

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. R2-2014-XXXX

WASTE DISCHARGE REQUIREMENTS AND WATER QUALITY CERTIFICATION FOR:

**SANTA CLARA VALLEY WATER DISTRICT
STREAM MAINTENANCE PROGRAM
SANTA CLARA COUNTY**

1. The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Regional Water Board) finds that the Santa Clara Valley Water District (District or SCVWD) applied to the U.S. Army Corps of Engineers (Corps) for a regional general permit to implement the Stream Maintenance Program (SMP) under Clean Water Act (CWA) section 404 (33 U.S.C. §1344).

2. On July 21, 2011, the District filed an application for Clean Water Act section 401 Water Quality Certification and Waste Discharge Requirements (WDRs) with the Regional Water Board for authorization to continue to implement its Stream Maintenance Program (SMP) to conduct routine stream maintenance activities along approximately 800 miles of streams within the SMP Program area (below the 1000-foot elevation contour) throughout Santa Clara County. The SMP maintenance activities provide flood protection and maintain channel conveyance capacity, while protecting natural resources with avoidance and minimization measures.

3. The goals of the SMP include: (1) maintain the flow conveyance capacity of District channels and facilities; and (2) maintain the structural and functional integrity of District facilities.

The objectives of the SMP include: (1) remove sediment for flow conveyance and safety while maintaining the habitat functions of the creeks systems; (2) manage vegetation for flow conveyance and safety while maintaining habitat functions of the creek, channels and other District facilities to allow for levee inspections and maintenance access; (3) stabilize stream and channel beds and banks to protect existing infrastructure, maintain public safety, reduce sediment loading, protect water quality, and protect habitat values; and (4) avoid, minimize, or mitigate impacts on the environment by identifying when maintenance work is necessary and incorporating stream stewardship measures to further reduce potential impacts and enhance conditions where possible .

4. In August 2012, the District's Board revised and adopted its Natural Flood Protection and Water Resources Stewardship goals and objectives in its Governance Policies under the Ends Policy¹. The SMP is consistent with the following objectives:

Natural Flood Protection

- 3.1.2. Preserve flood conveyance capacity and structural integrity of stream banks, while minimizing impacts on the environment and protecting habitat values.

Water Resources Stewardship

- 4.1.1. Preserve creeks, bay and ecosystems through environmental stewardship.

¹ SCVWD Board Governance Policies: <http://www.valleywater.org/About/BoardPolicies.aspx>

4.1.2. Improve watersheds, streams, and natural resources.

4.1.3. Promote the protection of creeks, bay and other aquatic ecosystems from threats of pollution and degradation.

5. The District is currently conducting stream maintenance activities under Waste Discharge Requirements (Order No. R2-2002-0028) issued by the Regional Water Board on February 27, 2002.
6. This Order applies to the District's stream maintenance activities conducted pursuant to the SMP within four watersheds in Santa Clara County that drain to the San Francisco Bay. These include the Lower Peninsula, West Valley, Guadalupe, and Coyote watersheds, which are located within the jurisdiction of this Regional Water Board. Therefore all descriptions, findings and provisions in this Order apply only to stream maintenance activities within the four above mentioned watersheds. This Order does not apply to the Pajaro watershed, which is under the jurisdiction of the Central Coast Regional Water Board.
7. The District developed a SMP Manual to guide implementation of the SMP. The SMP Manual describes maintenance work activities conducted in streams, creeks, and channels (collectively "channels" or "streams") as well as stream gauges and fish ladders, located within the District's SMP Program area. The SMP Manual also describes, regulatory framework, annual maintenance planning, impact avoidance measures, best management practices (BMPs), mitigation activities, and program management actions. The SMP Manual includes, as attachments, the following documents: Bank Stabilization Methods; SCVWD Fish Relocation Guidelines; Tree Scoring for Removal of Trees and Shrubs 6-12" dbh; Invasive Plant Management Program; Large Woody Debris (LWD) Mitigation Accounting Criteria; Best Management Practices; Sediment Characterization Plans; Water Quality Monitoring Plans; and Steelhead Impact Minimization Measures.
8. The SMP Manual and associated attachments are considered a "living document" which allows for minor updates and revisions as maintenance techniques and methods are changed to be more protective of the environment to improve the District's stream maintenance program.

