.
2. Choose the option for discharging the water (in order of preference):
    a. Reuse water, either for dust suppression, irrigation, or construction compaction.
    b. Discharge to sanitary sewer system (requires approval from local sanitary district).
    c. Discharge to storm drain system or water body.
3. Use appropriate control measures when discharging water:
    a. Use sanitary sewer BMPs if discharging to the sanitary sewer.
    b. Visually monitor the turbidity if it is suspected to be above 50 NTU.
    c. Terminate the discharge or implement appropriate control measures if the turbidity exceeds 50 NTU (refer to Sediment/ Turbidity Control for Discharges Greater than 50 NTU).

d. There are no additional control measures required if the source water is hydrant flushing, fire flow testing, a main line break or blow off, and the discharge volume is not greater than 50,000 gallons.

4. Inspection and Maintenance:
   a. Before discharging any water, inspect the discharge flow path for debris and erosion, and cleanup the flow path as needed.
   b. Monitor the discharge to make sure it is not interfering with the normal operation of the sanitary sewer, or flooding the storm drain system.
   c. When the discharge is complete, inspect the flow path and receiving water (if discharging directly to a water body, if practicable) for evidence of erosion or deposited sediment.
   d. Sweep up sediment deposited in the flow path and dispose of appropriately.
   e. Complete the Planned Discharge Activities Checklist and submit it to District staff responsible for Water Utility Discharge Pollution Prevention Plan reporting.

WQ-22 Sediment/ Turbidity Control for Discharge Greater than 50 NTU

To control sediment and turbidity in discharges from project activities where the source is treated water, recycled water, raw water, or groundwater with a turbidity of greater than 50 NTU:

1. Characterize the discharge appropriately (follow the Planned Discharge Activities Checklist to ensure the correct BMPs are used):
   a. Identify the source of water.
   b. Determine the volume of water to be discharged.
   c. Determine the turbidity of the discharge.
2. Choose the option for discharging the water (in order of preference):
   a. Reuse water, either for dust suppression, irrigation, or construction compaction.
   b. Discharge to sanitary sewer system (requires approval from local sanitary district).
   c. Discharge to storm drain system or water body (requires use of sediment/ turbidity control measures).
3. Select control measures appropriately.

   Consider the following criteria when selecting the appropriate control measure:
   a. Suitability of area for discharge (vegetated surface, chlorine neutralization requirements).
   b. Proximity to storm drains or receiving waters.
   c. Length of time BMP is to be in place.
   d. Ease of installation, operation and removal.

   Choose from the following control measures and refer to the individual fact sheets for guidance on implementation:
   a. Discharges to Sanitary Sewer Systems (CM-A).
   b. Flow Path – Vegetation Filtration (CM-B).
   c. Flow Path – Check Filters (CM-C).
   d. On-Line Filter System (CM-D).
   e. Storm Drain Inlet Protection (CM-E).
   f. Silt Fence Culvert Entrance Protection (CM-F).
   g. Surface Protection – Armoring (CM-G).
   h. Surface Protection – Flow Diversion (CM-H).

4. Inspection and Maintenance:
    a. Before discharging any water, inspect the discharge flow path for debris and erosion, and cleanup the flow path as needed.
    b. Monitor the discharge to make sure it is not interfering with the normal operation of the sanitary sewer, or flooding the storm drain system.
    c. Monitor the discharge turbidity to evaluate the effectiveness of the control measure.
    d. When the discharge is complete, inspect the flow path and receiving water (if discharging directly to a water body, if practicable) for evidence of erosion or deposited sediment.
    e. Sweep up sediment deposited in the flow path and dispose of appropriately.
    f. Complete the Planned Discharge Activities Checklist and submit it to District staff responsible for Water Utility Discharge Pollution Prevention Plan reporting.

WQ-23 Discharge Flow Path – Vegetation Filtration

To remove sediments and prevent sediments from entering local creeks and the bay:

1. Confirm applicability:
    a. Use this control measure where an existing vegetated area can be used to filter the sediments from the discharged water.
    b. Make sure the vegetated area is of sufficient density to filter the sediments and of such strength that it will not be uprooted by the discharged water.
2. Design Considerations:
    a. Ensure that the area to receive the discharge has tight, dense, well-established vegetation similar to a grassy area.
    b. Control the energy of the discharge or dissipate to prevent erosion of the soil within the vegetated area, and to prevent the destruction and uprooting of the vegetation.
    c. Adjust the discharge to avoid flooding and excessive runoff.
    d. Remove debris from the flow path.
3. Construction specifications:
    a. Ensure that at least 50 feet of grassy ground is available between the point of discharge and the location where the water drains into the receiving storm drain system or the creek.
4. Inspection and Maintenance:
    a. Ensure that there is no breakthrough of sediments.
    b. Ensure that there is no erosion of grassy areas.

WQ-24 Discharge Flow Path – Check Filters

To remove sediment from discharges with a turbidity more than 50 NTU, place check filters at single or multiple location along the flow path accordingly:

1. Design Check Filters Properly:
    a. Consider the slope, erosion potential, and flow rate of the discharge when choosing filter materials and locating filters.
    b. Avoid creating large pools and/or obstructive flow paths.
2. Construct Check Filters Correctly:

   a. Place sandbags, socks filled with sand or gravel, and/or dikes made of filter fabric and gravel perpendicular to the flow path.
   b. Line the sandbags, socks, and dikes tight to divert the flow at least 2 feet outside its normal path.
   c. Construct an overflow (low spot) in the check filter. If the flow rate of the discharge is high and considerable amounts of sediment appear to be passing by the filter, construct a series of two or more filters until effective removal of sediment is achieved.
3. Inspection and Maintenance:
   a. Monitor the discharge for breakthrough of sediments and potential traffic hazards caused by ponded water.
   b. Add more check dams and implement traffic control as necessary.
   c. After the discharge is finished, sweep up sediment deposited behind check filters and dispose of properly.
   d. Complete the Planned Discharge Activities Checklist and submit it to District staff responsible for Water Utility Discharge Pollution Prevention Plan reporting.

WQ-25 Discharge On-Line Filter Systems

To remove sediments and impurities from discharges with a turbidity that exceeds approximately 50 NTU:

1. Select and Use On-Line Filter Systems Appropriately:
   a. Use when the discharge is planned and filter assembly can be fitted to the discharge point either permanently or prior to each discharge.
   b. Choose an on-line filter system capable of removing fine and medium size particulate matter and sediments at the desired discharge flow rate and duration.
   c. Follow the instructions for use provided by the designer or manufacturer.
2. Inspection and Maintenance:
   a. Inspect the filter during the discharge for clogging and deterioration, and breakthrough of sediment. Replace the filter as necessary.
   b. After the discharge is finished, sweep up sediment deposited in the flow path and dispose of the sediment properly.
   c. Dispose of the filter and sediment captured by the filter properly.
   d. Complete the Planned Discharge Activities Checklist and submit it to District staff responsible for Water Utility Discharge Pollution Prevention Plan reporting.

WQ-26 Silt Fence Culvert Entrance Protection

To reduce flow velocity of runoff, allowing sediment to settle out before discharge enters a culvert and its drainage system:

1. Install silt fence culvert protection in appropriate locations:
   a. Where sheet and rill erosion would occur.
   b. Where protection of adjacent property or areas is needed.
   c. Where the maximum slope length behind the silt fence is 100 feet (30 meters) and the maximum slope gradient is 50% (2:1).
   d. Where the flow volume does not exceed 1 cfs.
   e. Where ponded water will not damage adjacent areas or structures, or create a traffic hazard or other nuisance.

2. Select the correct construction materials:
    a. Select a woven or non-woven filter fabric made of at least 85% by weight, ethylene, propylene, amide, ester, or vinylidene yarn.
    b. The Equivalent Opening size of the filter fabric (U.S. Standard Sieve) shall be 70-100, and the tensile strength shall be at least 120 lbs (54 kg) if a wire support fence is used and 200 lbs (90 kg) if a wire support fence is not used.
    c. Posts should be either 4-inch diameter wood or 1.33 pounds per linear foot steel. Posts should be at least 5 feet long. Steel posts should have projections for fastening wire.
    d. Wire fence reinforcement shall be a minimum of 42 in (1.1 m) tall and a minimum width of 14-gauge. The maximum mesh spacing should be 6 in (15 cm).
3. Construct the silt fence properly:
    a. The height of the silt fence should be between 16 in (40 cm) and 36 in (90 cm). The most effective height range is 24 to 36 in (60 to 90 cm). Shorter fences may be breached during small discharges and require more maintenance.
    b. If possible, cut the filter fabric from a continuous roll to avoid the use of joints. If joints are necessary, splice the filter fabric only at a support post. Overlap the fabric pieces a minimum of 6 in (15 cm) and secure both ends to the post.
    c. If a wire mesh support fence is used, install posts at least 3 feet (1 meter) apart. Install posts closer together if a support fence is not used. Drive posts into the ground to a depth of at least 1 foot (30 cm).
    d. Excavate a 4-in (10 cm) deep trench that is at least 4 in (10 cm) wide upslope of the silt fence along the line of posts.

WQ-27 Discharge Surface Protection - Armoring

To protect exposed soil and vegetated surfaces from erosion during discharges by placing protective armor (e.g. plastic sheeting, cloth fabric, gravel bedding) over the erodible surface:

1. Select and install armoring materials properly:
    a. Choose a material whose strength is proportionate to the velocities and materials in the discharged water (e.g. sediment).
    b. Clear the area to be protected of rocks and debris which may puncture the armor.
    c. Anchor the armor using sandbags, gravel, or stakes along the perimeter.
    d. Anchor the armor so it can withstand movement of the discharge.
    e. Account for potential changes in the flow direction of the discharge when laying the armor.
    f. If there is to be a direct stream of high velocity flow, an energy dissipating device may be necessary to prevent failure of the armor.
2. Inspection and Maintenance:
    a. During the discharge, monitor the armor for failure (tearing) and erosion at the edges of the armor.
    b. If erosion does occur, implement sediment/turbidity control measures.
    c. Remove armor when the discharge is complete.
    d. Sweep up any sediment deposited in the flow path and dispose of appropriately.
    e. Complete the Planned Discharge Activities Checklist and submit it to District staff responsible for Water Utility Discharge Pollution Prevention Plan reporting.

WQ-28 Discharge Surface Protection – Flow Diversion

To protect bare soil and vegetated surfaces from erosion by diverting, channeling, or temporarily piping flows over erodible areas to protected areas not subject to erosion:

1. When considering the use of flow diversion, take into account the following:
    a. There must be a storm drain or paved surface nearby to which the discharge can be diverted.
    b. The flow channel must be aligned to avoid disruption of traffic, or traffic control measures must be used.
    c. The flow channel must have sufficient slope to allow the discharge to flow to the storm drain or paved surface.
    d. The flow channel must be designed to handle the anticipated flow rate.
    e. Protective armor or temporary piping can be used for high velocity discharges or large flow volume discharges over bare soils or vegetated surfaces. The armor material selected must be able to withstand the flow velocity and movement of the discharge.
2. Divert flows correctly:
    a. Divert water to a channel using fixed or flexible piping, or another system to capture this flow (e.g. sand bags).
    b. If armor is used to create a flow channel over the erodible surface clear the area to be protected of rocks and debris which may puncture the armor.
    c. Anchor the armor using sandbags, gravel, or stakes along the perimeter.
    d. If there is to be a direct stream of high velocity flow, an energy dissipating device may be necessary to prevent failure of the armor.
3. Inspection and Maintenance:
    a. Inspect the area for flooding resulting from failure of the channel diversion structure or the flow rate exceeding the diversion channel capacity.
    b. Inspect the channel for erosion along the edges due to overtopping of the channel.
    c. Monitor the armor for failure (tearing) and erosion at the edges of the armor.
    d. If erosion does occur along the edges of the channel or armor, implement sediment/turbidity control measures.
    e. Remove armor when the discharge is complete.
    f. Sweep up any sediment deposited in the flow path and dispose of appropriately.
    g. Complete the Planned Discharge Activities Checklist and submit it to District staff responsible for Water Utility Discharge Pollution Prevention Plan reporting.

WQ-29 Discharge Storm Drain Curb & Drop Inlet Protection

To install temporary devices around drain inlets using gravel, wire mesh, and /or concrete blocks that may prevent sediment-laden runoff from entering the storm drain system or watercourses (These devices reduce the velocity of runoff, allowing sediments to settle. The gravel can also filter out coarse sediment from runoff.):

1. Use drain inlet protection in appropriate locations:
    a. Use in drainage areas less than one acre.
    b. Place anywhere sediment-laden runoff could discharge into a storm drain inlet.
    c. If the inlet protection device could pond water, install only where ponded water will not contact materials, flood structures, or cause a nuisance.

   d. Completely cover inlet where work activities could result in vegetation, raw materials or sediment being deposited into the inlet, or when a small spill occurs near the inlet. Cover inlets with rubber or polyurethane mats, or plastic sheeting anchored with gravel bags.

2. Install inlet protection properly:

a. To prevent seepage of sediment-laden runoff into he drain inlet, install drain inlet protection so there are no gaps around the drain inlet.
b. Do not place filter fabric over the inlet grate as it can become clogged with sediment and contribute to flooding.

3. Gravel and Wire Mesh Drop Inlet Protection:
   a. Place wire mesh over the inlet so the wire extends a minimum of 12 inches beyond each side of the inlet structure. Use hardware cloth or comparable wire mesh with ½-inch openings. If more than one mesh strip is required, overlap the strips.
   b. Pile ¾ to 3-inch washed gravel on top of the mesh surrounding the inlet to a minimum depth of 12 inches. Extend the gravel at least 18 inches beyond the inlet on all sides.

4. Gravel and Wire Mesh Curb Inlet Protection:
   a. Place wire mesh over the inlet so the wire extends a minimum of 12 inches beyond each side of the inlet structure. Use hardware cloth or comparable wire mesh with ½-inch openings.
   b. Pile ¾ to 3-inch washed gravel against the mesh to anchor it against the gutter and inlet cover and to surround the inlet completely.

5. Block and Gravel Curb Inlet Protection:
   a. Place two concrete blocks on their sides abutting the curb at either side of the inlet opening. These are the space blocks.
   b. Place a 2-inch by 4-inch stud through the outer holes of each spacer block to align the front blocks.
   c. Place more concrete blocks on their sides across the front of the inlet and abutting the spacer blocks. Do not use mortar.
   d. Place wire mesh with ½-inch openings over the outside vertical face of the blocks to keep gravel out of the inlet.
   e. Place ¾ to 3-inch washed gravel against the wire mesh to the top of the blocks, on slopes of 2:1 or flatter.

6. Block and Gravel Drop Inlet Protection:

   a. Place wire mesh over the inlet so the wire extends a minimum of 12 inches beyond each side of the inlet structure. Use hardware cloth or comparable wire mesh with ½-inch openings. If more than one mesh strip is required, overlap the strips.
   b. Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, so the open end face outward not upward. Abut the ends of the adjacent blocks.
   c. Stack blocks to at least 12 inches but not more than 24 inches above the inlet, depending on design requirements.
   d. Place wire mesh with ½-inch openings over the outside vertical face of the blocks to keep gravel out of the inlet.

e. Place ¾ to 3-inch washed gravel against the wire mesh to the top of the blocks, on slopes of 2:1 or flatter.

7. Gravel Bag Barriers:

a. Use bags made of geotextile fabric, not burlap. Fill bags with washed ¾-inch rock or ¼-inch pea gravel.
b. Place gravel bags around the perimeter of the drop inlet, packing bags together tightly. For a cub inlet, abut the curb at either side of the inlet opening.
c. If additional flow retention is required, construct a barrier upgradient of the inlet by placing gravel bags perpendicular to the direction of flow. Overlap the bags and pack them tightly together. Construct each barrier using several layers of bags. Leave a one bag gap on the top row to act as a spillway to prevent flooding. If more than one barrier is used, place barriers at 20-foot intervals.

8.Wooden Weir (and Fabric) Curb Inlet Protection:

a. Construct a wooden weir using 2-inch by 4-inch construction grade lumber, with a total length equal to the throat length plus 2 feet.
b. Attach a continuous piece of wire mesh of at least 30 inches in width and a length equal to the inlet's throat length plus 4 feet.
c. Place a piece of approved "extra strength" filter cloth, equal to the dimensions of the wire mesh, over the mesh and secure it to the weir.
d. Nail the weir to the 9-inch long vertical spacers, which shall be located between the weir and the inlet face at no more than 6-foot intervals.
e. Place the assembly against the inlet throat and nail 2-inch by 4-inch boards, in minimum lengths of 2 feet, to the top of the weir at the spacers. Extend these anchors across the inlet tops and hold them in place by sandbags or alternate weight.
f. Place the assembly such that the end spacers are at lest 1 foot beyond both ends of the throat opening.
g. Form the mesh and cloth to the concrete gutter and against the face of the curb on both sides of the inlet. Place coarse aggregate over the mesh and cloth so that water is prevented from entering the inlet either under or around the filter fabric.

