

## EXECUTIVE SUMMARY

### Introduction

The Santa Clara Valley Water District (SCVWD) has developed the Stream Maintenance Program (SMP) Update to review existing SMP activities, revise the SMP Manual, update the SMP's environmental compliance documentation, and renew necessary SMP permits. The SMP Update is considered a "project" for the purposes of the California Environmental Quality Act (CEQA) and is referred to as the "Proposed Project" or "SMP Update" throughout this document.

SCVWD has prepared this draft subsequent environmental impact report (DSEIR) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of implementation of the Proposed Project. This DSEIR was prepared in compliance with CEQA (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). SCVWD is the lead agency on the Proposed Project.

### Proposed Project Overview

The SMP Update has been prepared to provide guiding policies, specific direction on approach, and regulatory authorization for routine stream and canal maintenance activities. The Proposed Project would update the 2002 SMP, as necessary, to meet new conditions or maintenance needs of SCVWD. The SMP Update (including the 2012 SMP Manual [Appendix A] and this CEQA document) is intended to cover the 10-year planning period beginning in 2012 and ending in 2022. These SMP Update documents are intended to fully replace the original documents that guided the SMP from its inception through 2012. The 2012 SMP Manual (included as Appendix A in this DSEIR) and the contents of the DSEIR are meant to be read as companion volumes. The DSEIR references or summarizes information (including figures and tables) presented in the 2012 SMP Manual frequently to avoid repeating information. The reader is encouraged to review the 2012 SMP Manual while reviewing the DSEIR.

### Proposed Project Objectives

The overall flood management goals of the SMP Update are to maintain the design flow or appropriate conveyance capacity of SCVWD facilities, and to maintain the structural and functional integrity of SCVWD facilities.

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To meet these goals, the SMP Update would prioritize and administer maintenance activities to achieve the following objectives:

- remove sediment to maintain the hydraulic, safety, and habitat functions of the creek systems;
- manage vegetation to maintain the hydraulic, safety, and habitat functions of the creek systems, and to allow for levee inspections and maintenance access;
- stabilize beds and banks of creeks and canals to protect existing infrastructure, maintain public safety, reduce sediment loading, protect water quality, and protect habitat values; and
- avoid, minimize, or mitigate impacts on the environment by incorporating stream stewardship measures into maintenance activities.

The SMP Update also seeks to obtain and maintain multi-year programmatic permits to regulate Proposed Project activities.

### Proposed Project Background

SCVWD is responsible for water supply, flood protection, and stream stewardship in Santa Clara County, California. SCVWD flood protection facilities require maintenance to maintain the designed function of each facility. Historically, SCVWD has implemented these activities as needed. Therefore, the SMP Update would be a continuation of past routine creek and canal maintenance activities in most of the same areas using many of the same techniques. The difference between stream maintenance conducted before the SMP (pre 2002) and the initial SMP period (2002–2012) is the SMP Update’s comprehensive approach to managing and tracking the maintenance work and costs, monitoring environmental conditions, and providing program mitigation. The SMP Update would be used by SCVWD staff to conduct routine stream maintenance practices in an efficient, consistent, and environmentally-sensitive manner.

The requirements and policies of the original SMP document were finalized in 2002, when SCVWD completed CEQA review requirements and received authorizations from all the permitting agencies with jurisdiction over the program. Work under the existing SMP began in 2002.

### Project Area

The Project Area includes the portions of Santa Clara County below the 1,000-foot elevation contour, as shown in Figure ES-1. The Project Area includes streams within the Santa Clara and Pajaro basins. Municipalities within the Project Area that contain SCVWD-owned or maintained channels include the cities of Campbell, Cupertino, Gilroy, Los Altos, Milpitas, Morgan Hill, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, and Sunnyvale, and the towns of Los Altos Hills and Los Gatos. SCVWD does not provide maintenance on private property where no easement exists, unless expressly authorized by the SCVWD Board of Directors.



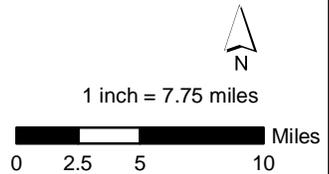
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**Elevation (feet)**

Below Sea Level	50 - 100
0 - 10	100 - 250
10 - 20	250 - 500
20 - 30	500 - 1,000
30 - 40	1,000 - 1,500
40 - 50	Above 1,500

- County Boundary
- Major Hydrologic Features
- Ⓝ Major Roads
- Upper Elevation Boundary of SMP
- Watershed Boundaries



**Figure ES-1: Project Area**

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### ***Proposed Project Channel Types***

SCVWD actively manages over 1,000 miles of channels and creeks. For purposes of this document, the channels within SCVWD's jurisdiction are classified as earthen, concrete, tunnel, siphon, pipeline, or waterbody. The majority of SMP channels are earthen, having earthen channel bed and banks. SCVWD-maintained earthen channels may be either engineered or natural stream channels.

The SMP Update would not cover maintenance activities at reservoirs, dams, pipelines outside of stream corridors, groundwater percolation facilities, in-stream summer dams, or work in stream reaches above the 1,000-foot elevation contour.

## **Proposed Project Description**

### **Overview of SMP Update Approach**

Based on the work performed during the SMP 2002–2009, SCVWD has developed projections for reasonably anticipated work expected to occur over the next decade of the Proposed Project (2012–2022). Actual stream maintenance activities vary from year to year, depending on weather and hydrologic conditions, frequency and extent of past maintenance activities, and budget/funding availability. Future maintenance needs may occur, consistent with the overall SMP Update projections, but they may vary from the specific location originally projected.

Maintenance activities would be permitted throughout the Project Area, as long as they did not result in new or more significant environmental effects than those evaluated and disclosed in this DSEIR. The 2012–2022 maintenance work projections represent the District's best estimate of where work is likely to occur. The work projections are "conservative" in that work is not likely to occur in all of the newly identified reaches shown on the maps presented in Chapter 2. The work projections are a useful basis to consider potential programmatic impacts to wetlands and other habitats and, therefore, to develop a suitable mitigation approach that can guide the next decade of the program.

The SMP Update has been designed to be adaptable. One way the SMP Update would achieve this would be by supporting site-specific assessments to determine the most effective method to achieve the maintenance goal. As conditions allow and technologies and environmental regulations evolve, this would support an assessment for work activity modifications that could result in decreased impacts.

### **Maintenance Activities**

The SMP Update would involve five categories of work activities: bank stabilization, sediment removal, vegetation management, management of animal conflicts, and minor maintenance. In addition, the SMP Update would include maintenance of canals, which may include any of these five activities.

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### ***Bank Stabilization***

Stream bank stabilization activities would involve actions by SCVWD to repair eroding stream banks and levees. SCVWD may implement stream bank stabilization activities when the problem: causes or could cause significant damage to SCVWD property and/or adjacent property; or is a public safety concern. Additional benefits of stabilizing eroding stream banks include reducing instream sedimentation, and protecting water quality and other beneficial uses such as riparian habitat and recreation.

Bank stabilization work could be performed along any creek or canal where SCVWD has fee title or easement, or was otherwise directed by the SCVWD Board of Directors. Based on the maintenance work conducted from 2002–2010, the District stabilizes about 0.94 mile of stream channel banks or levees on average per year. The 2012 SMP Manual (Appendix A) describes the specific bank stabilization techniques and approaches. SCVWD favors the use of soft bank stabilization approaches that use bio-technological approaches in place of methods that create more hardened banks.