SMP Description, Impacts, and Mitigation

9. The SMP Manual covers five primary maintenance activities: vegetation management, sediment removal, bank stabilization, management of animal conflicts, and minor maintenance. The SMP also includes a habitat protection and enhancement component that consists of invasive plant management, riparian planting program, instream habitat complexity program, and land preservation.
10. The District conducts routine maintenance activities that include a wide variety of levels of work, based on annual rainfall, stream flow, and growth of vegetation. The District maintains channels where it has fee title or easements, or where the District has received specific direction from the District's Board or a regulatory agency. The District's Board may also approve maintenance work on private property, if it is determined that the erosion, scour, or other maintenance needs are negatively affecting the flow conveyance and bank stability of the overall creek system.

11. The SMP Manual covers maintenance activities in District-maintained modified channels, modified channels with ecological values, and unmodified channels within the District's SMP area.
12. A modified channel is defined as a channel that has been substantially altered from historical conditions. Some modified channels have had recent capital improvement projects (CIPs), while others were constructed as a condition of land development approvals or to maximize developable land adjacent to the creek. Some modified channels have established flood conveyance criteria and will be maintained to those criteria. However, other channels clearly have been modified over time but not necessarily to an engineered design with established flood flow conveyance criteria. Modified channels typically include realigned, straightened, hardened reaches that have been designed to maximize efficient flow of water with minimal erosion. These channels are typically grass-lined, or concrete lined (bed or bank), and may include a high flow channel. These channels may have the potential for some environmental enhancement but are differentiated from modified channels with ecological values, which have existing and often diverse ecological values present.
13. A modified channel with ecological values is defined as a channel that has been significantly altered from historical conditions but also has features such as closed canopy riparian woodland, and/or is known to support special-status species. Some of these channels have had recently completed CIPs, while others have had some level of construction that did not eliminate all of the areas with ecological value, or the reconfigured channel was allowed to return to a natural state. Some of these channels have established flood flow conveyance criteria and are maintained to those criteria. These channels include realigned, straightened, or hardened reaches, designed to convey flood flows with minimal erosion. Modified channels with ecological value include creeks identified as creeks supporting steelhead, fall-run Chinook, and green sturgeon, have earthen beds, or provide features such as closed riparian woodland canopy, and/or habitat known to support special-status species. Modified channels with ecological values may or may not have concrete banks, but do not have concrete beds.
14. An unmodified channel is defined as a creek that generally is unchanged from historic conditions. Unmodified channels may have small areas of modification, including bridges, outfalls, culverts, gauges, or other appurtenant structures. Unmodified channels usually are located in areas adjacent to floodplains without other types of flood protection measures and generally occur in the foothills or higher elevations of the Program area.
15. The District removes sediment from channels to maintain or restore the design capacity of the channel; allow facilities or appurtenant structures to function as designed to control flood waters; and facilitate fish passage. Sediment removal under the SMP does not include increasing a channel's flow conveyance capacity beyond the as-built design (where the as-built design is available), or the general design condition (where the general design condition is known). Sediment removal activities may occur along creeks or at stream gauges. In unmodified channels sediment removal activities will not enlarge the channel capacity beyond the general "natural" cross-sectional area of the channel. The number of sediment removal projects undertaken annually and the quantity of sediment removed in a given year depends on weather and hydrologic conditions, as well as the frequency and extent of past maintenance activities. For most sediment removal projects, excavators are used from the top-of-bank. For projects where the use of excavators from the top-of-bank is not possible, or would cause

major vegetation impacts, sediment removal equipment may be used within the channel if the channel is dry or dewatered. For larger equipment, this may require the construction of temporary access ramps.