9.Inspection and Maintenance:

a. Let ponded water evaporate provided it does not cause a nuisance.
b. Inspect before anticipated storms and after storms for gaps, clogging of gravel, ruptured gravel bags, and sediment accumulated behind inlet protection. During extended rainfall events, inspect at least once every 24 hours.
c. Carefully remove accumulated sediment when the depth reaches half the height of the inlet protection device. Dispose of sediment properly.
d. Clean or replace gravel that is clogged with sediment. Do not clean gravel near the inlet.

WQ-30 Discharging to Sanitary Sewer System

To prevent sediments from entering local creeks and the bay by removing pollutants in the wastewater treatment processes:

1. Obtain necessary approval from wastewater treatment plant or sanitary sewer agency:

a. Obtain approval or permit for a one-time discharge, or
b. Obtain approval or permit for annual or ongoing discharge.

2. Design Considerations:
   a. Determine the feasibility of implementing this control measure by identifying access to a sanitary manhole near the discharge location.
   b. Construct discharge system with an air gap between the outlet pipe of the discharge line and the sewerage. If an adequate air gap cannot be maintained at all times to prevent cross contamination, select another control measure.
   c. Develop adequate traffic control plan and implement it prior to the discharge operation. Typically, sanitary sewer manholes are located in traffic lanes. Discharging to these manholes will cause a disruption of the vehicular traffic flow.
   d. Obtain a confined-space entry permit if it is necessary to enter a manhole.
3. Construction Specifications:
   a. Maintain flow within the limits that are acceptable to the local sanitary sewer agencies.
   b. Direct the discharge water to the sanitary sewer system by fixed piping, flexible piping, or a system to capture surface flow discharging (e.g. sand bags).
   c. Install the piping outlet above the manhole at height of at least twice the diameter of the outlet pipe.
   d. Anchor the piping such that the energy from the discharge water will not cause the piping to thrust out of position.
4. Inspection and Maintenance:
   a. Check for leaks from the piping system.
   b. Observe the system in operation and make repairs as required to keep the discharge flowing into the sanitary sewer system.
   c. Ensure that the air gap is maintained at all times.
   d. Observe the water quality and record on a discharge activity checklist.
   e. Monitor the flow of the discharge and record on a discharge activity checklist.
   f. If the wastewater treatment plant or sanitary sewer agency has dictated water quality requirements, monitor accordingly.
   g. After the discharge has ended, remove pipe from sanitary manhole.
   h. Complete a discharge activity checklist and send to your unit supervisor. Include any water quality monitoring results and control measure evaluations on the checklist.
   i. Unit supervisors will prepare a monthly inventory of discharges and send it (along with discharge activity checklists) to the Countywide Watershed Programs Unit.
   j. Notify wastewater treatment plant or sanitary sewer agency that the discharge has ceased.

WQ-31 Small Volume Chlorinated Discharge (less than or equal 50,000 gallons)

To control chlorine in discharges that will not exceed 50,000 gallons of potable water, recycled water, or chlorinated groundwater, where chlorine concentrations do not exceed 1.5 mg/l (ppm).

1. Characterize the discharge appropriately (follow the Planned Discharge Activities Checklist to ensure the correct BMPs are used):
   a. Identify source of water.

   b. Determine the volume of water to be discharged.
   c. Determine the chlorine concentration of the water.
2. Choose the option for discharging the water (in preferred order):
   a. Reuse water, either for dust suppression, irrigation, or construction compaction.
   b. Discharge to sanitary sewer system (requires approval from the local sanitary district).
   c. Discharge to storm drain system or water body.
3. Use appropriate control measures when discharging the water:
   a. Use sanitary sewer discharge BMPs if discharging to sanitary sewer.
   b. If discharging to a storm drain or creek, the chlorine concentration must not exceed detectable levels (0.2 mg/l [ppm]). Measure the chlorine concentration and neutralize the water using correct amounts of chemicals. Measure the chlorine concentration after neutralization to make sure the treatment was effective.
   c. If discharging to a storm drain or creek, also implement sediment/turbidity control measures.
   d. Monitor the flow rate and discharge duration to ensure the discharge volume does not exceed 50,000 gallons (limiting volume for this BMP).
4. Inspection and Maintenance:
   a. Before discharging any water, inspect the discharge flow path for debris and erosion, and cleanup the flow path as needed.
   b. Monitor the discharge to make sure it is not interfering with the normal operation of the sanitary sewer, or flooding the storm drain system.
   c. When the discharge is complete, inspect the flow path and receiving water (if discharging directly to a water body) for evidence of erosion or deposited sediment.
   d. Sweep up sediment deposited in the flow path and dispose of appropriately.
   e. Complete the Planned Discharge Activities Checklist and submit it to District staff responsible for Water Utility Discharge Pollution Prevention Plan reporting.

WQ-32 Medium Volume Chlorinated Discharge (50,000 to 100,000 gallons)

To control chlorine in discharges between 50,000 and 100,000 gallons of potable water, recycled water, or chlorinated groundwater, where chlorine concentrations do not exceed 1.5 mg/l (ppm).

1. Characterize the discharge appropriately (follow the Planned Discharge Activities Checklist to ensure the correct BMPs are used):
   a. Identify source of water.
   b. Determine the volume of water to be discharged.
   c. Determine the chlorine concentration of the water.
2. Choose the option for discharging the water (in preferred order):
   a. Reuse water, either for dust suppression, irrigation, or construction compaction.
   b. Discharge to sanitary sewer system (requires approval from the local sanitary district).
   c. Discharge to storm drain system or water body.
3. Use appropriate control measures when discharging the water:
   a. Use sanitary sewer discharge BMPs if discharging to sanitary sewer.

b. If discharging to a storm drain or creek, the chlorine concentration must not exceed detectable levels (0.2 mg/l [ppm]). Treat the water using one of the following methods:
   i. Measure the chlorine concentration and neutralize the water using the correct amounts of chemicals. Measure the chlorine concentration after neutralization to make sure no residual chlorine remains.
   ii. Store the chlorinated water until chlorine levels are non-detectable (less than 0.2 mg/l). Periodically measure chlorine levels during discharge to ensure that no residual chlorine remains.
c. If discharging to a storm drain or water body, also implement sediment/turbidity control measures.
d. Monitor the flow rate and discharge duration to ensure the discharge volume does not exceed 100,000 gallons (limiting volume for this BMP).

4. Inspection and Maintenance:
   a. Before discharging any water, inspect the discharge flow path for debris and erosion, and cleanup the flow path as needed.
   b. Monitor the discharge to make sure it is not interfering with the normal operation of the sanitary sewer, or flooding the storm drain system.
   c. When the discharge is complete, inspect the flow path and receiving water (if discharging directly to a water body) for evidence of erosion or deposited sediment.
   d. Sweep up sediment deposited in the flow path and dispose of appropriately.
   e. Complete the Planned Discharge Activities Checklist and submit it to District staff responsible for Water Utility Discharge Pollution Prevention Plan reporting.

WQ-33 Large Volume Chlorinated Discharge (greater than 100,000 gallons)

To control chlorine in discharges greater than 100,000 gallons of potable water, recycled water, or chlorinated groundwater, where chlorine concentrations do not exceed 1.5 mg/l (ppm).

1. Characterize the discharge appropriately (follow the Planned Discharge Activities Checklist to ensure the correct BMPs are used):
   a. Identify source of water.
   b. Determine the volume of water to be discharged.
   c. Determine the chlorine concentration of the water.
2. Choose the option for discharging the water (in preferred order):
   a. Reuse water, either for dust suppression, irrigation, or construction compaction.
   b. Discharge to sanitary sewer system (requires approval from the local sanitary district).
   c. Discharge to storm drain system or water body.
3. Use appropriate control measures when discharging the water:
   a. Use sanitary sewer discharge BMPs if discharging to sanitary sewer.
   b. If discharging to a storm drain or water body, the chlorine concentration must not exceed detectable levels (0.2 mg/l [ppm]). Treat the water using one of the following methods:
      i. Measure the chlorine concentration and neutralize the water using the correct amounts of chemicals. Measure the chlorine concentration after neutralization to make sure no residual chlorine remains.

ii. Store the chlorinated water until chlorine levels are non-detectable (less than 0.2 mg/l). Periodically measure chlorine levels during discharge to ensure that no residual chlorine remains.

c. If discharging to a storm drain or water body, also implement sediment/turbidity control measures.

4. Inspection and Maintenance:
   a. Before discharging any water, inspect the discharge flow path for debris and erosion, and cleanup the flow path as needed.
   b. Monitor the discharge to make sure it is not interfering with the normal operation of the sanitary sewer, or flooding the storm drain system.
   c. When the discharge is complete, inspect the flow path and receiving water (if discharging directly to a water body) for evidence of erosion or deposited sediment.
   d. Sweep up sediment deposited in the flow path and dispose of appropriately.
   e. Complete the Planned Discharge Activities Checklist and submit it to District staff responsible for Water Utility Discharge Pollution Prevention Plan reporting.

Santa Clara Valley Water District Stream Maintenance Program BMPs.

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. Eucalyptus trees removed due to project construction shall be chipped and used as mulch for the project.
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.
5. All trees will be replaced with local native tree species; oak trees shall be replaced by direct-seeding with acorns locally collected from the Stevens Creek watershed.

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 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 shall 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.

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.

3.12 Maintain Lowflow 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.

3.15 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 preconstruction 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.

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.

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 my 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. in 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 a 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 be disposed of at a permitted landfill. Any alternative use or disposal shall require RWQCB approval.

APPENDIX B
CULTURAL RESOURCE ASSESSMENT, STEVENS CREEK CORRIDOR MASTER PLAN, BASIN RESEARCH ASSOCIATES

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February 27, 2006

Ms. Christine Schneider
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RE: Cultural Resources Assessment Including Results of Presence/Absence Archaeological Testing – Revised
Stevens Creek Corridor Master Plan, City of Cupertino, Santa Clara County

Dear Ms. Schneider,

Please let this letter stand as Basin Research Associates' Cultural Resources Assessment Report for the above project located along a portion of Stevens Creek in the City of Cupertino, Santa Clara County. This report seeks to fulfill the various mandates of the California Environmental Quality Act (CEQA)[1] and other cultural resources and planning directives of the Cities of Cupertino. The report provides the results of an archival records search, reviews pertinent literature discusses the results of a field inventory of the project area and focused presence/absence archaeological testing at one prehistoric archaeological site, and presents management recommendations.

PROJECT LOCATION AND DESCRIPTION

The City of Cupertino and its partner the Santa Clara Valley Water District propose to convert a commercial picnic facility into a neighborhood park, restore in-stream and riparian habitat along sections of Stevens Creek within the 100-year floodplain, enhance adjacent upland oak woodland habitat, construct a 5,900 foot all weather trail and develop a new environmental education center. The these activities will occur on approximately 60 acres of City of Cupertino and Santa Clara Valley Water District properties bordered by Stevens Creek Boulevard to the north, McClellan Road to the south and residential neighborhoods to the east and west (T 7S, R 2W, Unsectioned [part Sections 15 and 22], United States Geological Survey [hereafter USGS],

1. CEQA requires a Lead Agency to determine if a project will have a significant effect on the environment and to assess possible impacts. In terms of cultural resources, 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*).

Cupertino, Calif. 7.5' quadrangle topographic map, 1991; T. Reid 2005) [Figs. 1-2]. The project will include: [see Fig. 3A-D]]:

In-Stream Restoration

- Demolition and removal of three low-flow automobile crossings and a diversion dam all of which pose significant barriers to steelhead passage.
- Demolition and removal of three pedestrian bridges spanning the creek.
- Reach A1 - Expansion of 600 feet of pool and riffle habitat and revegetation of the creek banks to create a more stabile channel with quality habitat from the demolished diversion dam to downstream of the first low flow crossing.
- Reach A2 - Removal of 500 feet of large boulders installed as emergency flood protection. Laying back and revegetation of this section of the east bank of the creek to create a more stabile channel with higher quality habitat.
- Reach A2 - Realignment of 450 feet of the stream channel along Horseshoe Bend to reduce erosion and undercutting of the bank. Development of pool and riffle habitat, revegetation of the creek banks throughout this new channel.
- Reach B - Realignment of 850 feet of the stream channel through the current parking area to lengthen and stabilize the channel. Development of pool and riffle habitat, revegetation of the creek banks throughout this new channel. This area includes the section of the creek from the second low flow crossing through the third low flow crossing.
- Reach B - Conversion of a portion of the former creek channel to include filling 650 feet and creating 200 feet backwater wetland habitat where the new channel meets the original streambed.
- Reach C - Construction of new 600-foot stream channel through Stocklmeir orange orchard to reduce erosion and undercutting of the bank along the golf course. Development of four step pools and seven pool and riffle sequences, planting the west bank this new channel. This channel uses the existing west bank as the east bank of the new channel.
- Reach C – Conversion of 600 feet of the former creek channel through removal of riprap and shotcrete and creation of willow swale in old channel.
- Riparian habitat planting along the new channel and segments of the existing 1.15 miles of the creek.

Picnic Area and Pool Complex Improvements

- Closure and conversion of a 100 day/year, 4,000-person, 1,100 festival-style parking commercial picnic facility situated on both the east and west banks of the creek. Reopening of this facility as a 100day/year, 800-person picnic facility consolidated to the west bank with a 350-vehicle festival-style, permeable parking area with native riparian shade trees.
- Opening of Blackberry Farm 365 days a year as a neighborhood park.
- Elimination of a day use fee for casual visitors. Retention of the day use fee for picnic reservation and use of the swimming pool complex.

- Upgrades to this picnic area including new underground utilities, central catering building, barbecues, removable picnic tables, horseshoe pits, two half courts for basketball and a sand volleyball court.
- Upgrades to existing pool restrooms to serve both pool and picnic needs – new stalls, entries and walkways.
- New pool entrance kiosk with walkway to bridge to picnic area. New pool fencing and paving stones.
- Construction of a 14-foot wide pedestrian/bicycle/light duty vehicle bridge spanning the creek between the pool and picnic facility.

Park Entrance Improvements

- Demolition of existing park office/entry building.
- New park entry kiosk.
- Conference center landscaping and 5 vehicle parking area.
- New buffer landscaping around adjacent private residence.

Stevens Creek Trail

- Construction of an 8-foot wide pedestrian and bicycle trail extending 5,900 feet from Stevens Creek Boulevard to McClellan Road.
- Trail will be constructed with an all-weather surface for bikes, strollers and walkers.
- Construction of an 8-foot wide pedestrian/bicycle bridge spanning the creek near the 8th hole on the golf course. A recurved fence will be installed in this short segment of the trail to protect users from errant golf balls.
- Demolition and expansion of sidewalk along Stevens Creek Blvd. to serve as Class I trail into Stocklmeir property. On-street improvements begin at crosswalk at Phar Lap Drive and end at existing pedestrian bridge that parallels Stevens Creek Blvd.
- Relocation and enhancement of some community garden plots and 4-H facilities to make way for the trail at McClellan Ranch.
- Creation of a 17-car trailhead staging area with a remodeled restroom in the location of the existing parking lot upstream of the pool that currently accommodates 200 plus vehicles. Demolition of approximately 32,000 square feet of excess parking paving.
- Creation of a 5-foot wide pedestrian and bicycle access trail extending 400 feet from San Fernando Avenue along the golf course into the park.
- Restriping of the Blue Pheasant parking area to increase parking capacity from 91 spaces to 123 spaces.

Environmental Education Center/Pole Barn

- Construction of a 2,000 square foot environmental education center with 2 classrooms, an office and restrooms to be built on an existing building pad formerly occupied by a doublewide trailer in McClellan Ranch.

Upland Habitat Restoration

- Restoration of the upland oak woodland habitat in closed picnic areas and in and around updated picnic areas and the trail.

Maintenance Facilities

- Demolition of a golf course maintenance facility perched on the east bank of the creek.
- Construction of a new 3,000 square foot golf course maintenance facility with a 2,000 square feet fenced yard below the Conference Center along the existing golf course fence line.
- Demolition of park maintenance facility and yard located behind the adjacent private residence.
- Construction of a new 1,200 square foot park maintenance facility with a 1,200 square feet fenced yard behind the adjacent private residence.

Irrigation System

- Demolition of water storage tank that retains well water used to irrigate the golf course and reconditioning of a 35,000-gallon cistern to serve golf course and park irrigation needs.

REGULATORY BACKGROUND

The regulatory framework that mandates consideration of cultural resources in project planning includes federal, state, and local governments. Cultural resources include prehistoric and historic archaeological sites, districts, and objects; standing historic structures, buildings, districts, and objects; and locations of important historic events or sites of traditional and/or cultural importance to various groups. Cultural resources may be determined significant or potentially significant in terms of national, state, or local criteria either individually or in combination. Resource evaluation criteria are determined by the compliance requirements of a specific project.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires a review to determine if the project will have a significant effect on archaeological sites or properties of historic or cultural significance to a community or ethnic group eligible for inclusion in the California Register of Historic Resources (CRHR). The CRHR (Section 5024.1) is a listing of those properties that are to be protected from substantial adverse change, and it includes properties that are listed, or have been formally determined to be eligible for listing in, the NRHP, State Historical Landmarks, and eligible Points of Historical Interest. A historical resource may be listed in the CRHR if it meets one or more of the following criteria:

- it is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- it is associated with the lives of persons important to local, California, or national history;

- it embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
- it has yielded or has the potential to yield information important in the prehistory or history of the local area, California, or the nation.