### ***Sediment Removal***

Sediment removal is the act of mechanically removing sediment deposited within a flood protection channel. Sediment removal is required when accumulated sediment reduces a channel's flow conveyance capacity, prevents facilities or appurtenant structures from functioning as intended, or impedes fish passage and access to fish ladders. Sediment is removed from SCVWD facilities to allow channels to convey flow and minimize flood hazard, according to the original channel design. Sediment removal under the SMP Update would not include increasing a channel's flow conveyance capacity beyond the as-built design. Sediment removal activities may occur along creeks, canals, or at stream gauges.

Sediment removed from SCVWD channels and facilities would be assessed according to the appropriate Sediment Characterization Plan established by the San Francisco Bay and Central Coast Regional Water Quality Control Boards. These characterization plans would be used to determine the physical and chemical properties of the removed sediment, using continuous core, discrete sampling and residual sampling methods. Collected sediment that met wetland reuse criteria could be transferred to the South San Francisco Bay Pond A8 to support levee restoration efforts at the pond. Sediment that did not meet these standards but met standards for landfill disposal would be disposed at a local landfill. Sediment that exceeded hazardous waste criteria would be disposed at an appropriate hazardous waste facility (e.g., Kettleman Hills hazardous waste landfill). Pond A8 is anticipated to have sufficient capacity for sediment disposal for the next 2–5 years. Additional ponds, including ponds A5, A1, A2W, and A9 have been identified as other potentially suitable long-term sediment reuse locations. SCVWD also may add other upland or aquatic sites to its disposal options. Potential upland sites include the abandoned quarry pond next to the Coyote Parkway site, as well as the U.S. Fish and Wildlife Service refuge at Bair Island and Phase 2 of the South Bay Salt Pond restoration effort.

Annual sediment removal needs would vary, depending on yearly climate and hydrologic conditions. Sediment removal could be performed in any stream within the Project Area.

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### ***Vegetation Management***

Similar to sediment removal activities, vegetation management activities are intended to maintain the hydraulic conveyance and flood safety functions of SCVWD's channels. Vegetation maintenance would seek to trim, thin, or remove vegetation that was causing flow blockages or significantly increasing hydraulic roughness and, thereby, reducing channel conveyance capacity. Vegetation management methods would include pruning, hand or mechanical removal, herbicide application, mowing, discing, flaming, and grazing.

SCVWD's preference is to first thin or prune trees before considering tree removal. However, when tree removal is necessary, SCVWD prioritizes retaining native trees in place of non-native species. The removal of trees and shrubs less than or equal to 12 inches diameter at breast height (dbh) is permissible only if they are required for bank stabilization projects, ecological health/stewardship purposes, or to maintain flow conveyance. As defined in the projections (Chapter 2, *Project Description*, or Appendix A, 2012 SMP Manual), vegetation management may occur from the creek center to the outer edge of the SCVWD property line/SCVWD management area. Other types of vegetation management (e.g., flaming and grazing) would be performed on an as-needed basis along any creek within the Project Area where SCVWD has fee title or easement. Tree removals may occur on a site-specific basis, per the criteria and mitigation described in the SMP Manual.

### ***Management of Animal Conflicts***

In the Project Area, animals can damage SCVWD channels, facilities, and infrastructure. The stability of banks and levees may be reduced as a result of burrowing, foraging on mitigation sites, and interfering with work activities. Management of animal conflicts refers to the use of avoidance tactics, biological control, site alterations, habitat alteration, and lethal control to reduce conflicts between SCVWD facilities and local species. These control methods are described in the Management of Animal Conflicts chapter of the 2012 SMP Manual (Appendix A).

Although routine, the extent and specific locations for animal conflicts management are generally not known before the maintenance season; although routine rodent control activities would occur on designated levee reaches.

### ***Minor Maintenance***

Minor maintenance activities would be performed to repair and maintain SCVWD facility functions. Minor maintenance activities may occur along creeks, canals, or at existing stream gauges. Minor maintenance activities would have limited potential to impact environmental resources. A minor activity is defined as an activity that results in removing less than 0.05 acres (2,178 square feet) of wetland or riparian vegetation. The minimum reporting size for any minor vegetation work to be notified in SCVWD's Notice of Proposed Work would be 0.01 acres (436 square feet) per project, which would include any vegetation work necessary for access or staging. Minor maintenance activities may occur anywhere within the Project Area.

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Minor maintenance activities proposed under the SMP Update would include:

- cleaning and minor sediment removal at outfalls, culverts, flap gates, tide gates, inlets, grade control structures, fish ladders, fish screens (limited to 50 cubic yards [cy]);
- minor in-channel (or canal) sediment removal (less than 10 cy);
- trash and debris removal;
- repair and installation of fences and gates;
- grading and other repairs to restore the original contour of existing maintenance roads;
- grading small areas without vegetation above stream banks to improve drainage and reduce erosion;
- repair of structures with substantially similar materials within approximately the same footprint (i.e., replacement of concrete linings, culverts, pipes, valves);
- graffiti removal;
- installation and on-going maintenance of mitigation and landscape sites (including irrigation, weed control, and replanting of dead or declining individual plants until success criteria were met);
- removal of obstructions at structures to maintain function (i.e., bridges, stream flow measuring stations, box culverts, storm drain outfalls and drop structures); and
- stream gauge maintenance including stilling well cleaning, painting of gauge house, replacing/adding antenna or solar panels to existing structures, replacing instrumentation, cableway repair, weir cleaning of algae and debris, and unburying staff markers/orifice/communication pipes.

### ***Canal Maintenance***

The SMP Update would include routine and periodic maintenance conducted by SCVWD on its canals. Unlike the streams and flood protection channels that are the primary focus of the existing SMP, SCVWD's canals are primarily water supply transport facilities and may provide incidental flood protection. Routine canal maintenance may include all general work activities discussed above, including sediment removal, vegetation management, management of animal conflicts, bank stabilization, and minor maintenance.

Sediment removal in canals is typically small in scale and localized (generally 10 cy or less per occurrence), and is conducted to clear small sediment deposits ("plugs") where local sediments have either entered the canal or been deposited. Sediment removal may occur anywhere along the canals, however no more than 1,000 cy of sediment would be removed per calendar year from all SCVWD canals.

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Vegetation management along the canals would include some periodic herbicide use, inside the canals and along the access roads, to address weed growth. In the upland margins adjacent to the canals, SCVWD would conduct periodic and routine tree hand pruning, hand removal, and grass mowing, using the same techniques described above in the *Vegetation Management* section. In general, vegetation management may occur anywhere along or within the canals; however, no more than 6 acres of work would be performed in a given calendar year. In addition, discing would be restricted to the right bank of Coyote Alamitos canal only.

Additional minor maintenance activities performed along the canals would include minor grading of the access road, graffiti removal, fence repair, erosion repairs, management of animal conflicts, and bank stabilization activities. Minor structural repairs may include repairing a concrete lining, culvert, pipe, valve, weir, instream orifice, or communication pipe. These canal maintenance activities may occur anywhere along the canals, as needed.