16. Vegetation management activities include pruning, removal, herbicide application, mowing, flaming, and grazing. Vegetation management activities are conducted to maintain flow conveyance capacity, establish a canopy of native riparian trees and native understory plants, control invasive vegetation, and as a means of fire control. Vegetation management and removal activities are relatively consistent from year to year, though locations change depending on recent growth and blockages. Vegetation management techniques include hand removal using small tools and hand-held equipment, mechanical removal using heavy equipment such as a flail mower attached to an excavator, and spot chemical control on tree stumps and along access roads, herbicide application using backpack applicators or truck-mounted applicators, hand-held flaming equipment, and grazing animals. Vegetation management also includes planting new trees and shrubs. Vegetation management is performed year-round in a manner to prevent loss of habitat and erosion, and does not include clear cutting or wholesale removal of vegetation.
17. Bank stabilization involves repairing channel banks when a weakened, unstable, or failing bank causes or threatens to cause damage to an adjacent property; becomes a flood hazard; becomes a public safety concern; creates problems with roads, transportation, or access; or causes instream sedimentation, or is affecting water quality and beneficial uses. Bank stabilization techniques described in the SMP Manual use bioengineering techniques to the maximum extent possible while limiting the use of bank hardening. The number of bank stabilization projects to be conducted under the SMP will vary annually.
18. Management of animal conflicts activities include (1) repairing damage caused by burrowing and foraging animals along channels and other structures within the SMP Program area; and (2) managing channels within the SMP Program area to avoid further damage. These activities include methods such as biological control, site alterations, habitat alteration, and lethal control. Management of animal conflict activities will vary annually.
19. Minor maintenance activities include: cleaning and removing sediment (limited to 25 cubic yards per project site) at outfalls, culverts, flap gates, tide gates, inlets, grade control structures fish ladders, fish screens, ; removing trash and debris; repairing and installing fences and gates; grading and repairing existing maintenance roads to restore the original contour ; grading small areas without vegetation above channel banks to improve drainage and reduce erosion; repairing structures with substantially similar materials within approximately the same footprint; installing and maintaining mitigation and landscape sites; removing obstructions at structures to maintain functions; and maintaining stream gauges.
20. The following activities are not included in the SMP Manual and therefore not covered in this Order:
 - a. capital improvement projects;
 - b. maintenance work that would increase the flow conveyance or water supply capacity of a facility beyond the designed channel capacity (as-built design);
 - c. maintenance work in channel reaches that are above 1,000-foot elevation level;

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- d. maintenance work for dams, reservoirs and other water supply facilities, such as canals, pipelines outside of channel corridors, groundwater percolation ponds, and instream summer dams;
 - e. installation of new or major modification of fish ladders;
 - f. maintenance work conducted on private property by owners or other agencies;
 - g. maintenance work performed by other agencies;
 - h. maintenance work for large construction projects or capital improvement projects (CIPs);
 - i. area-wide, intensive maintenance, or rehabilitation of large [>0.05 acre] areas, implemented as part of CIPs that have persisted beyond the establishment period (period of time until the plantings are self-sustaining) ;and
 - j. emergency activities and procedures. A situation is considered an “emergency” if it is a sudden, unexpected occurrence involving a clear and imminent danger that demands immediate action to prevent or mitigate loss of or damage to life, health, property, or essential public services. Emergency includes such occurrences as fire, flood, earthquake or other soil or geologic movements, as well as such occurrences as riot, accident or sabotage (Cal. Pub. Res. Code § 21060.3).
21. The District implements stream maintenance activities in an integrated stream management approach that involves protecting and enhancing existing instream resources while providing for the flood conveyance capacity in the stream channels. The SMP Manual describes planning and impact avoidance; project planning; resource evaluations; Maintenance Guidelines (MGs); and avoidance and minimization measures to prioritize work activities, avoid conducting any unnecessary maintenance, and avoid impacts during maintenance activities. When maintenance is required, BMPs are implemented onsite to avoid and minimize impacts.
22. The SMP Manual describes the District’s Maintenance Guidelines (MGs) and its integration into the SMP. The purpose of MGs is to provide a quantitative approach to identifying deficiencies that would trigger maintenance actions under the SMP. MGs establish quantifiable objectives that define the corrective, routine maintenance necessary to maintain flow conveyance capacity while minimizing impacts to channels and natural resources. MGs will be developed for channels designated as Modified or Modified with Ecological Value, and in frequently maintained unmodified channels as specified in the SMP Manual.
- a. The MGs describe maintenance thresholds and criteria (e.g. vegetation, sediment, and roughness objectives, etc.) developed from field surveys and engineering-based analysis to assess channels conditions and maintain flow conveyance for flood control capacity for each channel while protecting the natural resources of the area. MGs are prepared within the context of protecting natural resources and beneficial uses. The District currently has MGs developed for some of the channels in the SMP Program area. The District will update all existing MGs and develop MGs for the remaining channels in the SMP Program area as described in Chapter 3 of the SMP Manual and Provision Nos. 69-71 of this Order.
23. Compensatory mitigation is one element of a comprehensive impact avoidance, minimization, and mitigation approach. Unavoidable impacts require compensatory mitigation. The District will provide appropriate and effective mitigation as described in the SMP Manual.