Historical Resources

Public Resources Code (PRC) Section 21084.1 stipulates that any resource listed in, or eligible for listing in, the CRHR is presumed to be historically or culturally significant. Resources listed in a local historic register or deemed significant in a historical resource survey (as provided under PRC Section 5024.1g) are presumed historically or culturally significant unless the preponderance of evidence demonstrates they are not. A resource that is not listed in or determined to be eligible for listing in the CRHR, not included in a local register or historic resources, or not deemed significant in a historical resource survey may nonetheless be historically significant (PRC Section 21084.1). This provision is intended to give the Lead Agency discretion to determine that a resource of historic significance exists where none had been identified before and to apply the requirements of PRC Section 21084.1 to properties that have not previously been formally recognized as historic.

CEQA equates a substantial adverse change in the significance of a historical resource with a significant effect on the environment (PRC Section 21084.1) and defines substantial adverse change as demolition, destruction, relocation, or alteration that would impair historical significance (PRC Section 5020.1).

Archaeological Resources

Where a project may adversely affect a unique archaeological resource, PRC Section 21083.2 requires the Lead Agency to treat that effect as a significant environmental effect. When an archaeological resource is listed in or is eligible to be listed in the CRHR, PRC Section 21084.1 requires that any substantial adverse effect to that resource be considered a significant environmental effect. PRC 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 project may have a potential adverse effect on archaeological resources.

Other California Laws and Regulations

Other state-level requirements for cultural resources management appear in the California PRC Chapter 1.7, Section 5097.5 “Archaeological, Paleontological, and Historical Sites,” and Chapter 1.75 beginning at Section 5097.9 “Native American Historical, Cultural, and Sacred Sites” for lands owned by the state or a state agency.

The disposition of Native American burials is governed by Section 7050.5 of the California Health and Safety Code and sections 5097.94 and 5097.98 of the PRC, and falls within the jurisdiction of the NAHC.

City of Cupertino

The General Plan Draft of the City of Cupertino in the Land Use Element has several policies to protect historically and archaeologically significant structures, sites and artifacts (also see Figure 2-G, Historic Resources in the General Plan). These area:

> ***Policy 2-59: Landmark Rehabilitation.*** *Undertake an active partnership with private owners of landmark structures to rehabilitate the buildings for public or semi-private occupancy in order to retain their historic character.*
>
> - ***Strategy**: **Flexible Standards**. Allow flexible interpretation of zoning ordinance and building code standards not essential to public health and safety. These could include reduced on-site parking provisions or lesser setback distances.*
>
> ***Policy 2-60 Archaeologically Sensitive Areas.*** *Protect archaeologically sensitive areas.*
>
> - ***Strategy**: **Development Investigation.** Require an investigation for development proposed in areas likely to be archaeologically sensitive, such as along stream courses and in oak groves, to determine if significant archaeological resources may be affected by the project. Also require appropriate mitigation measures in project design.*
>
> ***Policy 2-61: Native American Burials.*** *Protect Native American burial sites.*
>
> - ***Strategy**: Upon discovery of such burials during construction, take action prescribed by State law, including stoppage of work in surrounding area, notification of appropriate authorities and reburial of remains in an appropriate manner.*

RESEARCH SOURCES CONSULTED
SOURCES CONSULTED

A prehistoric and historic site record and literature search was conducted by the California Historical Resources Information System, Northwest Information Center, California State University Sonoma, Rohnert Park (CHRIS/NWIC File No. 04-996).[2] Reference material from the Bancroft Library, University of California, Berkeley and Basin Research Associates, San Leandro was also consulted.[3]

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2. Dated May 23, 2005.

3. Specialized listings consulted included the *Historic Properties Directory* for Santa Clara County (CAL/OHP 2005a) with the most recent updates of the National Register of Historic Places; California Historical Landmarks (CAL/OHP 1990); and, California Points of Historical Interest (CAL/OHP 1992); as well as other evaluations of properties reviewed by the State of California Office of Historic Preservation. Additional 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 2005b) and, *Historic Civil Engineering Landmarks of San Francisco and Northern*

AGENCIES, GROUPS AND INDIVIDUALS CONSULTED

The Native American Heritage Commission (NAHC) was contacted in regard to resources listed on the *Sacred Lands Inventory* (Busby 2005). The review was negative (Pilas-Treadway 2005).

Ms. Vera Gill, Community Development Department, Planning Division, (408) 777-3308, personal communication 5/25/05) was contacted regarding City of Cupertino historic properties/cultural ordinances and lists of landmarks, potential cultural resources, historic properties, etc. The City has no preservation ordinance. Figure 2G in the 2005 City of Cupertino Draft General Plan provides a listing of Historic Sites and their approximate locations.

Mrs. Barbara Banfield, Staff Naturalist, Santa Clara Valley Audubon Society (SCVAS)[4] at McClellan Ranch (22221 McClellan Road) provided Mr. Christopher Canzonieri, Basin Research Associates' archaeologist with a brief tour of Blackberry Farm (21975 San Fernando Avenue) to show him several prehistoric stone bowl-like objects embedded within walls at the farm. She also noted that the original creek may have meandered through the Blackberry Farm parking lot on San Fernando Avenue.

No local historical societies were contacted regarding a review of local landmarks, potential historic sites or structures.

SUMMARY CONTEXT
NATIVE AMERICAN
Prehistoric

The project area is within the watershed of Stevens Creek (also known as Cupertino Creek) with Calabazas, Stevens, and Permenente creeks the principal drainage channels in the study area. Permanente Creek is located about 1.25 miles west of the project, Regnart Creek is about 1.25 miles east of the project, and Calabazas Creek is located approximately 2.25 miles east of the project. The area would have provided a favorable environment during the prehistoric period with riparian, bay and inland resources available to the aboriginal population either in the area or within a short distance.

Native American occupation and use of the general area appears to extend over 5000-7000 years and may be longer. Sites appear to have been selected for accessibility, protection from seasonal flooding, and the availability of resources. Watercourses and associated small basins and other slight topographic depressions were foci of prehistoric occupation. Native American groups exploited a variety of ecological niches on the low grasslands of the alluvial plain dotted with spring-fed marshes and basins and the adjacent foothills. Archaeological information suggests an increase in the prehistoric population over time with an increasing focus on permanent

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California (American Society of Civil Engineers 1977) and other local and regional surveys/inventories, lists, and ephemera (see REFERENCES CITED AND CONSULTED).

4. McClellan Ranch, Santa Clara Audubon Society, 22221 McClellan Road, Cupertino, CA 95014; (408) 252-3747; scvas@scvas.org

settlements with large populations in later periods. This change from hunter-collectors to an increased sedentary lifestyle is due to more efficient resource procurement but 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) and, Allen et al. (1999).

ETHNOGRAPHIC

The aboriginal inhabitants of the Santa Clara Valley belonged to a group known as the "Costanoan", derived from the Spanish word *Costanos* ("coast people" or "coastal dwellers") who occupied the central California coast as far east as the Diablo Range. The descendants of these Native Americans now prefer to be called Ohlone (Galvan 1967/1968; Margolin 1978). In 1770 the Costanoan lived in approximately 50 separate and politically autonomous tribelets with each group having one or more permanent villages surrounded by a number of temporary camps. Physiographic features usually defined the territory of each group which generally supported a population of approximately 200 persons with a range of between 50-500 individuals (Kroeber 1925:462; Levy 1978:485, 487; Hart 1987:112-113).

Tribelet boundaries and village locations are inexact due to incomplete historic records, and they remain a subject of anthropological contention and debate. The project area is within the territory of the *Tamyen* (*Tamien*) tribelet of the Costanoan Indians (alternatively the Ohlone). The closest *Tamien* village and/or village/region have been identified as *San Jose Cupertino* (Kroeber 1925:465, Fig. 42; Levy 1978:485, Fig. 1, #11; Milliken 1995:229, Map 5, 256[5] King 1994:205, Fig. 7).[6] Milliken (1995:250) places the village of *Partacsi*, tribe unknown, in the Saratoga gap area in the mountains and valleys of upper Pescadero Creek, Stevens Creek, and Saratoga Creek watersheds.

No major prehistoric/protohistoric trails have been identified in or near the project. However, it is likely that a trail ran along Stevens Creek; an inferred trail has been mapped along Los Gatos Creek about 4.5 miles east of the project (Elsasser 1986:48, Table 4, #1; Figure 10).

Historic accounts of the distribution of these Costanoan tribelets and villages in the 1770s-1790s and the results of archaeological efforts in the area suggest that a number of tribelets may have had temporary camps within the vicinity of the project area throughout the prehistoric period and into the Hispanic period. The Costanoan aboriginal lifeway apparently disappeared by 1810 due

5. Milliken places the *Tamien* along the Guadalupe River from Agnews to the Downtown San Jose and the flat lands westward from the Guadalupe to present-day Cupertino on upper Stevens Creek and does not refer to *San Jose Cupertino*.

6. King (1978b:437-438, Fig. 54) refers to the *San Jose Cupertino* tribelet and the village of *Ritocsi* in the general area. In contrast, Milliken (1995:252) places the *Ritocsi* in the upper drainage of the Guadalupe River and central part of Coyote Creek from downtown San Jose south to New Almaden. Hylkema (1995:35-36, Map 6) refers to the district of San Jose Cupertino in the Saratoga and Cupertino and the "people of *Werwersen*" including the village of *Ritocsi*.

the introduction of European diseases, a declining birth rate, and the impact of the mission system. The Costanoan were transformed from hunters and gatherers into agricultural laborers (and in some cases, craft artisans) who lived at the missions and worked with former neighboring groups such as the Esselen, Yokuts, and Miwok (Levy 1978:486).

For a more extensive review of Santa Clara Valley Native Americans see Kroeber (1925:462-473), Harrington (1942), Galvan (1967/1968), King and Hickman (1973), C. King (1974, 1978b), Levy (1978), Bean (1994), and Milliken (1995).

HISTORIC ERA RESOURCES

HISPANIC PERIOD

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) while the later Mexican policy stressed individual ownership of the land (Findlay 1980). During the Mexican Period (1822-1846/1848) vast tracts of land were granted to individuals (Hart 1987).

Between 1769 and 1776 a number of Spanish expeditions passed through Costanoan territory, including those led by Portola, Fages, Fages and Crespi, Anza, Rivera, and Moraga (Beck and Haase 1974:#17, 20-21; Levy 1978:486). In particular, Portola-Crespi in 1769; Fernando Javier y Moncada Rivera and Father Francisco Palou in 1774, Bruno de Hezeta-Palou in 1775, and Anza and Font in 1776 passed through the general project area (James and McMurry 1933:btwn 12-13; Rambo and Stocklmeir ca. 1971-1972:60; Beck and Haase 1974:#17).

The favorable reports of Anza and Font led to the establishment of both Mission Santa Clara and the Pueblo de San Jose in 1777. *Mission Santa Clara de Asis* founded on January 12, 1777, the eighth of the 21 missions in California would have been the mission with the greatest impact on the aboriginal population living in the project vicinity (Hart 1987:324; Spearman 1963:15). Locations were selected with the purpose of conducting expeditions against hostile Indians as well as a place to convert them (James and McMurry 1933:8; Beck and Haase 1974:#16-17, 19; Levy 1978:486; Hart 1987:322-324, 489-490).

During the Mexican Period (1822 to 1846/1848) and into the American Period, the area within the project on the west side of Stevens Creek was within the *Rancho San Antonio*, granted by Governor Juan B. Alvarado to Prado Mesa on March 24, 1839 and patented to William A. Dana, Hendry F. Dana and James W. Weeks on December 18, 1857 for 3,541.90 acres. The closest rancho features such as dwellings, corrals, roads etc. were located in the northern part of the rancho which was patented to Encarnacio Mesa et al. on August 6, 1866 for 898.41 acres. None of the features were within the project[7] (Tracy 1857a-b; Hendry and Bowman 1940:895-897; Hoover et al. 1966:437; USGS Cupertino, Calif. 1980).

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7. Note: The 1857 Tracy rancho plats show American Period features: "Capt Steven's House" or "Stevens," two fields, and a road on the west side of Cupertino Creek (Stevens Creek; Tracy 1857a-b). He was captain of wagon train 1844 Townsend-Stephens-Murphy Party (Loomis 1985:87). The Murphy-Shallenberger-Greenwood-Townsend party in Rambo and Stocklmeir (ca. 1971-1972:64).

AMERICAN PERIOD

In the mid-19th century, the majority of the rancho and pueblo lands and some of the ungranted land in California were 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.

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. Most of the institutions for higher education and the citizen elite resided in San Jose or its twin, the city of Santa Clara. This agrarian land-use pattern with the former "chief city" of the City of San Jose and isolated "settlement clusters" located at crossroads with services (e.g., Cupertino, Evergreen, Gubserville, Coyote, and Milpitas) 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" (Broek 1932:76-83; Hart 1987).

Project Area

Reportedly Elisha Stephens (Stevens) arrived in the project study area in the 1840s; documents indicate his presence in 1852. He settled on what was known as Cupertino Creek and later as Stevens Creek. Between 1850-1880, Stevens Creek Road was the principal road from Stevens Creek and the west side of the Santa Clara Valley to the City of San Jose.

Although viticulture was introduced early in the area by Elisha Stevens, the project area was generally characterized by mostly huge ranches in the 1870s. In the early 1880s, the area was almost entirely planted with grain, vineyards, and some prunes. As a result of the vines planted between 1880-1885, the area became dependent on viticulture between 1880-1890 and even after the infestation and destruction of vines by the phylloxera parasite between 1895-1900. Viticulture along with mixed agriculture and horticulture was important until the introduction of prohibition (1920-1933).

The name "Cupertino" was used by John T. Doyle, owner of 321 acres in 1880[8] for the Cupertino Wine Company located near present-day McClellan Road and Foothill Boulevard in the vicinity Stevens Creek.[9] A post office was established in May 1882 at "Cupertino" on McClellan Road, discontinued in June 1894, and re-established in July 1900. Meanwhile a store

8. 1882 (Rambo and Stocklmeir ca. 1971-1972:64).

9. By 1888 he built a second winery near the first, "Las Palmas Winery." He was noted for his modern, automated facility and prize winning vintages until the 1906 earthquake. He died later in 1906; his family sold the vineyards to developers in 1912 (Sullivan 1982:50-51).

at "Westside", about 1.75 mile east of the project at the "Crossroads" or "Corners", the intersection at present-day Stevens Creek and DeAnza Boulevards (former Saratoga Sunnyvale Road), provided postal services from July 1892 until July 1900. In 1896, "West Side" was the service center of what was to become Cupertino. West Side had a general merchandise store, town hall, church, blacksmith shop, a post office, a cooper and a telephone office. In July 1900, the post office moved to and its name was changed to "Cupertino." By 1904, the name "Cupertino" was applied to The Crossroads/"West Side" as well as the post office.

In early 1907, the interurban Peninsular Railroad opened its Cupertino branch between the City of San Jose and Monta Vista [*sic*] which ran along San Carlos Street and Stevens Creek Road. Later in March 1910, a high-speed double-track line ran along from Stevens Creek Road from Monta Vista Junction to Meridian Corners (Stevens Creek Road and Saratoga Avenue). Between 1912-1914, a local real estate boom centered at Monta Vista, an unincorporated development bounded on the east side by Bryne Avenue west of the project on the Southern Pacific rail line constructed in 1906. At the time, Monte Vista was a mile west of Cupertino and considered to be ". . . little more than a station on the Peninsular Railway." Cupertino was incorporated in October 1955; at the time the city consisted of 3.76 square miles (*San Jose Mercury* 1896:133; USGS 1899 [surveyed 1895]; Hoover et al. 1966:459; Sawyer 1922:305 [quote]; Baltzer 1969 [1887 map]; McCaleb 1969:55, 58, 71; Rambo and Stocklmeir ca. 1971-1972:66-69; McArthur and Fuller 1975:3, 56, 135; Stocklmeir 1975:120-127; Sullivan 1982:47, 50-53; Rambo 1984:101, 190; Patera 1991:51, 230; Walker 1994:Map CA-13; Laffey 1996:1/S-18893).

Project Specific Historic Map Review

Captain Elisha Stephens reportedly settled on Cupertino Creek in 1849 or 1850. He did not own the property initially as indicated by his 1852-1852 assessment for improvements only (Laffey 1996:1/S-18893 [specific location of improvements not stated]).

Tracy's 1857 Plat of *San Antonio Rancho* showing [*sic*] the part finally confirmed to Wm A. Dana et al. shows a number of features adjacent to the west bank of Cupertino Creek: a "Field" in the vicinity of present-day Stocklmeir Court; and, a "Road" on the north side of a "Field" in the present-day Scenic Circle area with "Capt Steven's House" [a square] just southwest of Scenic Circle, opposite present-day McClellan Ranch Park. The road noted on the plat would have crossed the creek (Tracy 1857b).[10]

No documents discussing Stephens in regard to the east side of Stevens Creek are known. However, Stephens was assessed for improvements in 1862 on a 160-acre parcel bounded on the south by McClellan. This property may possibly refer to a quarter section on the east bank of the creek without clear title. Alternatively, this assessment could also refer to his house (property) on the opposite, west bank of the creek (e.g., Tracy 1875a-b plats; Laffey 1996:1-4, Fig. 3/S-18893).