### ***Activities Not Covered in the SMP Update***

The SMP Update would not include the following activities, which are therefore not analyzed in this DSEIR:

- work that would increase the designed flood conveyance or water supply capacity of a facility;
- maintenance work in stream reaches above the 1,000-foot elevation contour;
- removal of hazard trees;
- maintenance work for dams, reservoirs and other water supply facilities, such as pipelines outside of stream corridors, groundwater percolation ponds, and in-stream summer dams;
- installation of new or major modification of fish ladders;
- work conducted on private property by others;
- work performed by other agencies;
- other large construction projects or capital improvement projects;
- area-wide, intensive maintenance, or rehabilitation of large (greater than 0.05 acre) mitigation projects installed as part of SCVWD Capital Improvement Projects;
- emergency repair work; and
- continued implementation of mitigation measures in the existing SMP.

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### Stream Maintenance Process Overview

Annual administration of the SMP Update would occur in three phases, as described in detail below.

#### ***Phase 1: Annual Maintenance Activity Identification, Development and Documentation***

The first phase of the annual work sequence would begin with identifying maintenance needs. Maintenance work could be proposed either as part of the annual work plan through the Notice of Proposed Work, subsequent regulatory notifications/submittals, or as identified throughout the year via individual work orders. SCVWD internal work orders would provide a description of the project, schedule of implementation, estimated costs, permit requirements, and other special conditions.

For minor maintenance activities, the appropriate resource protection measures and BMPs would be identified and work would proceed. For other maintenance activities, a more detailed review process would occur and may include site assessment and/or engineering evaluations. These activities would be reviewed to verify they were covered under the long-term regulatory clearances provided in conjunction with the SMP Update. If the work was not covered by the SMP Update, the appropriate project development process would be followed and may include individual CEQA review and project-specific regulatory permits or clearances. For covered activities, appropriate resource protection measures and BMPs would be identified and added to the work order. Pre-work meetings would be held with appropriate SCVWD staff to discuss site-specific requirements, environmental constraints, and BMPs.

#### ***Phase 2: Implementation of Annual Routine Stream Maintenance Work***

Maintenance activities would be implemented during the appropriate work season or as described in the work order. In addition, direct field monitoring of maintenance work would occur for both sediment removal and bank repair activities, enforcing BMPs to effectively prevent adverse impacts to water quality and stream habitats.

#### ***Maintenance Timing***

Work windows for sediment removal, in-stream vegetation and herbicide application, and bank stabilization generally would be conducted between June 15 and October 15. However, if the fall season remained dry, work could continue until the first significant rainfall event occurred. A significant rainfall event is defined as local rainfall of 0.5 inches or greater within the watershed over a 24-hour period. Even if no significant rainfall occurred, no instream work (excluding hand pruning and hand removal in non-steelhead streams) would continue later than December 31.

After October 15, 72-hour look-ahead weather forecasts from the National Weather Service (or local vendor such as the Western Weather Group) would be consulted. If a significant rainfall was forecast within the 72-hour forecast window, maintenance work that may

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result in sediment runoff to the stream would be stopped, to allow adequate time to complete erosion control measures.

### *Bank Stabilization*

SCVWD has committed that no more than half of non-in-kind bank repairs would consist of impervious hardscape each year. Equipment used for bank stabilization activities may include excavators, bulldozers, and front-end loaders for bank grading and earth-moving activities. Staging typically would occur on adjacent access roads. Soil and other repair materials typically would be staged in areas that were previously disturbed (i.e., service roads, turn-outs). In some cases, bank stabilization projects may require the installation of temporary roads and ramps to access the work site. Where trees may have to be removed, SCVWD would target non-native trees for removal. The average duration of bank stabilization work is 10 working days per site.

### *Sediment Removal*

Sediment may be removed by excavators, grade-alls, draglines, and/or loaders. Temporary dams, pipes, and existing overflow channels would be used if water needed to be bypassed around the site during work. Sediment removed from the channel typically would be placed in 10- or 20-cy dump trucks, and prepared for off-site hauling and disposal. Stockpiling of sediment to allow for drying before disposal only would be done when sufficient space would allow the temporary piling of material; however, this would not be typical. The average duration of a sediment removal project would be 10 days, although larger work sites would require up to 6 weeks to complete.

### *Vegetation Management*

Vegetation management techniques would include hand removal, using small tools and hand-held equipment (chainsaws, weed-eaters, and flamers), mechanical removal using heavy equipment, herbicide application, and grazing. Heavy equipment used for vegetation removal may include a disc attachment on a tiller to clear aboveground herbaceous plants on the upland parcels outside of stream banks; flail mowers to cut weeds and other non-native vegetation on the inside slope of some levees or stream banks; or a backhoe or rubber-tracked excavator, used for removing material from the channel.

New techniques (described in the 2012 SMP Manual [Appendix A]) would include grazing and the use of flamers to manage vegetation. Flaming would involve the use of a hand-held, propane gas-powered flamer to control weed seedlings. In limited circumstances, SCVWD may use various domestic animals to provide non-specific weed control.

Herbicide application in upland areas typically would be sprayed from a truck-mounted rig or applied using a controlled drop applicator. Spray trucks would be used to apply herbicides to areas such as maintenance roads. Herbicides may be selectively sprayed instream, following appropriate biological surveys and clearances. Only herbicides and surfactants approved for aquatic use by the U.S. Environmental Protection Agency and registered for use by the California Department of Pesticide Regulation would be used for SCVWD's aquatic vegetation control work.

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The SMP Update includes an expanded list of herbicide types and a broader area of application. The Proposed Project would enable herbicide use within the Pajaro River watershed and incorporate surfactants under restricted conditions as an application aid. Additional application adjustments would include a longer work window, application in upland areas, and application in sensitive species habitat under certain restrictions.

### *Management of Animal Conflicts*

Management of animal conflicts generally would be conducted with the use of hand-placed materials using small tools and hand-held equipment. This would include establishing buffers and biological repellants, trapping, as well as lethal baiting and fumigant applications. Heavy equipment may be used to modify habitat conditions and reduce or eliminate burrowing animals through surface compaction, filling of burrows with slurry, and tilling areas to destroy food sources. All lethal control methods would be designed to comply with County Agriculture Commission requirements and would be implemented using BMPs that would be designed to avoid or minimize effects on special-status species.

### ***Phase 3: Annual Reporting***

At the conclusion of each year's maintenance season, a Post-Construction Report would be developed and submitted to the appropriate resource agencies. This report would include a summary of the year's maintenance projects, describing what activities occurred and where, a description and confirmation of the restoration and mitigation activities implemented, and other SMP updates as necessary.

### ***Program Review***

Following the submittal of the Post-Construction Report, resource agency staff would be invited to meet with SCVWD staff for a "lessons learned meeting," usually in February or March of each year, to evaluate the effectiveness of both resource protection and maintenance methods used in the preceding construction season. The information discussed at these annual lessons learned meetings would be used to adaptively manage the BMPs and SMP processes to improve SMP effectiveness.

## **Programmatic Impact Avoidance, Minimization, and Compensatory Mitigation**

A three-part sequence would address Proposed Project impacts. First, the SMP Update itself has several built-in or internal restrictions and protocols to avoid or minimize impacts by limiting how and where maintenance could occur. Second, the operational implementation of maintenance activities would be required to adhere to specific BMPs. Thirdly, residual impacts remaining after these two impact avoidance and minimization efforts would be addressed through compensatory mitigation. These three approaches to address potential Proposed Project impacts are further described next.