10. The Plat of *San Antonio Rancho* finally confirmed to the Heirs of Prado Mesa showing the part not confirmed to Wm A. Dana et al. is similar and shows and labels "Cupertino Creek" and "Steven's" and shows, but does not label, the fields and road (Tracy 1857a).

Property ownership, circa 1857-1881 within the project alignment as mapped by Laffey (1996:1-4, 8, Figs. 3, 5/S-18893) includes: west side [small part east side within former rancho] 155.57 acres from J. Clark to E. Stephen's and then E. Stephens to W.T. McClellan on the west side of Stevens Creek Road (Boulevard) to just south of present-day Scenic Circle in about 1864? (date approximate); 580.65 acres from Dana to J. Clarke; east side: 160 acres U.S. (United States) to G. McCauley from Stevens Creek Road to ? (unnamed road; includes parts of Sections 14-15 and 22-23 of T 7S R 2W; 160 acres U.S. to Wallace McClellan; and 15 acres including the present-day McClellan Ranch[11] from William T. and Eveline E. McClellan to Joseph McClellan).

Healey's 1866 *Official Map of the County of Santa Clar*a is more schematic and shows a structure labeled "Stephens" (e.g., Stevens) on the west bank of Cupertino Creek (Stevens Creek) opposite Stevens Creek Road (unlabeled) opposite the creek.

The 1866 Government Land Office survey plat for Township 7 South Range 2 West (T 7S R 2W MDM&B) includes a "House", presumably the former Stephens house,[12] with a "Field" adjacent on the west side of "Cupertino Creek" in the NE 1/4 of Section 22 (within former Rancho San Antonio). A "Road from [incomplete]" is shown crossing the creek to the house and away from the field. In addition, a much larger "Field" is shown mostly north of the project on the east side of Stevens Creek from about present-day Stevens Creek Boulevard north to about the north end of Florence Drive (along N 1/2 of 14-15 Section line). A very small portion of the field is shown south of present-day Stevens Creek Boulevard adjacent to the east side of the creek in the project. In addition, other roads are shown on the plat and include a "Road from Blackberry to Saratoga" and "Saratoga to Santa Clara" east of the project.

Thompson and West's 1876 *Historical Atlas of Santa Clara County*[13] shows "Stevens Creek Road" (present-day Stevens Creek Boulevard). The project area on the west side of "Stevens Creek or Cupertino Creek", from north-to-south was within a 90-acre parcel with a building near the creek owned by L. Moore, a 60-acre parcel owned by W.T. McClelan [*sic*]; and part of a 35-acre parcel owned by L. Seelinger whose building(s) was located south of the project boundary. The east side of the creek in the project had a 70-acre "N. Hayes Blackberry Farm" parcel with three building about midway near the creek and a small parcel with a building owned by "F.W.W." (Thompson and West 1876:33).

By 1885, as shown on Barinard's 1885 *Map of Cupertino*, "Cupertino" included both sides of Cupertino Creek (Stevens Creek) slightly north McClellan Road which had been extended and

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11. And also the adjacent 26 acres on south side of McClellan Road.

12. Capt. Elisha Stephens [*sic]* homesteaded 160-acres which he called "Blackberry Farm" in 1848 near/along present-day Stevens Creek. *"His first cabin was too close to the creek and was swept away in a winter flood. The second cabin on higher ground*." He moved to what is now Bakersfield in 1864 (Pace 1975:19, #2; Loomis 1985:87).

13. This map is very problematic. The creek configuration differs substantially and section lines used as points of reference result in Stevens Creek being located mostly west of the present-day alignment of the creek.

now crossed the creek.[14] This map shows "J.T. Doyle 150 A [acres] [Las] Palmas" near and adjacent to the west side of Cupertino Creek (Stevens Creek) from Stevens Creek Road (Boulevard) and McClellan road with the northernmost bend in the creek occupied by a small 3-acre parcel owned by "J.D.W.". The east side included a 55-acre parcel owned by G.J. Byrne[15] [Blackberry farm in 1876] which terminated at the point where McClellan Road proceeds south/southeasterly. J.T. Doyle owned the parcel between the creek and McClellan Road and McClellan owned a 13-acre parcel [now part of McClellan Ranch Park]. Three buildings are shown on both sides of the creek: one is in the project on the west side of the creek in the vicinity of Scenic Circle[16] and two within a J.T. Doyle parcel on the east side of the creek are approximately opposite Monta Vista High School [Note: both are outside of the project, west of present-day Linda Vista Drive if it was extended north across McClellan Road].

The 1899 USGS topographic map shows only the isolated "West Side", at The Crossroads (or The Corners"), about 1.75 miles east of the project at the intersection at present-day Stevens Creek and DeAnza boulevards (former Saratoga-Sunnyvale Road). In contrast, the 1943 US War Department topographic map shows "Cupertino" in this location and "Monta Vista" just east of the project on either side of the Southern Pacific Railroad tracks and Stevens Road (present-day Stevens Creek Boulevard). Both "Cupertino" and "Monta Vista" appear on revised USGS topographic maps (USGS 1973, 1980, 1991; US War Dept 1943 [photography 1937, 1940]). By 1973, the study area was subject to subdivision and development as part of the general pattern of growth throughout the Santa Clara Valley. Between 1973 and 1980, streets east of Scenic Boulevard were constructed including Stocklmeir Court, Dean Court, Adelheid Court, and Scenic Circle**.**

ARCHAEOLOGICAL FIELD INVENTORIES

PRIOR FIELD RESEARCH

Previous archaeological fieldwork included a survey of portions of the project as part of the *Kaiser Cement Property* (Holman 1988/S-10471) and the *Summer Dams Project* (Cartier et al. 1994a/S-16730). Both surveys were negative.

CURRENT FIELD INVENTORY

An archaeological field inventory of selected areas within the project area was completed by Basin Research Associates' archaeologist Mr. Christopher Canzonieri (M.A.) on May 4, 2005. The inventory focused on the proposed route of the bicycle and pedestrian trail [see Fig. 3] and did not cover the developed areas of the project – these areas included the existing golf course, picnic and maintenance areas, the developed area on the north fronting on Stevens Creek

14. This map shows considerable change in the alignment of the creek from Stevens Creek Boulevard to about Alcazar Avenue.

15. Present-day Byrne Avenue runs along the east parcel boundary.

16. In the general location of the "Capt Steven's House" as shown on the 1857 Tracy rancho plats.

Boulevard, the developed areas of the McClellan Ranch at the south end and areas covered with introduced landscaping (e.g., lawn areas). The pedestrian survey relied on random transects spaced at intervals of 3-5 meters within an alignment along both banks Stevens Creek. Surface visibility along the Stevens Creek alignment varied from zero to 100 percent due to the concrete lined creek in the area parallel to the Blackberry Farm Golf course holes 8-9; the presence of steep slopes, dense vegetation, areas of poison oak or berry bushes (thorns) including McClellan Ranch north to the property line for Blackberry Farms (Pine Grove Picnic Site) and the Hillside Picnic Area north to the orange grove located on the west side of the creek. Very little vegetation was present within the Blackberry farms picnic sites.

Mr. Canzonieri also attempted to relocate previously recorded prehistoric site CA-SCl-715. The recorded location and immediate vicinity were carefully walked using 3-5 meter transects from north to south. Surface visibility was approximately 90 percent. No midden (culturally affected soil) or other definitive indicators (e.g., artifacts, bone, etc.) of prehistoric activity were observed. Numerous fragments of granite, chert, sandstone, and serpentine were noted throughout the orchard, but none appeared to be culturally modified. Several small fresh water clamshells and one small metacarpal fragment from a deer (*Odocoileus* sp.)[17] were also observed.

Mrs. Barbara Banfield, Staff Naturalist of the Santa Clara Valley Audubon Society (SCVAS)[18] at McClellan Ranch (22221 McClellan Road) brought Mr. Canzonieri's attention to several stone "bowl-like" objects within a wall at Blackberry Farm (21975 San Fernando Avenue). She also noted that the original creek alignment may have meandered through the Blackberry Farm parking lot[19] on San Fernando Avenue. Mr. Canzonieri observed and photographed two indurated sandstone bowl mortars and two cupules embedded in two walls at Blackberry Farm: a mortar and cupule within the low wall/border in front of the Retreat Center building and another mortar and cupule within the low wall around the building. According to Mrs. Banfield, the walls were constructed in the 1950's with stone gathered from nearby Stevens Creek.

No other prehistoric or significant historic era archaeological materials were observed during the field inventory completed by Mr. Canzonieri.

PRESENCE/ABSENCE TESTING – CA-SCl-715

Mechanically assisted presence/absence testing was undertaken within the mapped site boundary of CA-SCl-715 [see Figs. 4-6]. The testing program was undertaken to determine if significant subsurface archaeological resources were present or absent within or adjacent to the recorded site boundaries. The Basin Research Associates' field team consisted of Christopher Canzonieri, M.A. (Archaeologist & Physical Anthropologist) and Stuart Guedon, M.A. (Historical

17. A number of the rocks as well as the deer bone exhibited postmortem damage, likely the result of disking.

18. McClellan Ranch, Santa Clara Audubon Society, 22221 McClellan Road, Cupertino, CA 95014; (408) 252-3747; scvas@scvas.org

19. presumably the "Horseshoe Bend" lot west of the Office and Retreat Center on San Fernando Avenue

Geographer & Archaeologist).

Prior to testing, Mr. Canzonieri and Mr. Guedon field located 12 Backhoe Test Units (BTUs) in consultation with and the approval of Dr. Colin I. Busby, Basin Research Associates' Principal Archaeologist. The units were generally located between the future trail and proposed stream channel. Units were sited to minimize damage. Excavation used a rubber-tired backhoe fitted with a 24-inch wide-toothed bucket.

The mean length of the BTUs was 2.87 meters (9.42 feet); the mean width was 0.74 meters (2.42 feet); and mean depth was 2.37 meters (7.78 feet) below current ground surface. BTU depths ranged from 1.83-3.60 meters (6.0-11.80 feet) below present ground surface. The spoil and trench profiles were visually inspected by the archaeological team to check for the presence/absence of cultural resources. Ten shovel samples recovered from each observed stratum in each BTU were screened through 1/4th inch mesh to determine the presence/absence of cultural constituents. Standard archaeological recordation, including a written description, sediment profile, and photographs, were completed for each unit; soil/charcoal samples were also collected from selected units. All BTUs were backfilled and wheel-rolled.

FINDINGS

The intent of this assessment is to identify historic properties which may be listed, determined or potentially eligible for inclusion on the California Register of Historical Resources (CRHR)[20] within the project that may be affected by the proposed construction.

RECORDS SEARCH RESULTS

One prehistoric site, CA-SCl-715 (P-43-000633)[21] has been recorded adjacent to the west bank of Stevens Creek within an area proposed for improvement. This site has been described as a 1000 x 300 meter "low-visibility earth midden with few surface materials" - one Franciscan chert flake, a sandstone hammerstone, a few shell fragments, fire-cracked rock and a piece of burned bone (Bocek 1991/form).

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20. A historical resource may be listed in the California Register of Historical Resources (CRHR) if it meets one or more of the following criteria: "(1) it is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; (2) it is associated with the lives of persons important to local, California or national history; (3) it embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or (4) it has yielded or has the potential to yield information important in the prehistory or history of the local area, California or the nation." Automatic listings include properties listed in the National Register of Historic Places, 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 Points of Interest nominated from January 1998 onward will be jointly listed as Points and in the California Register. Landmarks prior to 770 and Points of Historical Interest may be listed through an action of the State Historical Resources Commission (CAL/OHP ca. 1999, 2001a-c).

21. Trinomial (Primary Number) assigned by the CHRIS/NWIC.

Cartier et al. (1994a) placed six auger bores ranging between 20 cm to 130 cm deep at CA-SCl-715. "No intact subsurface deposits" were encountered - a single fragment of charcoal was found in two auger units (Units 2 and 6) and "traces of historic subsurface cultural material including one small window glass shard" were found in another (Unit 6). No additional information is available. The site has not been evaluation for inclusion on the California Register of Historical Resources.

No historic era sites have been recorded or reported in or adjacent to the project. One Historic Era site, "Blackberry Farm Site" has been informally noted on the CHRIS/NWIC USGS Cupertino, Calif. topographic map.

Four cultural resources compliance reports on file with the CHRIS/NWIC (File No. 04-996) include the project and/or area adjacent to the project. *Cupertino: Potential Cultural Resources, Ordinance, and Sensitivity Map*[22] (Cartier et al. 1980/S-8403)[23] includes the entire city. *An Archaeological Inspection of the Kaiser Cement Property, Cupertino, Santa Clara County, California* (Holman 1988/S-10471) appears to include portions of the project and was negative for cultural resources in the project. The *Cultural Resources Evaluation for the Summer Dams Project* (Cartier et al. 1994a/S-16730)[24] includes part of the current project area within "Stevens Creek Location #1." The archaeological survey of this area was negative. The *McClellan Ranch Park Needs Assessment Project: McClellan Ranch Park Site Specific Survey* (Laffey 1996/S-18893) includes historic background for Elisha Stephens, William T. McClellan, Joseph McClellan, 20th Century Ownership; building chronologies for the McClellan Ranch House, McClellan Milk House, Parrish Tank House and McClellan Barn; and, various Historic Resources Inventory Forms.

NATIVE AMERICAN RESOURCES

No known ethnographic or contemporary Native American resources, including villages, known trails, sacred places, traditional or contemporary use areas, have been identified in or adjacent to the project.

HISTORIC PERIOD RESOURCES (not including Listed Historic Properties)
Hispanic Era

No Hispanic Era sites including the Anza *Juan Bautista de Anza National Historic Trail [1776]* or rancho dwellings and/or features have been identified in or adjacent to the project as a result of research conducted for this report.

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22. Map not attached to report.

23. S-# assigned by the CHRIS/NWIC.

24. Note the *Addendum* for the Summer Dams Project (Cartier et al. 1994b/S-16731) includes a map of Stevens Creek Location #1 in the project, but only information about the project locations deleted from the earlier report (Cartier et al. 1994a/S-16730).

American Period

No Historic Era archaeological resources have been formally recorded or reported in or adjacent to the project. One historic era site, "**Blackberry Farm Site"** has been informally recorded in the project by the CHRIS/NWIC.

LISTED HISTORIC PROPERTIES

No California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP) listed historic properties have been identified in or immediately adjacent to the proposed project area. One California Point of interest is present and five properties within or adjacent to the project are listed either on various *Santa Clara County Heritage Resource Inventory(ies)* and/or are identified as City of Cupertino Historic Sites.

One California Point of Interest, **Blackberry Farm**, is within the project area. **Blackberry Farm**, **Elisha Stephen's Homestead**, **Louis Stocklmeir Home**, **"Doyle Winery Site (foundation only)**" and **McClellan Ranch Park** (including Baer's Blacksmith Shop replica and the Parrish tank house) have been listed on various Santa Clara County Inventories (1975 and 1979) and/or identified as potential City of Historic Sites in 1980 (Cartier et al. 1980/S-8403) and in the 2005 City of Cupertino Draft General Plan (see Fig. 2G in Draft General Plan).

> **Blackberry Farm**,[25] Stevens Creek Road (located between Stevens Creek Road and McClelland Boulevard with access to the former resort via San Fernando Avenue) has been a *California Point of Interest* since 1975 (CAL/OHP 1992:66, #SCL-037) and is on the *California Inventory of Historic Resources* under the Theme Exploration/Settlement. The latter states: *The area is the site of the former homestead and farm of Captain Elisha Stephens, a noted wagon train guide who settled in this area in 1848* (CAL/OHP 1976:126, 265). The *Historic Properties Directory* lists Blackberry Farm as code 7L, that is "State Historical Landmarks 1-769 and Points of Historical Interest designated prior to January 1998 - Needs to be reevaluated using current standards" (CAL/OHP 2003, 2005a).
>
> **Site of Elisha Stephen's Homestead**, [26] 21975 San Fernando Street, Monta Vista [*sic*; east side of Stevens Creek] and **Blackberry Farm,** 22100 Stevens Creek Boulevard, are listed

25. In 1953, Blackberry Farm was purchased by N.S. Nelson and Albert Nelson, two brothers from Sweden who expanded the resort including replacing the orchard between Stevens Creek and the resort proper with a 9-hole golf course. The family sold the facility to the City of Cupertino in 1991. The resort, located south of the golf course on the east bank of the creek, includes picnic sites with barbecues, two swimming pools, softball, basketball, volleyball, horseshoe pit, playground, snack bar/concession house, office, and retreat center (Blackberry Farm 2005).

26. *This was the homestead of Captain Elisha Stephens, who guided the Martin Murphy-Townsend party from Council Bluffs to Sutter's Fort in 1844. It was the first covered wagon train to cross the Sierras. Near the present Steven's Creek he homesteaded 160 acres in 1848. He called his homestead Blackberry farm. He left the area in 1864 and moved to the area that is now Bakersfield. A resort hotel was built on the property and it stood until the 1906 earthquake*." (Pace 1975:19, #2). The latter entry for **Blackberry Farm** states: *This picnic ground and golf course (Blackberry Recreation Center, Inc.) was developed in 1953 on the site of Captain Elisha Stephens (Stevens) homestead."* (Pace 1975:19, #11).

in the 1975 *Santa Clara County Heritage Resource Inventory* (Pace 1975:19, #2 and #11). The *Site of Elisha P. Stephens home, 1850, now part of Blackberry Farm* has been identified as City of Cupertino Historic Site #10 in the 2005 City of Cupertino Draft General Plan (Cupertino 2005:Fig. 2G). The *Elisha Stephens Homesite - Blackberry Farm Golf Course on Stevens Creek Blvd.* was identified as a potential City of Cupertino cultural resource (Cartier et al. 1980:40, #30/S-8403).

Louis Stocklmeir Home at 22120 Stevens Creek Boulevard is at the northern boundary of the project. The farm complex was settled in 1900. The house, dating to 1903, has been extensively remodeled and has been identified as City of Cupertino Historic Site #9 in the 2005 City of Cupertino Draft General Plan (Cupertino 2005:Fig. 2G). The *Stocklmeir Ranch Complex - 22120 Stevens Creek Blvd* was identified as potential City of Cupertino cultural resource in 1980 (Cartier et al. 1980:40, #31/S-8403).

"**Doyle Winery Site (foundation only)**" has been identified as City of Cupertino Historic Site #8 in the 2005 in the City of Cupertino Draft General Plan (Cupertino 2005:Fig. 2G) (bounded by McClellan Avenue on south and is on east side of Stevens Creek).[27] The *Doyle Ranch and Winery - McClellan Avenue* was identified as potential City of Cupertino cultural resource in 1980 (Cartier et al. 1980:40, #35/S-8403).

McClellan Ranch Park at 22221 McClellan Road (south terminus of project area on east side) is listed on the 1979 *Santa Clara County Heritage Resource Inventory* (including **Charles M. Baer's replica of his father's 1888 Blacksmith Shop** and the **Enoch Parrish tank house** (SCCloHHC 1979:19, #6)) and is notable for *A portion of one of the oldest ranches along Stevens Creek, W.T. McClellan's ranch is now a city park* (SCCloHHC 1979:19, *#6*). This property was originally purchased by W.T. McClellan and George McCauley from Captain Elisha Stephens. The McClellan and McCauley families operated a successful dairy farm on the property which by the 1960s had been converted to a horse ranch. The 23.5-acre park was purchased in the mid-1970s by the City of Cupertino (SCVAS 1998:2).[28]

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27. "John T. Doyle, a well-known attorney in the 1860s purchased [Samuel] Williams' half [of "what is said to have been the first large planting of grapevines in the county"], lying along Stevens Creek, and built a winery on one side of the stream [west side] and a dwelling house on the other, later called the Monte Vista Winery. ... The Doyle family, whose main residence was near Menlo Park, built the house on their Stevens Creek property in 1873. In 1882, it became the location of the first Cupertino post office. The Doyle house and cement winery, or storage house stand at 22044 McClellan Road, at the first bend of the road. Doyle is referred to as the "most important single individual in the history of the West Side wine industry", notable for the his modern facilities and success (see Hoover et al. 1966:459 and Sullivan 1982:50-51, 53 for additional information).

28. The present McClellan Ranch House is estimated to date to the 1930s with remodeling in the 1950s or 1960s; a west wing to ca. 1974; handicap access and bathroom remodeling/ramping in 1984. The McClellan Milk House appears to have been constructed in the "early decades of the 20th Century"; a restroom was added in 1974.

    The Enoch Parrish Tank House was acquired along with the Enoch J. Parrish House [ca. 1895], across form DeAnza College on Stevens Creek Boulevard by the City of Cupertino in 1966 for Memorial Park. The house burned in June 1975 (Pace 1975:19, #5; Laffey 1996:13). The tank house was "reassembled" adjacent/contiguous to the Milk House at McClellan Ranch Park ca. 1977.

The City of Cupertino Draft General Plan includes City of Cupertino Historic Site #7 (Replica Baer Blacksmith Shop) and #6 (Enoch J. Parrish Tank House), but does not designate the ranch proper as a Historic Site (Cupertino 2005:Fig. 2G). Rather, the McClellan Ranch Park is a designated nature and rural preserve as designed by Ordinance 710 adopted by the Cupertino City Council on January 6, 1976 (Laffey 1996:11/S-18893). The McClellan Ranch Park (including Charles M. Baer's replica of his father's 1888 Blacksmith Shop, the tankhouse from the Enoch Parrish property and several other McClellan ranch structures) was identified as a potential City of Cupertino cultural resource in 1980 (Cartier et al. 1980:34, #12, 35).

The map in the current *Trail Guide for the McClellan Ranch Park* shows seven structures within the property: the blacksmith shop[29] and Parrish tankhouse,[30] the McClellan Ranch House,[31] a Milk Barn (restrooms) located adjacent to the tankhouse, a Junior Nature Museum building, a Garden Storage building, a Historic Barn,[32] and "4-H" building with fencing. In addition, remnants of the former orchard are also noted[33] (SCVAS 1998:2, 6 [map], 9-10).

Simms House, address not provided, is located at the south end of the project on the west side of Stevens Creek opposite the McClellan Ranch. This house is currently under review by the Cupertino Historical Society.

ARCHAEOLOGICAL FIELD INVENTORY RESULTS

The archaeological field inventory for the project did not relocate prehistoric site CA-SCl-715. A small quantity of prehistoric ground stone artifacts was observed being used a wall decoration at several stone borders/walls at Blackberry Farm (22100 Stevens Creek Boulevard). No other

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The McClellan Barn was built between 1901-1909 (Walter Wilson owner) or 1910-1930 (Fred Connor owner) and improved including adding horse stalls after 1955 (Hirosuke Inouye owner). The City painted and added a new roof after 1975. In addition, the rolling doors rebuilt.

29. Pace (1975:19, #3) includes the *Charley Baer House, Stevens Creek and Saratoga-Sunnyvale Road, Cupertino -- The house was built by W.T. Baer in 1903. Baer opened Cupertino's first blacksmith shop in 1887...*"

30. The E.J. Parrish house, now site, was located on the northeast corner of Mary Avenue and Stevens Creek Boulevard across from De Anza College. The house was damaged by fire and demolished in 1975. It was listed as California Point of Historical Interest in 1972 (CAL/OHP 1992:65, SCL-016 [B.J. Parrish House]), on the *California Inventory of Historic Resources* under the theme of architecture (CAL/OHP 1976:37, 266 E.J. Parrish), and on 1979 *Santa Clara County Heritage Resource Inventory* (SClCoHHC 1979:20, #14).

31. Described as *The oldest house in the vicinity of Stevens Creek ... remodeled beyond recognition at 22221 McClellan Road. It was built by W.T. McClellan, who owned a few hundred acres adjoining Blackberry Farm (*Hoover et al. 1966:459).

32. As dating to 1890; Laffey (1996/S-18893) as built between built between 1901-1909 or 1910-1930.

33. "Captain Stephens enjoyed orchards and planted much of the land with fruit trees."

evidence of prehistoric or historically significant prehistoric or historic era archaeological resources was observed during the field inventory conducted for this report.

ARCHAEOLOGICAL PRESENCE/ABSENCE TESTING (see Table 1)

No significant prehistoric or historical cultural material was noted either on the surface or observed in the 12 BTUs suggesting that CA-SCl-715 is not present where improvements are proposed to occur.

BTU 4 contained a very thin charcoal lens and shell fragment (oyster) at 0.38 meters below the surface [see Fig. 7]; BTU 8 and BTU 9 [see Fig. 8] had small charcoal flecks present at 0.25 meters and 0.10 meters respectively. In addition, a clamshell was collected from the surface near a ground squirrel burrow. All of these materials are within the plow zone and highly disturbed. The surface shell was identified as California Lucine (*Epilucina californica*), a salt-water species that is present in moderately shallow waters. The second shell (fragment) recovered from BTU 4 appears to be oyster (*Ostrea lurida)*. A sufficient sample of charcoal for radiocarbon dating could not be obtained.

TABLE 1
Unit Observations and Comments

UNIT #	DESCRIPTION/OBSERVATIONS	COMMENTS
	All units were excavated on February 13, 2006; the units ranged in length from 2.50 m to 3.10 m; 0.70 m to 0.80 m wide, and ranged in depth from 1.83 m to 3.60 m; specific dimensions given under 'Comments' section; BTUs 1, 2, 3, 4, 6, 8, 9, 10, 11, and 12 were oriented east west; BTUs 5 and 7 were oriented north south. Ten shovel samples recovered from each stratum were screened through 1/4th inch mesh.	Stratum depths presented in centimeters. Elevation is presented in feet. Roots and Rootlets were observed in all strata/depths
Unit 1	0-35 cm ± Stratum A: moist loose very dark grayish brown clayey silt, with angular to subrounded coarse sand (1/2-1.0 mm) 10YR 3/2. 35-150cm ± Stratum B: moist firm very dark brown medium grained (1/4-1/2 mm) silty clay 10YR 2/2. 150-200 cm ± Stratum C: moist firm brown silt with sandstone angular to rounded cobbles at base of unit, 10YR 5/4.	3.00 m L x 0.80 m W x 2.00 m D Elevation ± 292.7 feet No cultural material. Rodent burrow at base of unit (SE corner) Sandstone cobbles at bottom of units likely the old creek bed.

TABLE 1, con't
Unit Observations and Comments

UNIT #	DESCRIPTION/OBSERVATIONS	COMMENTS
Unit 2	0-20 cm ± Stratum A: moist loose very dark grayish brown clayey silt with coarse-grained (1/2-1.0 mm) sand, 10YR 3/2. 20-40 cm ± Stratum B: moist firm brown clayey silt with coarse-grained (1/2-1.0 mm) sand 10YR 4/3 40-220 cm ± Stratum C: moist firm very dark grayish brown clayey silt 10YR 3/2. 220-250 cm ± Stratum D: moist firm very dark grayish brown clayey sand with pebbles and subrounded to rounded cobbles 10YR 3/2.	3.00 m L x 0.75 m W x 2.50 m D Elevation ± 293.7 feet Small angular pebbles were observed in all levels. No cultural material.
Unit 3	0-30 cm ± Stratum A: moist loose very dark grayish brown clayey silt with coarse-grained (1/2-1.0 mm) sand, 10YR 3/2. 30-55 cm ± Stratum B: gravely sandy lens with coarse-grained (1/2-1.0 mm) sand. 55-200 cm ± Stratum C: moist firm tan-brown sand with medium coarse (1/4-1/2 mm) sand and subrounded pebbles. 200-205 cm ± Stratum D: moist firm very dark grayish brown clayey silt with angular to subrounded cobbles and pebbles 10YR 3/2.	3.00 m L x 0.74 m W x 2.05 m D Elevation ± 293.7 feet No cultural material.
Unit 4	0-175 cm ± Stratum A: moist loose very dark grayish brown silt (very little clay) with coarse (1/2-1.0 mm) sand 10YR 3/2. 35-40 cm ± thin lens within Stratum A: firm orange brown silty clay with charcoal and some ash. 175-183 cm ± Stratum B firm very dark grayish brown fine silt (mm), 10YR 3/2. 183 cm ± Stratum C: firm very dark grayish brown silty clay with angular to subrounded cobbles 10YR 3/2.	3.00 m L x 0.70 m W x 1.83 m D Elevation ± 293.7 feet Thin lens of orange brown soil with charcoal and ash. A shell fragment was recovered within the lens. The shell appears to be oyster *Ostrea lurida*.
Unit 5	0-20 cm ± Stratum A: moist loose very dark grayish brown clayey silt 10YR 3/2, with coarse-grained (1/2-1.0 mm) sand. 20-35 cm ± Stratum B: moist firm brown silty clay 10YR 4/4, with some rootlets. 35-210 cm ± Stratum C: moist firm very dark grayish brown silty clay with subrounded pebbles and cobbles 10YR 3/2.	3.00 m L x 0.76 m W x 2.10 m D Elevation ± 295.1 feet No cultural material.
Unit 6	0-20 cm ± Stratum A: moist loose very dark grayish brown clayey silt with coarse-grained (1/2-1.0 mm) sand, 10YR 3/2. 20-30 cm ± Stratum B: moist firm dark yellowish brown clay sand with pebbles 10YR 3/4. 30-50 cm ± Stratum C: moist firm very dark grayish brown silty clay 10YR 3/2 with angular and subrounded pebbles. 50-110 cm ± Stratum D: moist firm very dark grayish brown silt with subrounded pebbles 10YR 3/2. 110-190 cm ± Stratum E: moist firm brown silty sand with subrounded pebbles 10YR 4/3.	2.55 m L x 0.77 m W x 1.90 m D Elevation ± 295.1 feet No cultural material.

TABLE 1, con't
Unit Observations and Comments

UNIT #	DESCRIPTION/OBSERVATIONS	COMMENTS
Unit 7	0-13 cm ± Stratum A: moist loose very dark grayish brown clayey sand with coarse-grained (1/2-1.0 mm) sand, 10YR 3/2. 13-2030 cm ± Stratum B: moist firm dark yellowish brown clay with pebbles 10YR 3/4. 20-200 cm ± Stratum C: moist firm very dark grayish brown silty clay 10YR 3/2 with angular and subrounded pebbles. 200-205 cm ± Stratum D: moist firm brown silty sand with subrounded pebbles 10YR 4/3.	3.00 m L x 0.70 m W x 2.05 m D Elevation ± 295.6 feet No cultural material.
Unit 8	0-20 cm ± Stratum A: moist loose very dark grayish brown clayey sand with coarse-grained (1/2-1.0 mm) sand, 10YR 3/2. 20-180 cm ± Stratum B: moist firm dark grayish brown silty clay with pebbles 10YR 3/2. 180-254 cm ± Stratum C: moist firm brown silty sand 10YR 4/3 with subrounded pebbles.	3.00 m L x 0.80 m W x 2.54 m D Elevation ± 295.4 feet Charcoal fleck in north wall; approximately 25 cm below surface
Unit 9	0-10 cm ± Stratum A: moist loose very dark grayish brown clayey silt with coarse-grained (1/2-1.0 mm) sand, 10YR 3/2. 10-170 cm ± Stratum B: moist firm dark grayish brown silty clay with pebbles 10YR 3/2. 170-280 cm ± Stratum C: moist firm brown silty with sandstone cobbles (observed in the back dirt) 10YR 4/3. 280-340 cm ± Stratum D: moist firm brown gravely sand with small and medium sized boulders (granite, sandstone, shale, and other unidentified rocks observed in the back dirt) 10YR 4/3.	3.10 m L x 0.70 m W x 3.40 m D Elevation ± 295.4 feet Charcoal fleck; approximately 10 cm below surface
Unit 10	0-10 cm ± Stratum A: moist loose very dark grayish brown clayey silt with coarse-grained (1/2-1.0 mm) sand, 10YR 3/2. 10-340 cm ± Stratum B: moist firm very dark grayish brown silty clay 10YR 3/2. 340-360 cm ± Stratum C: moist firm very dark grayish brown silt with sandstone cobbles 10YR 3/2.	2.80 m L x 0.70 m W x 3.60 m D Elevation ± 295.4 feet No cultural material.
Unit 11	0-10 cm ± Stratum A: moist loose very dark grayish brown clayey silt with coarse-grained (1/2-1.0 mm) sand, 10YR 3/2. 10-205 cm ± Stratum B: moist firm very dark grayish brown silty clay 10YR 3/2. 205-220 cm ± Stratum C: moist firm brown gravelly sand with cobbles and pebbles 10YR 4/3.	2.50 m L x 0.70 m W x 2.20 m D Elevation ± 295.2 feet No cultural material.
Unit 12	0-20 cm ± Stratum A: moist loose very dark grayish brown clayey silt with coarse-grained (1/2-1.0 mm) sand, 10YR 3/2. 20-200cm ± Stratum B: moist firm very dark grayish brown silty clay 10YR 3/2. 200-230 cm ± Stratum C: moist firm brown silty clay with sandstone cobbles 10YR 4/3.	2.50 m L x 0.70 m W x 2.30 m D Elevation ± 296.5 feet No cultural material.

UNKNOWN CULTURAL RESOURCES IN THE PROJECT AREAS

The research suggests a low potential for archaeological resources at each of the project locations based on past earth disturbance at each location and the low to moderate regional archaeological sensitivity suggested by the few locations of recorded prehistoric and historic archaeological sites within a quarter mile of each project area.

There appears to be a locally moderate to high potential for inadvertent discoveries of buried archaeological deposits during subsurface construction at each project location. However, any archaeological deposits exposed during subsurface construction could contain potentially significant buried prehistoric and/or historic cultural materials, including Native American human remains. Disturbance could result in the loss of integrity of the cultural deposit and subsequent loss of scientific information, which would be a potentially significant impact.