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### ***Programmatic Impact Avoidance and Minimization***

The SMP Update would incorporate the following overarching principles to protect natural resources and guide decision-making for stream maintenance activities and projects:

**Principle 1:** SCVWD will implement all routine stream maintenance activities according to the process and protocols established in the SMP Update.

**Principle 2:** Decisions regarding the necessity of routine sediment removal and vegetation management activities (to restore channel flow capacities) will be made following the thresholds and standards provided in the District's Maintenance Guidelines and Asset Management Program.

**Principle 3:** SCVWD will implement measures to avoid and minimize impacts to native species and habitat.

**Principle 4:** All maintenance activities will be performed in a manner that has the least impact to the natural flora, fauna, and aquatic resources while meeting SMP Update objectives.

Supporting these SMP principles, measures and protocols would be applied by SCVWD for effective work results while avoiding or minimizing potential environmental impacts, including conducting no work above the 1,000-foot contour level, identifying the minimum maintenance need, and considering existing channel features in analysis and design.

### ***Best Management Practices***

Maintenance activities would incorporate a range of measures to minimize undesired effects on the environment and to implement the SMP principles described above. BMPs specifically created for the SMP Update would encompass the range of proposed maintenance activities and the environmental conditions of the Project Area. Types of BMPs would include general BMPs that would apply to all work, as well as activity-specific BMPs designed to address anticipated effects of certain work activities or particular types of resources. See Table 2-12 for a description of the BMPs proposed to be used in the SMP Update.

### ***Compensatory Mitigation***

#### ***Summary Status of the 2002 SMP Mitigation Program***

Although not all 2002 SMP Mitigation Program requirements have been met, it is important to recognize that the original mitigation requirements were based on the full estimated impact of the 2002 SMP work projections. Not all of the projected work has been conducted, nor have all the estimated impacts occurred. For tidal wetland impacts in the Santa Clara Basin, conducted mitigation has met the full mitigation requirement and provided 21+ acres over the mitigation necessary, when considering how much actual work and impacts have occurred in tidal wetlands. For freshwater wetland impacts in the Santa Clara Basin, conducted mitigation has not satisfied the complete mitigation requirement and is about 76

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percent in pace with the maintenance work conducted (and impacts) that have occurred. In the Pajaro Basin, freshwater wetland impacts have been mitigated fully.

### *SMP Update Mitigation Program*

The proposed SMP Update process includes reviewing and renewing the existing compensatory mitigation package that was established in 2002. The 2002 SMP Mitigation Program that covers the original projected activities (sediment removal and vegetation management) would remain in place to provide compensatory mitigation in perpetuity for the channels identified in the 2002 work projections.

As part of the proposed SMP Update process, the compensatory mitigation program addresses potential impacts anticipated for work sites that were not included in the original SMP work projections and not accounted for in the initial compensatory mitigation package. Besides addressing mitigation for these new work sites, the compensatory mitigation program has been revised to improve overall mitigation feasibility and quality. A key constraint to the original SMP mitigation approach was its emphasis on land acquisition. As a result, feasible mitigation was often not available in a manner to support the program's needs. For the SMP Update, a broader suite of suitable mitigation approaches has been developed to provide increased flexibility while maintaining high mitigation quality. The revised mitigation program, discussed in detail in Appendix C) would include the following elements:

- Acquisition and Restoration Program
- Invasive Plant Management Program
- Riparian Planting Program
- Mitigation for Tree and Shrub Removals 6-12 inches (dbh)
- Instream Habitat Complexity Program
- Gravel Augmentation in Steelhead Creeks
- Species-Targeted Habitat Mitigation
- Bank Stabilization Mitigation

## Public Involvement Process

### Scoping Comment Period

In accordance with State CEQA Guidelines (14 CCR 15082[a], 15103, 15375), SCVWD circulated a Notice of Preparation (NOP) of a DSEIR for the Proposed Project on August 31, 2010 (Appendix B). The NOP, in which SCVWD was identified as lead agency for the Proposed Project, was circulated to the public; to local, state, and federal agencies; and to other interested parties. The purpose of the NOP was to inform responsible agencies and the public that the Proposed Project could have significant effects on the environment and to solicit their comments. Comments received in response to the NOP were considered during preparation of this DSEIR (Appendix B).

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### Public and Agency Review of the DSEIR

This document will be circulated to local, state, and federal agencies and to interested organizations and individuals who may wish to review and comment on the report. Its publication will mark the beginning of a 45-day public review period. Written comments or questions concerning this DSEIR should be directed to the name and address listed below. Submittal of written comments via e-mail (Microsoft Word format) will be greatly appreciated.

Santa Clara Valley Water District  
Attention: Sunny Williams  
5750 Almaden Expressway  
San Jose, CA 95118-3686  
E-mail: smp\_update@valleywater.org  
Subject Line: SMP Update EIR Comments

All documents mentioned herein or related to the Proposed Project can be reviewed on any SCVWD business day between the hours of 8 a.m. and 5 p.m. at SCVWD headquarters, located at the address shown above.

### Preparation of FSEIR and Public Hearing

Written and oral comments received in response to the DSEIR will be addressed in a Final Subsequent Environmental Impact Report (FSEIR), which will include all comments received, responses to each, and a reprint of the DSEIR, updated as appropriate in underline/~~strikeout~~ in response to the comments. After review of the FSEIR, SCVWD staff will recommend to the SCVWD Board of Directors whether to approve or deny the Proposed Project. The Board then will review the FSEIR, consider staff recommendations and public testimony, and decide whether to certify the FSEIR and approve or deny the Proposed Project.

If the Board approves the Proposed Project in spite of significant impacts identified by the FSEIR that cannot be mitigated, the Board must state in writing the reasons for its actions. A Statement of Overriding Considerations must be included in the record of the Proposed Project approval and mentioned in the Notice of Determination (14 CCR 15093[c]).

### Areas of Known Controversy

No areas of public concern have been identified regarding the SMP Update.

### Key Issues and Significant Impacts

This section discusses key issues of concern relative to the Proposed Project and the conclusions of this document regarding those issues, as well as any significant impacts that were identified. This is not a comprehensive discussion of impacts of the Proposed Project;

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the reader is directed to Table ES-1, Summary of Impacts and Mitigation Measures, at the end of this chapter. Environmental factors potentially affected by the SMP include:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Global Climate Change
- Hazards and Hazardous Materials
- Hydrology and Geomorphology
- Land Use and Planning
- Noise
- Public Services and Utilities
- Recreation
- Traffic and Transportation
- Water Quality

Chapter 3, *Environmental Setting and Impact Analysis*, and Chapter 4, *Other Statutory Considerations* of this DSEIR address each of these environmental resource topics and the impacts of the SMP Update.

### Temporary Impacts from Maintenance Activities

In general, the primary adverse impacts of SMP Update activities would be short term and would occur during maintenance and the period immediately following maintenance. Temporary impacts would include:

- adverse effects on aesthetics, dust and air emissions from maintenance vehicles and equipment,
- effects on riparian and aquatic habitats and associated species,
- potential exposure to sites of existing chemical contamination,
- potential for accidental releases of hazardous materials associated with maintenance vehicles and herbicide use,
- discharge of sediments and related effects on water quality,
- temporary exposure of the public to elevated noise levels associated with maintenance activities,
- temporary disruption of recreational opportunities or quality during maintenance, and
- effects on local traffic from maintenance vehicles and hauling of sediment and other debris.