IMPACTS

SIGNIFICANCE Criteria

The CEQA Guidelines indicate that a project will have a significant impact on cultural resources if it:

- causes a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA guidelines;
- causes a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA guidelines; and/or
- disturbs any human remains, including those interred outside of formal cemeteries.

Construction impacts to one recorded prehistoric site are possible and there is a potential for impacts to as-yet-unknown cultural resources during construction. Significant and potentially significant impacts to cultural resources will be reduced to a less-than-significant level with the adoption of the mitigation measures.

CONSTRUCTION IMPACTS

Ground-disturbing construction activities associated with the picnic area, stream channel, trail and bridge construction and restoration activities have the potential to directly affect potential archaeological resources in the project area by disturbing both surface and subsurface soils.

Stream Channel

- Demolition and removal of three low-flow automobile crossings, a diversion dam and three wooden pedestrian bridges.
- Expansion of 600 feet of pool and riffle habitat to recreate a stable channel bottom.
- Realignment of 1,300 feet of the stream channel to its historic channel to lengthen and stabile the channel. Development of pool and riffle habitat in this section.
- Conversion of a portion of the former creek channel to include filling 650 feet and creating 200 feet backwater wetland habitat where the new channel meets the original streambed.

- Construction of new 600-foot stream channel through Stocklmeir orange orchard to reduce erosion and undercutting of the bank along the golf course. Development of four step pools and seven pool and riffle sequences, planting the west bank this new channel.
- Conversion of 600 feet of the former creek channel through removal of riprap and shotcrete and creation of willow swale in old channel.
- Riparian habitat planting along the new channel and segments of the existing 1.15 miles of the creek.

> **Potential Impacts**: Subsurface excavation impacts to an area north, south and west of recorded location for CA-SCl-715 could expose as yet unknown archaeological resources. Project components that involve subsurface excavation could expose as yet unknown archaeological resources.

Picnic Area and Pool Complex Improvements

- Consolidation of the picnic facilities to one location on the west bank of the creek and improvements including new utilities, restrooms, barbecues, tables, horseshoe pits and volleyball courts as well as a 14-foot wide light duty bridge over the creek.

> **Potential Impacts**: Subsurface excavation impacts to an area to the south of the recorded location for CA-SCl-715 could expose as yet unknown archaeological resources.

Trail

- Construction of an 8-foot wide pedestrian and bicycle trail extending 5,900 feet from Stevens Creek Boulevard to McClellan Road.
- Construction of an 8-foot wide pedestrian/bicycle bridge spanning the creek near the 8th hole on the golf course.
- Creation of a 17-car trailhead staging area with a remodeled restroom in the location of the existing parking lot upstream of the pool that currently accommodates 200 plus vehicles. Demolition of approximately 32,000 square feet of excess parking paving.

> **Potential Impacts**: Subsurface excavation impacts to an area north and south of recorded location for CA-SCl-715 could expose as yet unknown archaeological resources.

Environmental Education Center

- Construction of a 2,000 square foot environmental education center with 2 classrooms, an office and restrooms to be built on an existing building pad formerly occupied by a doublewide trailer in McClellan Ranch.

> **Potential Impacts**: Subsurface excavation impacts could expose as yet unknown archaeological resources associated with the historic McClellan Ranch.

Upland Habitat Restoration

- Restoration of the upland oak woodland habitat in closed picnic areas and in and around updated picnic areas and the trail.

  Potential Impacts: Subsurface excavation impacts to an area north and south of recorded location for CA-SCl-715 could expose as yet unknown archaeological resources. Other project components that involve subsurface excavation could expose as yet unknown archaeological resources

Impacts could result from grading and trenching for both surface preparation and underground utility connections and any other activities associated with constructing the proposed improvements that involve ground disturbance. These impacts will be reduced to less than significant with implementation of the recommended mitigation measures.

Subsurface and surface disturbance could result in the loss of integrity of cultural deposits, loss of information, and the alteration of a site setting. There is also the potential for inadvertent discoveries of buried archaeological materials during construction. Prehistoric archaeological sites in this area of Santa Clara County are often associated with water sources. The presence of one prehistoric site within the project area and the ground stone artifacts incorporated into wall construction at the Blackberry Farm suggests a moderate to high potential for subsurface resources. These impacts will be reduced to less than significant with implementation of the recommended mitigation measures.

MITIGATION MEASURES

Mitigation measures are provided to guide subsurface construction and in the event that significant or potentially significant unknown cultural resources are discovered during construction. Significant and potentially significant impacts to cultural resources will be reduced to a less-than-significant level with the adoption of the following mitigation measures.

- Prior to the initiation of construction or ground-disturbing activities, the City of Cupertino Project Manager shall 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.

TABLE 2
Significance Criteria and Summary of Potential Impacts for Cultural Resources

Significance Criteria	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporation	Less-Than-Significant Impact	No Impact	Impact Identified for:
Threshold of Significance: The Project would 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 as per Section 5020.1 of the Public Resources Code.	☐	☒	☐	☐	Construction ☒
Threshold of Significance: The Project would 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.	☐	☒	☐	☐	Construction ☒
Threshold of Significance: The Project would 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.	☐	☒	☐	☐	Construction ☒

- All excavation contracts for the project shall contain provisions for *stop-work* in the vicinity of a find in the event of the exposure of significant archaeological resources during subsurface construction. In addition, the contract documents shall recognize the need to implement any mitigation conditions required by the permitting agency. In general, the appropriate construction conditions should be included within the *General Conditions* section of any contract that has the potential for ground disturbing operations.

- Archaeological monitoring on a full-time basis by a Professional Archaeologist retained by the project proponent shall be undertaken during subsurface construction within and within a 100 feet buffer zone of the recorded boundary of CA-SCl-715 that was not subject to presence/absence testing. Actions that could potentially require monitoring include habitat restoration, trail construction and pedestrian/bicycle bridge construction.

- Archaeological monitoring on an intermittent basis to allow for spot-checking of subsurface construction shall be undertaken for areas outside of the recorded boundary of CA-SCl-715 and the 100-foot buffer zone. Monitoring in these areas shall be at the discretion of the Professional Archaeologist retained to provide archaeological monitoring services.

- Construction methods and procedures to minimize subsurface disturbance shall be implemented where feasible and practical. These may include: (1) planting by seed, and hand excavation for planting in the habitat restoration areas within and within 100 foot of the recorded boundary of CA-SCl-715 not subject to presence/absence testing; (2) raising the grade of the proposed trail (capping) by engineered fill within 100 feet of the recorded boundary of CA-SCl-715 not subject to presence/absence testing. Fill shall be no less than 12-inches deep. Fill placement shall be done without surface grubbing (i.e., removal of any organics). Rubber tired equipment shall be used to minimize surface disturbance.

- Upon discovery of possible buried prehistoric and historic cultural materials (including potential Native American skeletal remains),[34] construction within 25 feet of the find shall be halted to avoid altering the cultural materials and their context and the City of Cupertino's Project Manager shall be notified.

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34. Significant prehistoric cultural resources may include:

a. Human bone - either isolated or intact burials.

b. Habitation (occupation or ceremonial structures as interpreted from rock rings/features, distinct ground depressions, differences in compaction (e.g., house floors).

c. Artifacts including chipped stone objects such as projectile points and bifaces; groundstone artifacts such as manos, metates, mortars, pestles, grinding stones, pitted hammerstones; and, shell and bone artifacts including ornaments and beads.

d. Various features and samples including hearths (fire-cracked rock; baked and vitrified clay), artifact caches, faunal and shellfish remains (which permit dietary reconstruction), distinctive changes in soil stratigraphy indicative of prehistoric activities.

e. Isolated artifacts

Historic cultural materials may include finds from the late 19th through early 20th centuries. Objects and features associated with the Historic Period can include.

a. Structural remains or portions of foundations (bricks, cobbles/boulders, stacked fieldstone, postholes, etc.).

b. Trash pits, privies, wells and associated artifacts.

c. Isolated artifacts or isolated clusters of manufactured artifacts (e.g., glass bottles, metal cans, manufactured wood items, etc.).

d. Human remains.

In addition, cultural materials including both artifacts and structures that can be attributed to Hispanic, Asian and other ethnic or racial groups are potentially significant. Such features or clusters of artifacts and samples include remains of structures, trash pits, and privies.

- The Project Manager shall retain a qualified professional 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 cultural materials, assess their significance, and offer proposals for any additional exploratory measures deemed necessary for the further evaluation of, and/or mitigation of adverse impacts to, any potential historical resources or unique archaeological resources that have been exposed

- If the discovery is determined to be a unique archaeological or historical resource, and if avoidance of the resource is not possible, the archaeologist shall inform the Project Manager of the necessary plans for treatment of the find(s) and mitigation of impacts. The treatment plan shall be designed to result in the extraction of sufficient non-redundant archaeological data to address important regional research considerations. The Project Manager shall make every effort to insure that the treatment program is completed. The work shall be performed by the archaeologist, and shall result in a detailed technical report that shall be filed with the California Historical Resources Information System, Northwest Information Center. Construction in the immediate vicinity of the find shall not recommence until treatment has been completed.

- If human remains are discovered, they shall be handled in accordance with State law including immediate notification of the County Medical Examiner/Coroner.

CLOSING REMARKS

If I can provide any additional information or be of further service please don't hesitate to contact me. Thank you for retaining our firm for the project.

Sincerely yours,
BASIN RESEARCH ASSOCIATES, INC.,

Colin I. Busby, Ph.D., RPA
Principal

CIB/dg
Enclosures

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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, CSU Sonoma, Rohnert Park" is used for material on file at the California Historical Resources Information System, Northwest Information Center, California State University Sonoma, Rohnert Park. Note the primary numbers are not included in the citations above.

ATTACHMENTS

FIGURES

FIGURE 1	GENERAL PROJECT LOCATION
FIGURE 2	PROJECT LOCATION (USGS Cupertino, Calif., 1991)
FIGURE 3A	PROJECT ALIGNMENT (STEVENS CREEK CORRIDOR PARK)
FIGURE 3B	PROJECT ALIGNMENT (North)
FIGURE 3C	PROJECT ALIGNMENT (Central)
FIGURE 3D	PROJECT ALIGNMENT (South)
FIGURE 4	CA-SCl-715 SITE BOUNDARIES WITH BACKHOE TEST UNIT LOCATIONS (In order to preserve site integrity, this figure is not included for public disclosure)
FIGURE 5	VIEW SOUTH ALONG CREEK AT NORTH END OF SITE (In order to preserve site integrity, this figure is not included for public disclosure)
FIGURE 6	VIEW NORTH FROM CREEK BANK AT SOUTH END OF SITE (In order to preserve site integrity, this figure is not included for public disclosure)
FIGURE 7	BTU 4 – NORTH WALL
FIGURE 8	BTU 9 – NORTH WALL

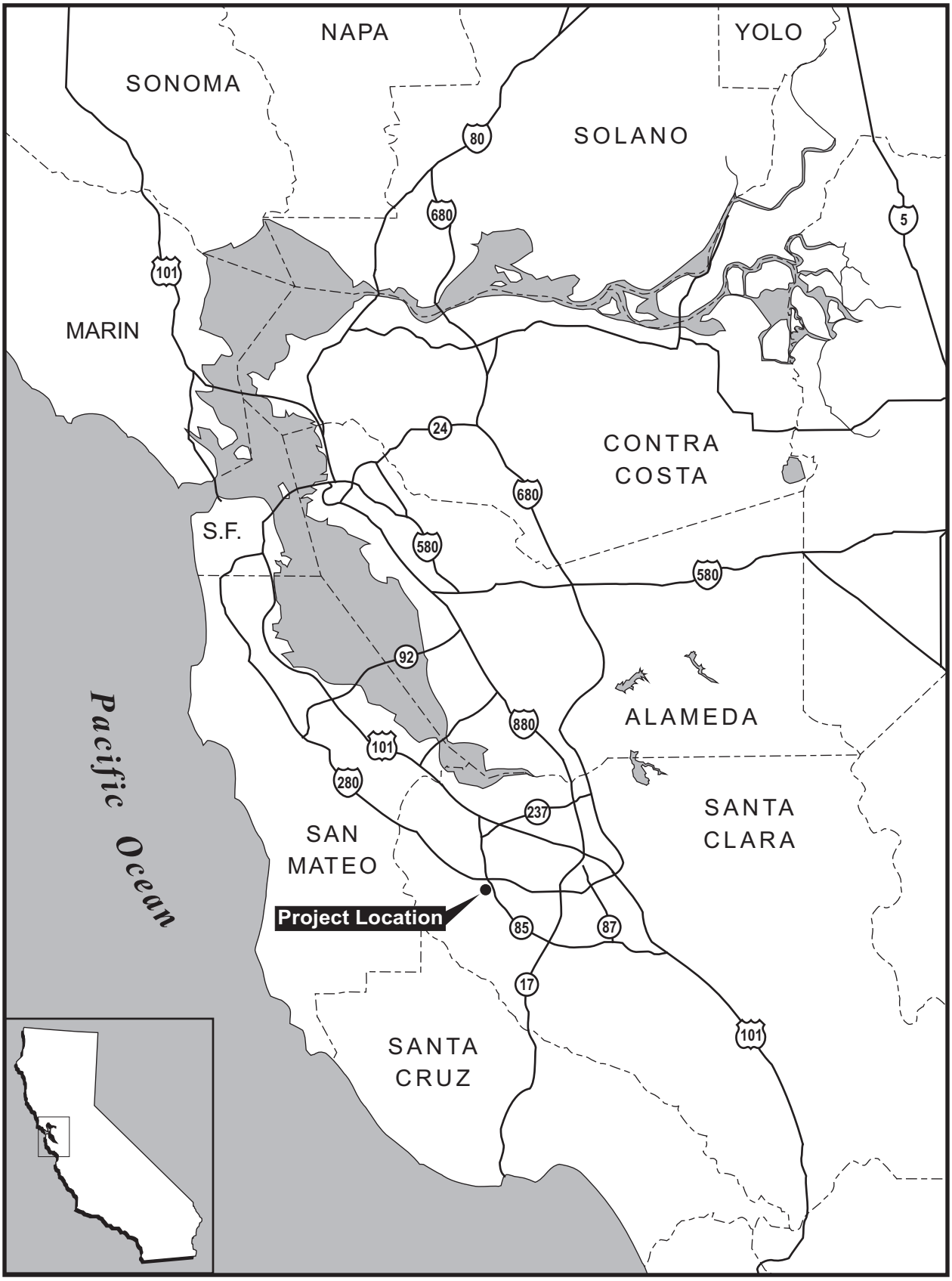

Figure 1: General Project Location

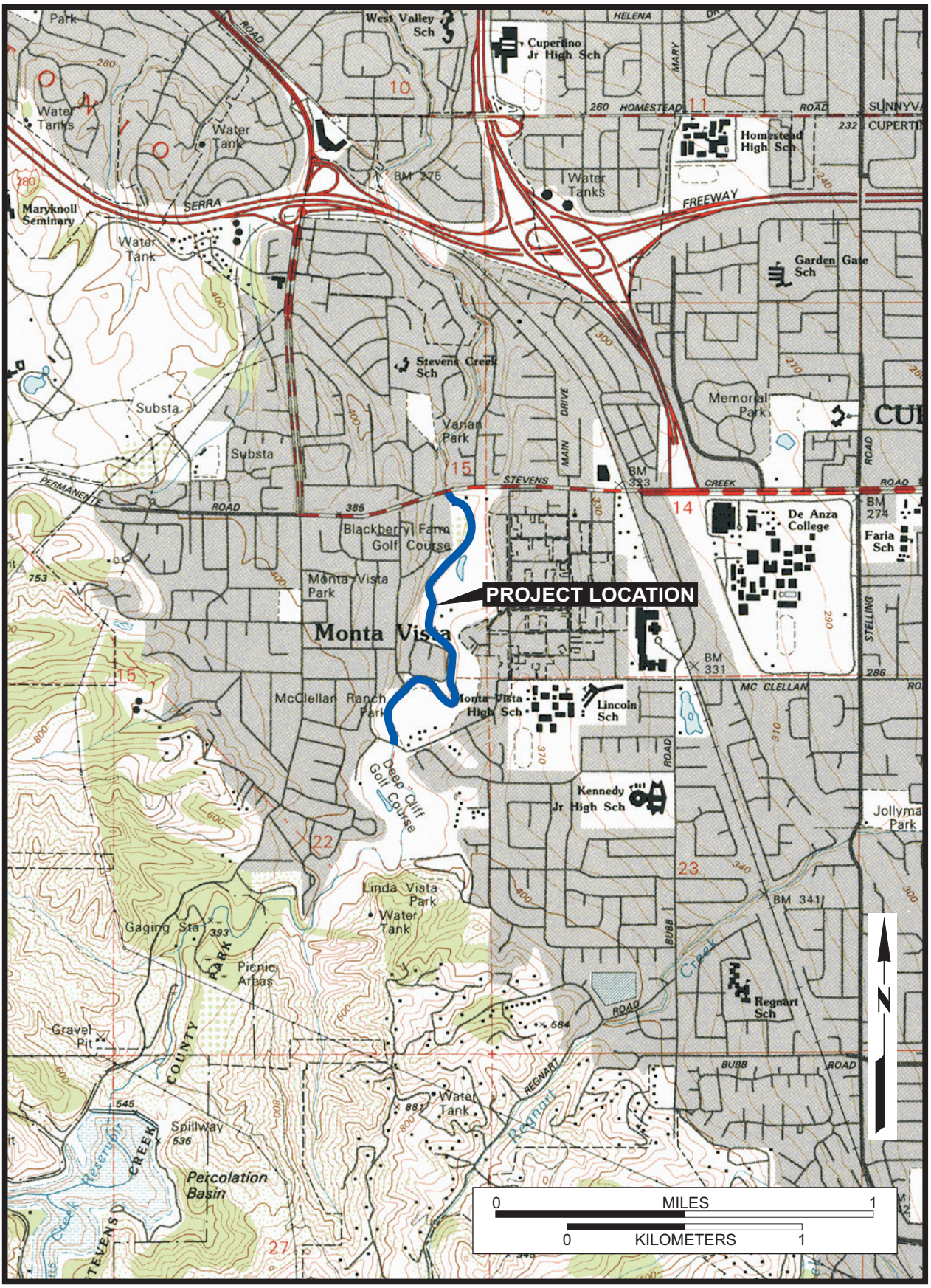

Figure 2: Project Location (USGS Cupertino, Calif. 1991)