However, the SMP Update would include a multi-tiered program to avoid or minimize and compensate for impacts. First, the SMP Update would involve pre-maintenance impact avoidance through the use of maintenance principles. These principles would include conducting no unnecessary maintenance or intervention, and to target maintenance activities to reduce their impact. Second, during maintenance activities, a variety of BMPs would be implemented as part of the Proposed Project. These BMPs would be implemented before, during, and following maintenance. The BMPs would include avoidance of impacts, reducing the intensity/extent of potential impacts, and revegetation and other on-site activities that would be implemented to shorten the duration of site recovery. Finally, mitigation measures have been designed to address potential impacts that would remain

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after the implementation of BMPs, including a compensatory mitigation program to offset residual impacts related to biological resources and water resources (e.g., those potentially significant impacts remaining after implementation of BMPs and other issue specific mitigation measures). With the exceptions of air and greenhouse gas emissions, habitat fragmentation, aesthetics, and noise impacts to sensitive receptors, all short-term impacts of the SMP Update would be reduced to a level of insignificance.

### Long-Term Impacts from Maintenance Activities

Over the long term, SMP Update activities are anticipated to provide a variety of beneficial impacts. The Proposed Project would provide channel maintenance to maintain design flood conveyance capacity, as well as to help establish a developed riparian corridor along the maintained channels, resulting in incrementally improved conditions over time (i.e., ecological lift). This would result in enhanced habitat values, improved water quality, and better recreational value.

Several long-term adverse impacts have also been identified, including the potential for SMP Update activities to result in cumulative adverse contributions of air emissions or greenhouse gases; impacts on biological resources and habitat fragmentation; harm to existing archeological or paleontological resources; as well as cumulative land use conflicts, noise generation, traffic disruption, and water quality effects. However, BMPs would be implemented, consistent with the 2012 SMP Manual, that would include measures to address these impacts. Furthermore, mitigation measures (described in Chapter 3.3, *Biological Resources*) would be applied to address cumulative impacts on biological resources. With the exception of cumulative impacts associated with air emissions, greenhouse gases, and habitat fragmentation, all long-term impacts of the SMP Update would be reduced to a level of insignificance.

### Significant and Unavoidable Impacts

The following impacts have been identified as significant and unavoidable:

- Impact AES-3: Temporary Alteration of Visual Character or Quality from Maintenance Activities
- Impact AES-4: Permanent Alteration of Visual Character or Quality from Maintenance Activities
- Impact AIR-1: Temporary Increase in ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> Emissions during Maintenance Activities
- Impact BIO-45: Habitat Fragmentation
- Impact GCC-1: Temporary Increase in GHGs during Maintenance Activities
- Impact NZ-1: Temporary Exposure of the Public to Noise Levels in Excess of City or County Standards
- Impact NZ-3: Temporary Substantial Increase in Noise above Ambient Levels
- Cumulative Impact AIR-1: Emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>

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- Cumulative Impact AIR-2: Emissions of Greenhouse Gases
- Cumulative Impact BIO-2: Habitat Fragmentation

### Alternatives Considered

The purpose of the alternatives analysis in an EIR is to describe a range of reasonable alternatives to the Proposed Project that could feasibly attain most of the objectives of the Proposed Project while reducing or eliminating one or more of the Proposed Project's significant effects. The range of alternatives considered must include those that offer substantial environmental advantages over the Proposed Project and may be feasibly accomplished in a successful manner considering economic, environmental, social, technological, and legal factors.

The following alternatives have been evaluated for their feasibility and their ability to achieve most of the Proposed Project objectives while avoiding, reducing, or minimizing significant impacts identified for the Proposed Project:

- No Project Alternative
- Reduced Frequency Alternative
- Limited Work in Unmodified Channels Alternative
- Limited Activities Alternative

### No Project Alternative

Under the No Project Alternative, SCVWD would continue conducting maintenance activities, including CEQA compliance and permitting, on an annual basis following the practices in the existing (2002) SMP. This would be accomplished either by (1) conducting CEQA compliance and permitting on a project-by-project basis, or (2) by extending or renewing the existing SMP permits and relying on the prior CEQA document. SCVWD would conduct the same maintenance activities as done currently, using existing operation and maintenance guidelines and BMPs. One main difference between this alternative and the Proposed Project is that the Proposed Project would include an extension of the end of the maintenance period, from October 15 to December 31, as long as weather remained dry. If project-by-project permitting was implemented, some needed maintenance likely would not be conducted during the same season as the need for it was identified, resulting in the potential for increased flood risk. Therefore, possibly less maintenance work would get accomplished each year.

If less maintenance work was completed each year, then maintenance activities would be performed at each reach less frequently, and/or less work would be completed overall. As a result, a variety of impacts would be slightly reduced, compared to the Proposed Project. Sediment discharges from areas requiring bank stabilization, combined with increased sediment accumulation resulting from the longer period between maintenance activities, would result in a greater temporary reduction in conveyance capacity than the Proposed Project. Consequently, it is expected that the No Project Alternative would provide a slightly lower level of flood protection than the Proposed Project. The existing BMPs, to the extent

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they would not be as protective as the BMPs proposed for the SMP Update, may not reduce the impacts of maintenance to the same extent as under the Proposed Project. Furthermore, because SCVWD may not know what the mitigation requirements would be more than one year in advance, biological impacts would need to be mitigated on an annual basis. Should project-by-project permitting lead to undertaking mitigation in smaller increments, the overall mitigation may be less ecologically significant than the comprehensive approach proposed by the SMP Update.

### Reduced Frequency Alternative

Under the Reduced Frequency Alternative, the types of maintenance activities undertaken by SCVWD would not change, but the recurrence of sediment removal and vegetation management activities would occur less frequently than under the Proposed Project. However, bank stabilization, management of animal conflicts, and minor maintenance activities would continue to occur as needed. All other aspects of the Proposed Project (e.g., the currently proposed BMPs) would be implemented under this alternative. Under the Proposed Project, the recurrence of activities is projected for a 10-year period. Typically, the need for sediment removal or instream vegetation management is based on field observations of reduced channel capacity from sediment accumulation or vegetation growth; non-instream vegetation management addresses annual growth, including the removal of both pre-emergent and post-emergent vegetation. Under the Reduced Frequency Alternative, the recurrence of sediment removal and vegetation management activities at any particular location would be half as frequent as under the Proposed Project. For example, if a stream reach was projected to need sediment removed in 4 out of 10 years, under this alternative, sediment would be removed in 2 out of 10 years.

Although maintenance activities would occur less frequently, the amount of maintenance done during each event would likely need to be greater to fulfill maintenance needs. For instance, a greater amount of sediment removal or instream vegetation management would need to occur during a maintenance event to maintain the design flood flow conveyance capacity during the longer periods between maintenance episodes. A greater amount of non-instream vegetation management also would need to occur during a maintenance event, to address fire hazards on roads and levees associated with a greater amount of vegetation growth. Similarly, different types of maintenance may be necessary (e.g., removal of larger trees may require larger equipment).

Compared to the Proposed Project, impacts would be theoretically reduced because maintenance events would occur less frequently; however, this may be offset by the increased intensity associated with the less frequent, larger maintenance events. The frequency and intensity of maintenance events would have various impacts. Increased sediment accumulation and instream vegetation resulting from the longer period between maintenance activities would result in a greater temporary reduction in conveyance capacity, and thus an increased flood risk, than the Proposed Project. However, because larger maintenance events would occur, flood flow conveyance capacity could be retained over the long term. Increased non-instream vegetation growth, resulting from the longer period between maintenance activities, would result in greater temporary fire hazards on roads and levees than the Proposed Project.

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### Limited Work in Unmodified Channels Alternative

Under the Limited Work in Unmodified Channels Alternative (Limited Work Alternative), maintenance activities that could be done in unmodified channels would be limited to within 100 feet upstream and downstream of human-made structures, such as bridges, road crossings, stream gages, outfalls, and trash racks. As a result, a reduced amount of annual maintenance would occur under this alternative. Maintenance near human-made structures would be necessary because it would keep these structures functioning properly and safely. Necessary maintenance activities in unmodified channels located away from human-made structures would not occur, resulting in increased flood risk or unaddressed maintenance needs. All other aspects of the Proposed Project (e.g., the currently proposed BMPs) would be implemented under this alternative.

The primary goal of the Limited Work Alternative would be to reduce impacts to biological resources in unmodified channels, as the unmodified channels are believed to have the greatest ecological value overall. The majority of impacts to biological resources in unmodified channels would be eliminated, but some disturbance and impact to unmodified channels would be necessary to maintain human-made structures. Compared to the Proposed Project, the Limited Work Alternative may promote the ecological structure and function of unmodified reaches by reducing impacts to plant and animal species, riparian habitat, and wetlands. To the extent that maintenance activities would support or improve ecological structure and function (for instance, create conditions unfavorable to invasive exotic species), these benefits would not be realized to the same extent as under the Proposed Project.

Under the Limited Work Alternative, the overall amount of maintenance would likely be reduced. As a result, various impacts would be reduced, compared to the Proposed Project. Sediment discharges from bank failures that would not be addressed under this alternative would result in a greater temporary reduction in conveyance capacity than the Proposed Project, and they would have adverse water quality (sedimentation) impacts. In addition, because flood flow capacities would not be maintained in these unmodified channels, flood risk may increase in these reaches.

### Limited Activities Alternative

Under the Limited Activities Alternative, those maintenance activities with the greatest biological impacts would be eliminated or modified. For bank stabilization activities, no hardening of stream banks would be allowed and only “soft” stabilization measures would be used. For sediment removal activities, equipment would always be located at the top of the bank and would not be allowed in the stream channel. For vegetation management activities, no herbicide use would be allowed, and only mechanical vegetation management methods would be utilized. For management of animal conflicts, no rodenticide use would be allowed. Minor maintenance activities would be conducted as described under the Proposed Project. Relying on alternative methods would result in increased efforts to accomplish the same degree of necessary maintenance. Alternative methods also may result in higher implementation costs and/or less maintenance work getting accomplished each year.

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Under the Limited Activities Alternative, the avoidance of the most impactful activities would eliminate impacts but may increase others. For instance, eliminating the use of herbicides and rodenticides would reduce the potential for impacts on water quality. However, repeated hand-vegetation removal would be likely to result in greater trampling of vegetation/habitat than single events of herbicide application. Conducting sediment removal from the top of the stream bank may not allow for removal of sediment from certain channels that could not be accessed from the top of the bank. Therefore, this alternative would be likely to impede sediment removal that would be necessary to maintain flood flow conveyance capacity. As a result, the potential flooding risk would increase at these locations.

Furthermore, reliance on alternative methods for implementing maintenance activities could result in new and/or increased environmental impacts, compared to the Proposed Project. For instance, relying solely on mechanical vegetation management, as opposed to herbicides, could result in greater noise and air quality impacts. Finally, restricting bank stabilization to “soft” methods could result in inadequate bank protection in instances where hard methods were needed for bank stability. This could result in repeated bank failures, with adverse impacts on habitat and water quality through direct loss of riparian habitat as well as sediment discharges. The need for repeat bank repairs could increase the impacts associated with such maintenance activities (e.g., increased air emissions, noise impacts).

### Comparison of Alternatives and the Environmentally Superior Alternative

Weighing all the issues, the Proposed Project is considered to be environmentally superior. Compared to any of the other alternatives, it strikes the most appropriate balance between managing flood risk, protecting the ecological integrity of the SMP channels, and addressing other short- and long-term impacts associated with proposed maintenance activities.

However, CEQA requires that an environmentally superior alternative be selected from among the alternatives to the Proposed Project. The Reduced Frequency Alternative is considered the environmentally superior alternative because by limiting the amount of all annual maintenance activities, it would reduce the impacts associated with these activities. However, this alternative would provide less overall flood protection than the Proposed Project. Although flood flow capacity would be retained in the long-term by conducting larger maintenance events, flood risk would increase in the interim because needed maintenance events would be delayed so that they occurred no more frequently than every 5 years.

The other alternatives were not selected as the environmentally superior alternative for the following reasons:

- **No Project Alternative.** Although this alternative would provide only a slight reduction in the maintenance of the design flow or appropriate conveyance capacity of facilities, maintenance would not necessarily be conducted in a timely manner to avoid flood hazards. Furthermore, maintenance activities may not be implemented along with a comprehensive mitigation approach and consistent set of BMPs.

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Therefore, flood risk would be greater and, at the same time, more residual impacts would remain.

- **Limited Work Alternative.** As a result of reduced maintenance activities in unmodified reaches, this alternative would promote the ecological structure and function of these reaches and, therefore, would reduce a variety of impacts related to the Proposed Project in those locations. However, this alternative would result in increased flood risk along unmodified channels and resulting impacts on downstream creek systems.
- **Limited Activities Alternative.** This alternative would slightly reduce impacts to biological resources. However, new/increased impacts also could result from the use of alternative maintenance methods. This alternative also could result in a reduction in the maintenance of the design flow or appropriate conveyance capacity of facilities where sediment removal could not occur solely from the top of the bank, and increased water quality and habitat impacts where soft bank stabilization methods were not effective.

### Summary of Impacts and Levels of Significance

The impacts of the Proposed Project, proposed mitigation, and significance conclusions are discussed in detail in Chapter 3, *Environmental Setting and Impact Analysis*, and Chapter 4, *Other Statutory Considerations* of this DSEIR. Table ES-1 summarizes the impacts, mitigation measures, and levels of significance identified in this document.