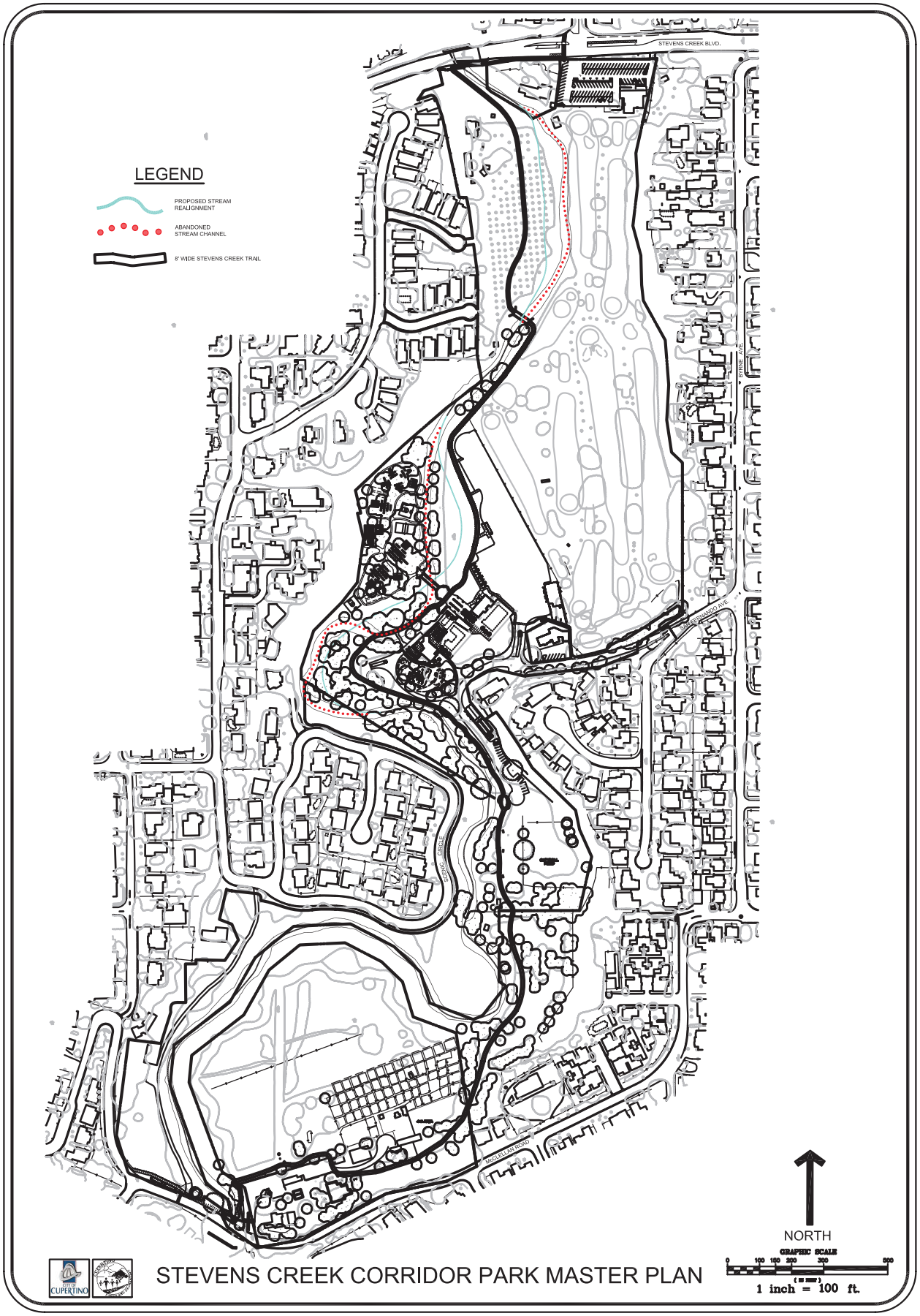

Figure 3A: Project Alignment

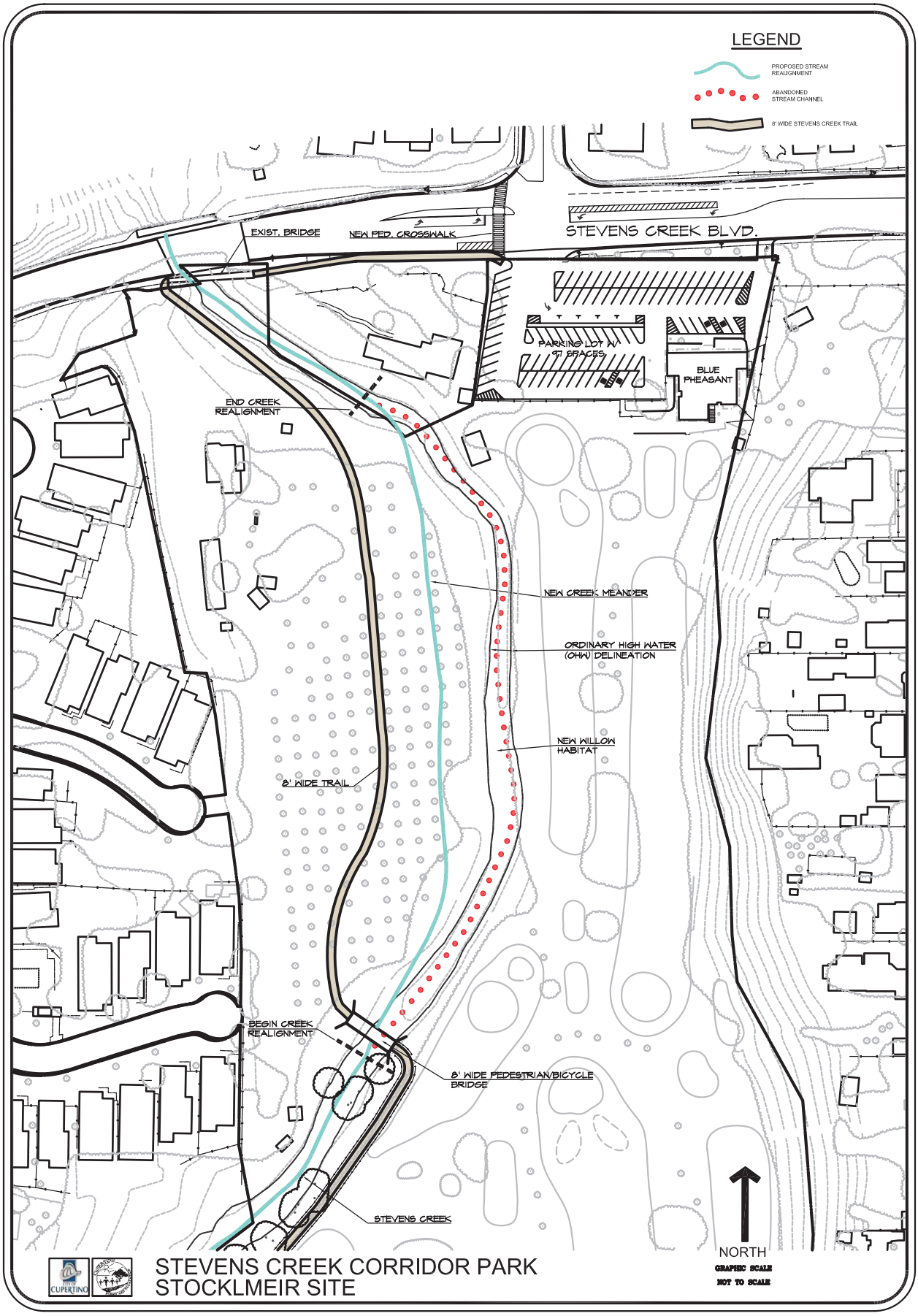

Figure 3B: Project Alignment (North)

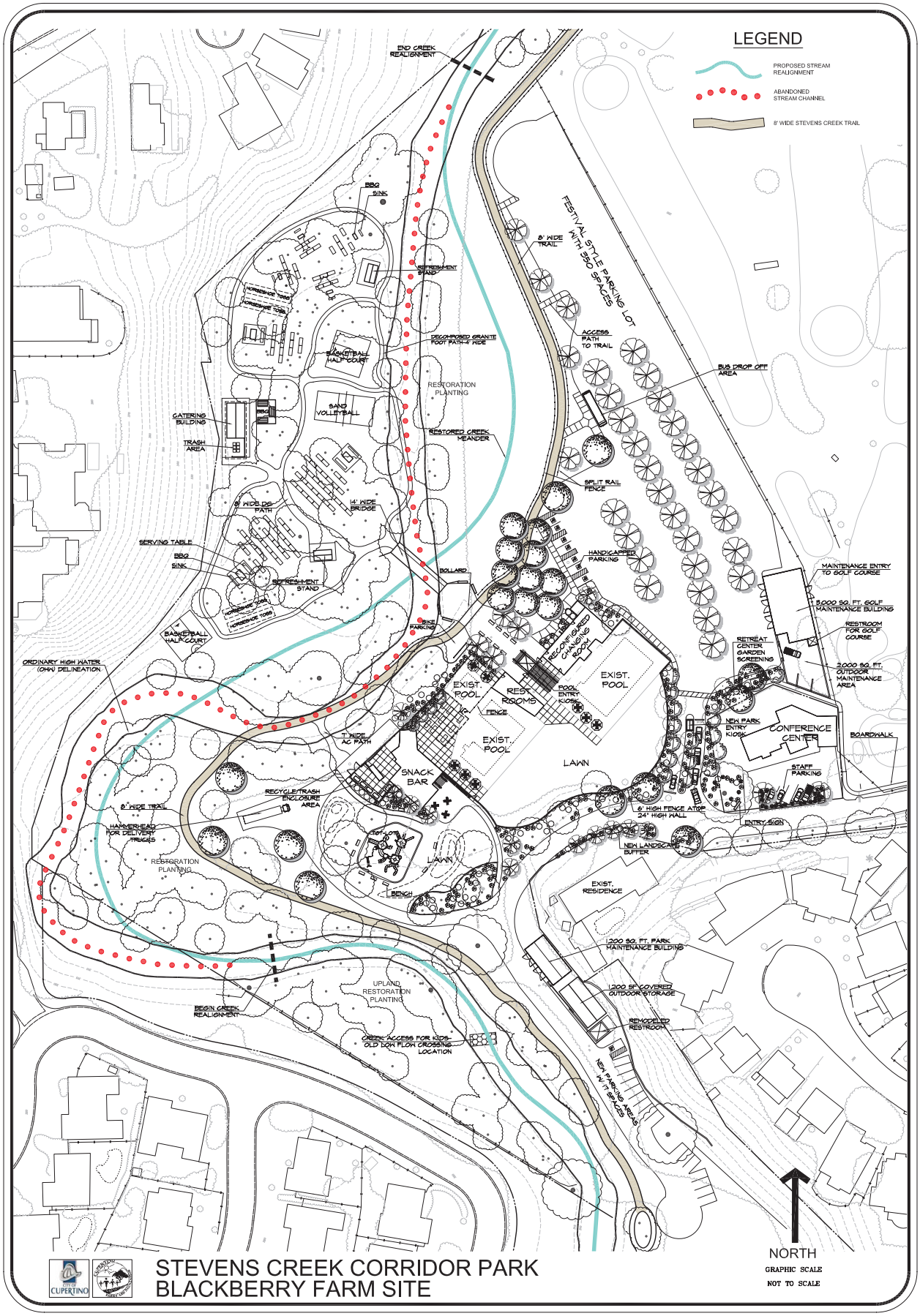

Figure 3C: Project Alignment (Central)

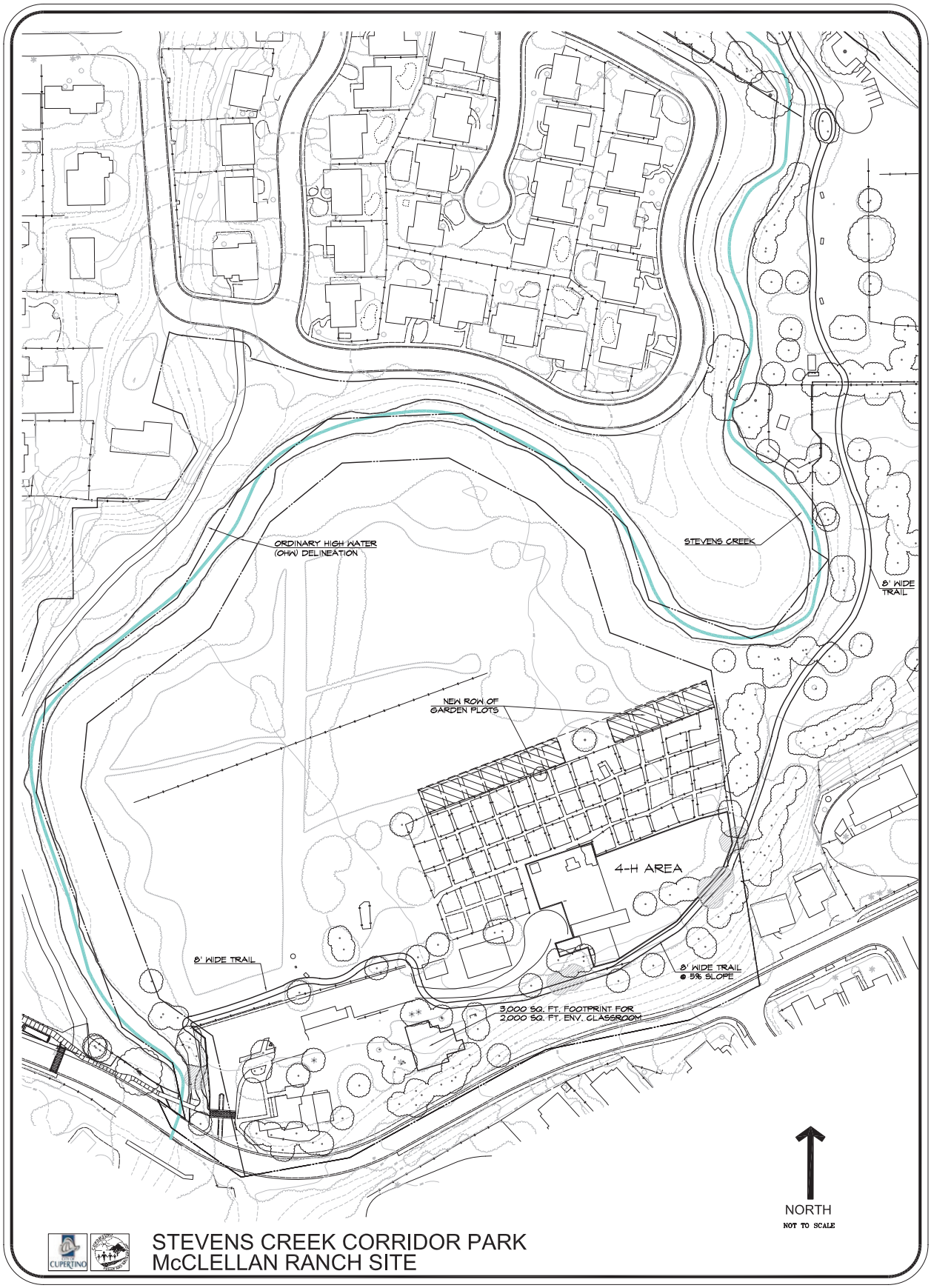

Figure 3D: Project Alignment (South)