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
<b>Direct and Indirect Impacts</b>			
<b>3.1 Aesthetics</b>			
AES-1: Alternation to a Scenic Vista	LTS	None Required	LTS
AES-2: Alteration to Scenic Resources Viewed from a State or County-designated Scenic Highway	LTS	None Required	LTS
AES-3: Temporary Alteration of Visual Character or Quality from Maintenance Activities	PS	MM BIO-1, MM BIO-2, and MM BIO-7	SU
AES-4: Permanent Alteration of Visual Character or Quality from Maintenance Activities	PS	MM BIO-1, MM BIO-2, and MM BIO-7	SU
AES-5: Substantial Alteration to Day or Nighttime Views resulting from Additional Light or Glare	NI	None Required	NI
AES-6: Impacts on Aesthetics Associated with sediment Disposal/Reuse	LTS	None Required	LTS
<b>3.2 Air Quality</b>			
AIR-1: Temporary Increase in ROG, NO <sub>x</sub> , PM <sub>10</sub> , and PM <sub>2.5</sub> Emissions during Maintenance Activities	PS	MM AIR-1A: Reduction in Fleet Emissions, MM AIR-1B: Off-site NO <sub>x</sub> Emissions Mitigation Program, MM AIR-1C: NO <sub>x</sub> Emissions Offsets	LTS/SU
AIR-2: Diesel PM Health Risk during Maintenance Activities	LTS	None Required	LTS
AIR-3: Creation of Objectionable Odors	LTS	None Required	LTS

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
<b>3.3 Biological Resources</b>			
BIO-1: Loss or Disturbance of Wetlands and Other Waters	PS	MM BIO-1: Implement Compensatory Mitigation for Wetlands and Other Waters	LTS
BIO-2: Loss or Disturbance of Woody Riparian Vegetation	PS	MM BIO-2: Implement Compensatory Mitigation for Woody Riparian Vegetation	LTS
BIO-3: Disturbance of Sensitive Plant Communities	PS	MM BIO-3: Implement Compensatory Mitigation for Serpentine Communities	LTS
BIO-4: Impacts to Serpentine-Associated Special-Status Plant Species	PS	MM BIO-4: Implement Compensatory Mitigation for Serpentine-Associated Special-Status Plant Species	LTS
BIO-5: Impacts to Non-Serpentine Special-Status Plant Species	PS	MM BIO-5: Implement Compensatory Mitigation for Impacts to Non-Serpentine Special-Status Plant Species	LTS
BIO-6: Impacts to Serpentine-Associated Special-Status Invertebrates	PS	MM BIO-6: Implement Compensatory Mitigation for Impacts to Serpentine-Associated Special-Status Invertebrates	LTS
BIO-7: Loss of Ordinance Trees	PS	MM BIO-7: Tree Replacement	LTS
BIO-8: Impacts on Steelhead	PS	MM BIO-1, MM BIO-2, MM BIO-8: Augmentation of Spawning Gravel, and MM BIO-9: Augmentation of Instream Complexity for Non-Tidal Stream Fish	LTS
BIO-9: Impacts on the Pacific Lamprey and Monterey Roach	PS	MM BIO-1, MM BIO-2, and MM BIO-9	LTS
BIO-10: Impacts on the Longfin Smelt and Green Sturgeon	PS	MM BIO-1	LTS
BIO-11: Impacts on the California Tiger Salamander	PS	MM BIO-1, MM BIO-2, and MM BIO-10: Implement Compensatory Mitigation for the California Tiger Salamander	LTS

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
BIO-12: Impacts on the California Red-Legged Frog	PS	MM BIO-1, MM BIO-2, and MM BIO-11: Implement Compensatory Mitigation for the California Red-Legged Frog	LTS
BIO-13: Impacts on the Foothill Yellow-Legged Frog	LTS	None Required	LTS
BIO-14: Impacts on Non-Special-Status Fish and Amphibians	PS	MM BIO-1, MM BIO-2, and MM BIO-9	LTS
BIO-15: Impacts on Essential Fish Habitat	LTS	None Required	LTS
BIO-16: Impacts on the Western Pond Turtle	PS	MM BIO-1, MM BIO-2, and MM BIO-9	LTS
BIO-17: Impacts on the California Horned Lizard	LTS	None Required	LTS
BIO-18: Impacts on the Black Skimmers	LTS	None Required	LTS
BIO-19: Impacts on the Western Snowy Plover	LTS	None Required	LTS
BIO-20: Impacts on the California Clapper Rail and Alameda Song Sparrow	PS	MM BIO-1	LTS
BIO-21: Impacts on the California Black Rail and Bryant's Savannah Sparrow	LTS	None Required	LTS
BIO-22: Impacts on the San Francisco Common Yellowthroat	LTS	None Required	LTS
BIO-23: Impacts on the Least Bell's Vireo	PS	MM BIO-2, and MM BIO-12: Implement Compensatory Mitigation for the Least Bell's Vireo (MM BIO-12A or MM BIO-12B)	LTS
BIO-24: Impacts on the Burrowing Owl	PS	MM BIO-13: Implement Compensatory Mitigation for the Burrowing Owl	LTS
BIO-25: Impacts on the Golden Eagle and Bald Eagle	LTS	None Required	LTS

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
BIO-26: Impacts on the American Peregrine Falcon	LTS	None Required	LTS
BIO-27: Impacts on the Yellow Warbler	PS	MM BIO-2 and MM BIO-14: Implement Compensatory Mitigation for the Yellow Warbler	LTS
BIO-28: Impacts on the Yellow-Breasted Chat	PS	MM BIO-12 (MM BIO-12A or MM BIO-12B)	LTS
BIO-29: Impacts on the Grasshopper Sparrow	LTS	None Required	LTS
BIO-30: Impacts on the Northern Harrier	LTS	None Required	LTS
BIO-31: Impacts on the White-tailed Kite and Loggerhead Shrike	LTS	None Required	LTS
BIO-32: Impacts on the Redhead, Short-Eared Owl, Long-Eared Owl, Vaux's Swift, and Olive-Sided Flycatcher	LTS	None Required	LTS
BIO-33: Impacts on the Tricolored Blackbird	LTS	None Required	LTS
BIO-34: Impacts on Non-Breeding, Special-Status Birds	LTS	None Required	LTS
BIO-35: Impacts on the Salt Marsh Harvest Mouse and Salt Marsh Wandering Shrew	PS	MM BIO-1	LTS
BIO-36: Impacts on the San Francisco Dusky-Footed Woodrat	LTS	None Required	LTS
BIO-37: Impacts on the Pallid Bat	PS	MM BIO-15: Provide Alternative Bat Roost	LTS
BIO-38: Impacts on the Western Red Bat and Townsend's Big-Eared Bat	LTS	None Required	LTS
BIO-39: Impacts on Non-Special-Status Bats	LTS	None Required	LTS
BIO-40: Impacts on the San Joaquin Kit Fox	LTS	None Required	LTS

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
BIO-41: Impacts on the American Badger and Ringtail	LTS	None Required	LTS
BIO-42: Impacts on the Mimic Tryonia	LTS	None Required	LTS
BIO-43: Impacts on the Pacific Harbor Seal	LTS	None Required	LTS
BIO-44: Introduction of Invasive Species	PS	MM BIO-16: Invasive Species Management Program	LTS
BIO-45: Habitat Fragmentation	SU	None Available	SU
BIO-46: Conflicts with Adopted Habitat Conservation Plans or Natural Community Conservation Plans	LTS	None Required	LTS
BIO-47: Resuspension of Mercury	LTS	None Required	LTS
<b>3.4 Cultural Resources</b>			
CR-1: Disturbance to Known and Previously Undiscovered Archaeological or Historic Resources	LTS	None Required	LTS
CR-2: Discovery of Human Remains	LTS	None Required	LTS
CR-3: Impacts to Sensitive Paleontological Resources as a Result of Maintenance Activities	LTS	None Required	LTS
<b>3.5 Global Climate Change</b>			
GCC-1: Temporary Increase in GHGs during Maintenance Activities	PS	MM AIR-1A and MM GCC-1A: On-site or Off-site GHG Emissions Mitigation Program, or MM GCC-1B: GHG Emissions Offsets	LTS/SU

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
<b>3.6 Hazards and Hazardous Materials</b>			
HAZ-1: Use, Transport, or Accidental Release of Hazardous Materials such that a Significant Hazard to the Public or Environment Would Result	LTS	None Required	LTS
HAZ-2: Potential to Interfere with Emergency Response	LTS	None Required	LTS
HAZ-3: Be Located on a Known Existing Contaminated Site	LTS	None Required	LTS
HAZ-4: Be Located on a Previously Undiscovered Contaminated Site	LTS	None Required	LTS
HAZ-5: Create Safety Hazards or Releases of Hazardous Materials in Proximity to a School	LTS	None Required	LTS
HAZ-6: Exacerbate Wildland Fires	LTS	None Required	LTS
HAZ-8: Disposal of Contaminated Sediments	LTS	None Required	LTS
<b>3.7 Hydrology and Geomorphology</b>			
HYD-1: Short-Term Instream Erosion or Sedimentation from Sediment Management Activities	LTS	None Required	LTS
HYD-2: Long-Term Instream Erosion or Sedimentation from Sediment Removal Activities	B	None Required	B
HYD-3: Short-Term Erosion or Sedimentation from Vegetation Management Activities	LTS	None Required	LTS

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
HYD-4: Short-Term Erosion, or Sedimentation from Bank Stabilization Activities	LTS	None Required	LTS
HYD-5: Long-Term Erosion and Sedimentation from Vegetation Management and Bank Stabilization Activities	B	None Required	B
HYD-6: Harm to People, Structures, or Water Quality from Flooding	B	None Required	B
HYD-7: Alterations to the Recharge, Quality, or Quantity of Groundwater	B	None Required	B
HYD-8: Occurrence of Seiche, Tsunami, or Mudflow	NI	None Required	NI
HYD-9: Geomorphic Effects of Sediment Reuse	LTS	None Required	LTS
HYD-10: Creation of Runoff Water and Depletion of Surface Water Supplies	LTS	None Required	LTS
HYD-11: Short-Term Erosion and Sedimentation from Minor Maintenance, Management of Animal Conflicts, and Canal Maintenance Activities	B	None Required	B
HYD-12: Long-Term Erosion and Sedimentation from Minor Maintenance, Management of Animal Conflicts, and Canal Maintenance Activities	B	None Required	B

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
<b>3.8 Land Use and Planning</b>			
LU-1: Division of Existing Neighborhoods or Communities	LTS	None Required	LTS
LU-2: Incompatibility with Adjacent Land Uses	LTS	None Required	LTS
LU-3: Compatibility with Land Use Plans and Policies	LTS	None Required	LTS
<b>3.9 Noise</b>			
NZ-1: Temporary Exposure of the Public to Noise Levels in Excess of City or County Standards	PS	None Available	SU
NZ-2: Generate Groundborne Vibrations	NI	None Required	NI
NZ-3: Temporary Substantial Increase in Noise above Ambient Levels	PS	None Available	SU
<b>3.10 Public Services and Utilities</b>			
PSU-1: Effects on Public Facilities and Services	LTS	None Required	LTS
PSU-2: Disruption to Utilities and Service System Facilities	LTS	None Required	LTS
PSU-3: Insufficient Available Water Supplies resulting in the Need for New or Additional Water Supply or Distribution Facilities	LTS	None Required	LTS
PSU-4: Disposal of Excavated Sediment and Other Materials at Off-Site Locations, including Landfills	LTS	None Required	LTS

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
<b>3.11 Recreation</b>			
REC-1: Temporary Disturbance of Recreational Quality	LTS	None Required	LTS
REC-2: Permanent Changes to Recreation Quality	B	None Required	B
REC-3: Temporary Disruption of the Use of, or Access to, Recreational Facilities	LTS	None Required	LTS
REC-4: Permanent Use or Access Disruption of Recreational Facilities	NI	None Required	NI
<b>3.12 Traffic and Transportation</b>			
TR-1: Increase in Vehicle Miles Traveled	LTS	None Required	LTS
TR-2: Substantial Increase in Safety Hazards	LTS	None Required	LTS
TR-3: Inadequate Emergency Access	LTS	None Required	LTS
TR-4: Disruption of Alternative Transportation Facilities or Services	LTS	None Required	LTS
TR-5: Insufficient Parking Capacity	LTS	None Required	LTS
<b>3.13 Water Quality</b>			
WQ-1: Water Quality Degradation Resulting in Violation of Water Quality Standards or Waste Discharge Requirements Caused by Ground-Disturbing Activities	LTS	None Required	LTS
WQ-2: Water Quality Degradation Resulting in Violation of Water Quality Standards or Waste Discharge Requirements Caused by Instream Maintenance Activities	LTS	None Required	LTS

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
WQ-3: Water Quality Degradation Resulting in Violation of Water Quality Standards or Waste Discharge Requirements Caused by the Accidental Release of Hazardous Materials	LTS	None Required	LTS
WQ-4: Water Quality Degradation Resulting in Violation of Water Quality Standards or Waste Discharge Requirements Caused by the Use of Pesticides, including Herbicides	LTS	None Required	LTS
WQ-5: Water Quality Degradation Resulting in Violation of Water Quality Standards or Waste Discharge Requirements Caused by the Disturbance of Existing Contamination	LTS	None Required	LTS
WQ-6: Compliance with CWA Section 303(d) Total Maximum Daily Loads	LTS	None Required	LTS
WQ-7: Water Quality Degradation Resulting in Violation of Water Quality Standards or Waste Discharge Requirements Caused by Sediment Handling and Disposal	LTS	None Required	LTS
WQ-8: Create or Contribute Runoff Water that Would Provide Substantial Additional Sources of Polluted Runoff	B	None Required	B
WQ-9: Alterations to the Quality of Groundwater	B	None Required	B

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**Table ES-1.** Summary of Potential Impacts and Mitigation Measures

Potential Impact	Level of Significance before Mitigation <sup>1</sup>	Mitigation Measures	Level of Significance after Mitigation <sup>1</sup>
<b>Cumulative Impacts</b>			
AIR-1: Emissions of ROG, NO <sub>x</sub> , PM <sub>10</sub> , and PM <sub>2.5</sub>	PS	MM AIR-1A, MM AIR-1B, and MM AIR-1C	LTS/SU
AIR-2: Emissions of Greenhouse Gases	PS	MM AIR-1A, and MM GCC-1A or MM GCC-1B	LTS/SU
BIO-1: Effects on Biological Resources	PS	MM BIO-1, MM BIO-2, MM BIO-3, MM BIO-4, MM BIO-5, MM BIO-6, MM BIO-7, MM BIO-8, MM BIO-9, MM BIO-10, MM BIO-11, MM BIO-12, MM BIO-13, MM BIO-14, MM BIO-15, and MM-BIO-16	LTS
BIO-2: Habitat Fragmentation	PS	None Available	SU
CR-1: Effects on Cultural Resources	LTS	None Required	LTS
LU-1: Land Use Conflicts	LTS	None Required	LTS
NZ-1: Project-Related Noise Emissions	LTS	None Required	LTS
TR-1: Disruption to Automobile Traffic Patterns	LTS	None Required	LTS
PSU-1: Effects on Public Services and Utilities	B	None Required	B
WQ-1: Effects on Water Quality	LTS	None Required	LTS

<sup>1</sup> Definitions:

B	Beneficial
LTS	Less-than-Significant
NI	No Impact
PS	Potentially Significant
SU	Significant and Unavoidable

Source: Compiled by Horizon Water and Environment in 2011