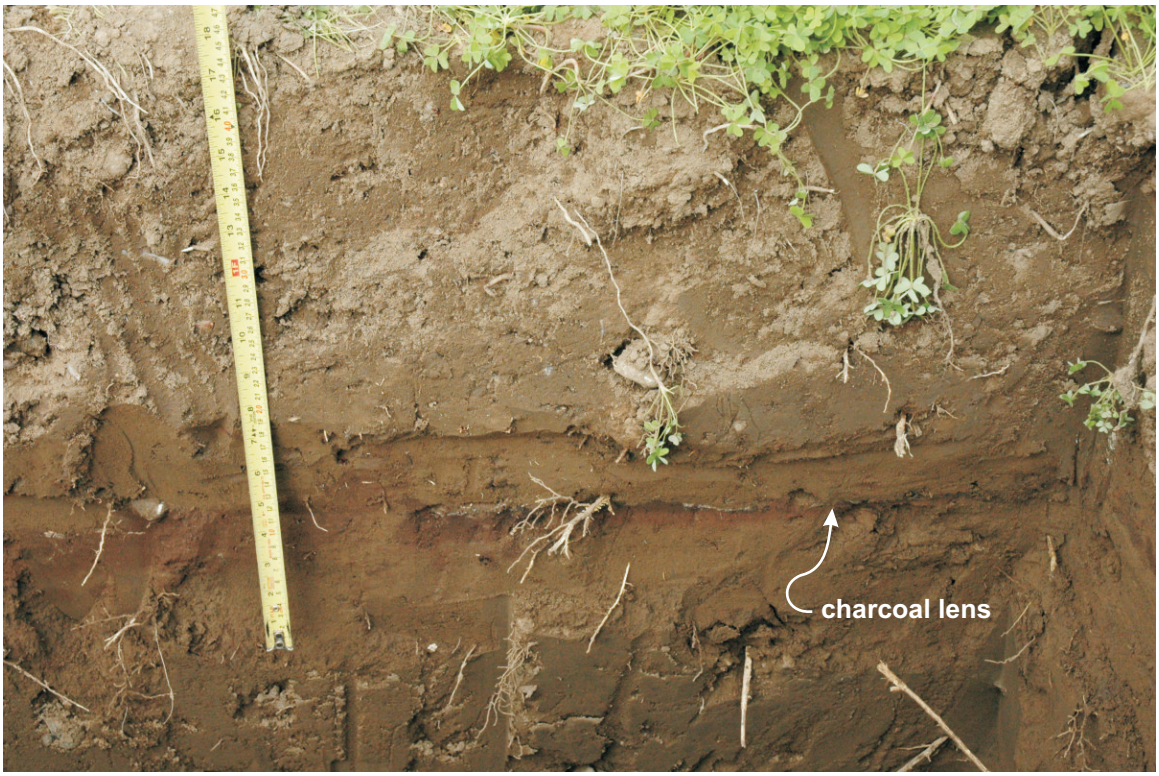

Figure 7: BTU 4 - North Wall

Figure 8: BTU 9 - North Wall

APPENDIX C
PARKING ASSESSMENT FOR PROPOSED STEVENS CREEK PARK AND RESTORATION PHASE 2 PROJECT, HEXAGON TRANSPORTATION CONSULTANTS

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: May 20, 2011
To: Christine Schneider, TRA Environmental Sciences, Inc.
Christina Lau, TRA Environmental Sciences, Inc.
From: Gicela Del Rio
Subject: Parking Assessment of the Proposed Stevens Creek Park and Restoration Phase 2 Project in Cupertino, California

Hexagon Transportation Consultants, Inc. has completed an assessment of existing and future parking conditions associated with the Stevens Creek Corridor Park and Trail, in Cupertino. The assessment was made based on information obtained from the City of Cupertino and from the 2006 Initial Study/Mitigated Negative Declaration (IS/MND) and traffic impact analyses prepared for the Stevens Creek Corridor Master Plan.

Project Overview

In 2006, the City of Cupertino approved the IS/MND prepared for the Stevens Creek Corridor Park Master Plan and Restoration Plan, which included improvements, upgrades, and/or modifications to various recreational amenities and infrastructure, including the construction of a new trail. Phase 1 of the project was completed in 2009. It included improvements to the Blackberry Farm Park and McClellan Ranch properties, including converting much of the City-owned Blackberry Farm Park property from a fee-based seasonal-use group picnic grounds into a year-round community park. Phase 1 of the project also included the construction of the Stevens Creek Trail from McClellan Road, south of McClellan Ranch Park, to Blackberry Farm Park.

Phase 2 of the project consists of the completion of the final 1,300-foot (0.25 mile) segment of Stevens Creek Trail from its current terminus point at the Blackberry Farm Park parking lot to Stevens Creek Boulevard, providing a new connection to the trail from existing bicycle and pedestrian facilities along Stevens Creek Boulevard. The new trail extension would be constructed mainly along the west edge of the golf course and within the Stocklmeir property, located south of Stevens Creek Boulevard and west of the Blackberry Farm Golf Course. The Stocklmeir property was acquired by the City of Cupertino in 1999 but has not yet been opened to the public.

Construction of the project would result in connectivity between existing pedestrian and bicycle facilities and implement the City's goal to increase walkability and expand the City's pedestrian and bicycle network.

Existing Conditions

Existing Parking Supply

Currently, the Stevens Creek Corridor Park has a total of three designated parking areas that serve the existing facilities: 1) the Blackberry Farm parking lot, 2) the McClellan Ranch parking lot, and 3) the Blackberry Farm Golf Course/Blue Pheasant restaurant parking lot. The Blackberry Farm parking lot

consists of 175 parking spaces, eight of which are accessible (ADA) spaces. The McClellan Ranch parking lot has approximately 31 parking spaces: 24 striped spaces on asphalt (2 of which are ADA spaces) and capacity for an additional 7 spaces within an unstriped area near the 4H barns, which includes a recently installed ADA stall. The Blackberry Farm Golf Course/Blue Pheasant restaurant parking lot currently includes 91 parking spaces.

After the first season (2009) in operation, post completion of Phase 1 of the Stevens Creek Corridor Park and Restoration, it was reported by City staff (in a Parks and Recreation Commission Staff Report dated October 1, 2009) that parking at Blackberry Farm was an operational challenge. The report stated that at the Blackberry Farm the parking demand exceeded capacity approximately 8 times between the months of July and September, 2009. Staff made the recommendation to reduce the total capacity of the group picnic sites at the Blackberry Farm Park from 800 to 525 people per day to reduce parking demand and the potential for overflow instances.

Existing Parking Demand

After implementation of the reduced total capacity of the group picnic sites at the Blackberry Farm Park in 2010, City staff reported (in a Parks and Recreation Commission Staff Report dated March 3, 2011) that during the 2010 season (May through September), the parking demand at the Blackberry Farm parking lot exceeded capacity only once. In addition to reducing the maximum picnic sites' capacity, other measures also were implemented to ensure minimal traffic impact to the neighborhood. These measures included strongly encouraging carpools, requiring staff to park at Monta Vista High School on days with high expectancy of patrons, and hiring Deputy Sheriff staff on event days to help control parking and traffic congestion.

Proposed Project Conditions

As described previously, the project will construct the final 0.25-mile segment of Stevens Creek Trail from its current terminus point at the Blackberry Farm Park parking lot to Stevens Creek Boulevard, and open parkland at the Stocklmeir property as part of the Stevens Creek Corridor public open space. The trail extension will provide a new connection to the existing bicycle and pedestrian facilities along Stevens Creek Boulevard, which includes bike lanes and bus stops along both sides of Stevens Creek Boulevard. Additionally, a new crosswalk will be installed across Stevens Creek Boulevard, on the west approach of its intersection with Phar Lap Drive. The new crosswalk will provide pedestrian/bicycle access to the trail from the neighborhoods north of Stevens Creek Boulevard.

Proposed Parking Supply

As part of the proposed project, an estimated 8-10 new passenger vehicle parking stalls and 2 bus parking spaces are planned to be provided along Stevens Creek Boulevard. Additionally, the Blackberry Golf Course/Blue Pheasant parking lot would be reconfigured to provide an additional 9 parking spaces, for a total of 100 parking spaces. No changes to the parking supply at the Blackberry Farm and McClellan Ranch parking lots are being proposed. The total net increase in parking spaces with the restoration Phase 2 project would be 17-19 passenger vehicle parking stalls and 2 bus parking spaces. The existing and proposed number of parking spaces that would serve the Stevens Creek Corridor after completion of Phase 2 of the project are summarized in Table 1.

Table 1
Existing and Proposed Number of Parking Spaces
Serving the Stevens Creek Corridor Park and Trail

Location	Existing Number of Parking Spaces	Proposed Number of Parking Spaces
Blackberry Farm	175	175
McClellan Ranch	31	31
Blackberry Farm Golf Course/Blue Pheasant	91	100
Stevens Creek Boulevard	N/A	8-10 car + 2 bus
Total:	297	314-316 car plus 2 bus
Net Increase: 17-19 car plus 2 bus		

Source: City of Cupertino, May 2011.

Projected Parking Demand

The traffic impact analysis conducted for the for the *2006 Stevens Creek Corridor Master Plan* IS/MND (completed by Hexagon and summarized in a memo report dated September 16, 2005) estimates that construction of the entire trail, from McClellan Road to Stevens Creek Boulevard, would generate approximately 13 weekday auto trips and approximately 34 weekend day auto trips at each of the three parking areas serving the Stevens Creek Corridor Park and Trail. These projections represent the total number of vehicles per day expected to park at each of the three parking areas serving the trail.

Conservatively assuming that as many as half of the projected daily auto trips associated with the trail would access each of the parking areas during the same time period, this represents approximately 7 auto trips (or 7 vehicles) on a weekday and 17 vehicles on a weekend day driving to the provided parking areas within the same time period to use the trail. These traffic projections concur with information provided by the City of Cupertino Parks and Recreation Department, which states that parking usage at the Blackberry Farm parking lot on non picnic/pool use days is very minimal, averaging approximately 6 vehicles per day [when Blackberry Farm Park's swimming pools and group picnic grounds are not open].

Based on the above traffic projections for the trail, it is estimated that the final segment of the trail proposed under Phase 2 would generate approximately the same amount of traffic that the current trail may generate at the other two parking locations that are adjacent to open sections of the trail (McClellan Ranch and Blackberry Farm parks). Therefore, the maximum additional parking demand at the Blackberry Farm Golf Course/Blue Pheasant restaurant parking lot attributable solely to the extension of the existing trail would be approximately 7 parking spaces on a weekday and approximately 14 parking spaces on a weekend day.

It should be noted that results contained in the *Preliminary Parking Analysis – Stevens Creek Corridor Master Plan*, January 21, 2005, by Hexagon, state that a total of 12 additional parking spaces would be needed at the Blackberry Farm Golf Course/Blue Pheasant restaurant parking lot on a weekday and an additional 23 parking spaces on a weekend day to serve the additional parking demand generated after completion of the Stevens Creek Corridor Master Plan. However, the additional 12 and 23 parking spaces referred to in the document are associated with both the trail and with a "Living History Center" at the Stocklmeir site that was included in the analysis at that time. The future use of the Stocklmeir property as a living history center, a legacy farm or other purpose is not part of the current project. The parking needed for such a use is not addressed in this assessment. It would be evaluated when the future project is pursued.

Parking demand at the Blackberry Farm parking lot and the McClellan Ranch parking lot attributable to the proposed project is expected to remain unchanged from existing conditions.

Other Supporting Studies

Extensive trail information was collected for the analysis of the *Stevens Creek Trail Reach 4, Segment 2* EIR (City of Mountain View, June 2004). Surveys were conducted in 1999 and 2000 along open stretches of the Stevens Creek Trail, in Mountain View, in order to identify information regarding trail users, such as mode of access, proximity to trail, and purpose of trail use. According to the *Stevens Creek Trail Reach 4, Segment 2 Feasibility study*, April 2001, by Nolte, the 2000 Stevens Creek Trail Access surveys observed that 35 of the 1,135 weekday trail users (total users for one day) drove to the trail, and 39 of the 1,593 weekend day trail users (total users for one day) drove to the trail. This represents approximately 3 and 2 percent (%) of the total weekday and weekend day trail users, respectively, driving to access the trail.

The July 1999 Stevens Creek Trail User survey observed that 44 of the 654 trail users (total users for one day), or approximately 7%, drove to the trail. The remainder of the trail users jogged/walked/rollerskated to the trail (66%) or rode their bikes to the trail (27%). Additionally, the 1999 surveys concluded that approximately 67% of the trail users live within one mile of the trail, and 76% of the users use the trail for recreational purpose.

The 2000 Stevens Creek Trail Access surveys also observed that the peak concentration of cars in a one hour period parked at a trailhead was seven cars on the weekday and eight cars on the weekend. The surveys also showed that the peak hour trail access volumes, in person trips, represent approximately 15% and 9% of the total daily trail users during a weekday and a weekend day, respectively.

The information obtained from Mountain View's Stevens Creek Trail surveys indicate that traffic and parking demand expected to be generated solely by the trail would be minimal and the majority of trail users would originate within the surrounding neighborhoods. Mountain View's trail setting is relatively similar and is the best available local information about trail parking demand and usership in the western Santa Clara County suburban area. This information is consistent with information provided by the City of Cupertino Parks and Recreation Department, which notes that the majority of the existing trail users walk or bicycle to the trail from nearby neighborhoods.

Conclusions

It is estimated that the extension of the existing Stevens Creek Trail from the Blackberry Farm parking lot to Stevens Creek Boulevard (as part of the Stevens Creek Park and Restoration Phase 2 Project) will require approximately 7 additional parking spaces on a weekday and 14 additional parking spaces on a weekend day at the Blackberry Farm Golf Course/Blue Pheasant restaurant parking lot solely to serve trail users accessing the new trail extension. The project will modify the existing Blackberry Farm Golf Course/Blue Pheasant restaurant parking lot to provide an additional 9 parking spaces, as well as provide 10 new on-street auto parking spaces and 2 to 3 bus parking spaces along Stevens Creek Boulevard, resulting in a net increase of 19 auto parking spaces and 2-3 bus parking spaces. Therefore, the planned additional parking spaces at the Blackberry Farm Golf Course/Blue Pheasant restaurant parking lot would be adequate to serve the projected increase in parking demand due to the trail extension. The Phase 2 project is not expected to create the need for additional parking supply at the existing McClellan Ranch and Blackberry Farm parking lots.

Furthermore, information provided by the City of Cupertino Parks and Recreation staff indicates an increase in the proportion of usage of the Blackberry Farm Park facilities by City residents, versus usage by visitors that are not local. The percentage of pool users that were City residents rose from approximately 38% in 2009 to 47% in 2010. The percentage of group picnic reservations made by City residents rose from approximately 40% in 2009 to 46% in 2010. Greater percentages of local visitors to the facility potentially could result in less vehicular trips to the site. A higher percentage of the visitors may now live close enough to walk or bicycle to the site.

With the implementation of the proposed parking improvements, and the continued monitoring of the usage of the parking lots by the City, and restriction of the allowable daily maximum capacities for the group picnic sites, no further impacts are expected.

APPENDIX D
TREE IMPACTS LISTS

APPENDIX D

ESTIMATED TREE REMOVALS FOR STEVENS CREEK CORRIDOR PHASE 2 PROJECT

EAST BANK

No.	Qty.	Dia.	Species	City Protected	Comments
1	1	15"	Coast Live Oak, Quercus agrifolia	X	East bank at proposed bridge. May be possible retain depending on final project design.
2	1	21"	Monterey Cypress, Cupressus macrocarpa		Creek widening requires removal.
3	1	27"	Monterey Pine, Pinus radiata		East bank near 8th green. Creek widening may impact this tree.
4	1	Multi	Blue Elderberry, Sambucus mexicana		In decline. 7" largest trunk & 2 smaller ones. Near proposed bridge.
5	1	21"	Walnut, Juglans spp.		Near downstream end of restoration. Previously limbed. Tree may be impacted or removed.

WEST BANK

No.	Qty.	Dia.	Species	City Protected	Comments
6	1	11"	Willow, Salix spp.		West bank at bridge. 3 major limbs 8", 6", 4". May be possible to retain.
7	1	15", 18"	California Buckeye, Aesculus californica	X	Growing amidst stand of Arundo donax. Double trunk.
8	1	16"	Walnut, Juglans spp.		
9	1	14"	Walnut, Juglans spp.		
10	1	17"	Walnut, Juglans spp.		
11	1	Multi	California Buckeye, Aesculus californica		Sprouting from a stump. Two 5" trunks plus smaller branches.
12	7 - 31	Varies, 5-6" typ.	Orange, Citrus sinensis		Tree removal quantity depends on final design of backwater, trail & other project elements.

POSSIBLE REMOVALS FOR TREE HEALTH

No.	Qty.	Dia.	Species	City Protected	Comments
13	20 approx.	Varies	Walnut, Juglans spp.		Trees suffer from a viral disease & removal is recommended.

OTHER

No.	Qty.	Dia.	Species	City Protected	Comments
		Varies	Mixed bank vegetation		Mixed young & understory vegetation will be removed from east bank & at channel downstream of new bridge to accommodate restoration. Species include sweet fennel, Himalayan blackberry, vinca, willows, elderberry, other native and nonnative species. Removal includes two 2" coast live oaks in poor health growing through concrete channel lining.