24. The District has a mitigation deficit associated with SMP, activities conducted during the 2002-2013 period (SMP-1) under Order R2-2002-0028. The District shall complete mitigation as required in Provision No. 49 of this Order. Order No. R2-2002-0028 required the District to complete a total of 10.0 mitigation acres for the Freshwater Wetland Creation/Restoration mitigation component and 81.0 mitigation credits for the Stream and Watershed Protection mitigation component. The District has fulfilled the mitigation requirements for the Tidal Wetland Restoration mitigation component, the Giant Reed Control mitigation component, and the Invasive Smooth Cordgrass mitigation component. The District has completed 7.0 mitigation acres for the Freshwater Wetland Creation/Restoration mitigation component and 10.0 mitigation credits for the Stream and Watershed Protection mitigation component. The District is in the midst of several land acquisitions, including finalizing associated conservation easements and long-term management plans that will fulfill another 59.0 mitigation acre credits. The District shall complete the remaining mitigation requirements of 3.0 mitigation acres for the Freshwater Wetland Creation/Restoration mitigation component and 12.0 mitigation credits for the Stream and Watershed Protection mitigation component by December 31, 2014 including finalizing land acquisition(s) and associated conservation easements and long-term management plans.
25. Submittal of an annual Notice of Proposed Work (NPW) and Annual Summary Reports (ASRs) will allow the Regional Water Board to appropriately oversee activities conducted pursuant to this certification and WDRs. The NPWs will describe the channel maintenance activities to be conducted during the upcoming maintenance season and mitigation projects proposed to compensate for any unavoidable adverse impacts, as outlined in the SMP Manual. The ASRs will describe maintenance activities conducted during the previous maintenance season; mitigation implemented; and monitoring results associated with bank stabilization sites, sediment characterization (per Attachment G – Sediment Characterization Plan), and water quality monitoring (per Attachment H – Water Quality Monitoring Plan). The ASRs will include any lessons learned and recommendations that may result in revisions to the SMP Manual. Annual mitigation monitoring reports may be submitted separately or as attachments to ASRs. In addition to these reports, the District and Regional Water Board staff will meet annually to discuss the performance of the SMP; review lessons learned from the previous maintenance season, and determine the need to improve stream maintenance techniques and BMPs.
26. California EcoAtlas: It has been determined through regional, state, and national studies that tracking of mitigation/restoration projects must be improved to better assess the performance of these projects, following monitoring periods that last several years. In addition, to effectively carry out the State's Wetlands Conservation Policy of no net loss to wetlands, the State needs to closely track both wetland losses and mitigation/restoration project success. Therefore, the District will provide Regional Water Board staff with an annual summary to submit to the California Wetlands Form to provide Project information related to impacts and mitigation/restoration measures (see Provision No. 64 of this Order). An electronic copy of the form and instructions can be downloaded at: <http://www.waterboards.ca.gov/sanfranciscobay/certs.shtml>. Project information concerning impacts and mitigation/restoration will be made available at the web link: <http://ecoatlas.org>.

Regulatory Framework

27. The Basin Plan is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes implementation plans to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law and U.S. EPA, where required.
28. The Basin Plan lists the following existing and potential beneficial uses for surfaces waters within the District's Program area:
 - a. Agricultural Supply (AGR)
 - b. Freshwater Replenishment (FRESH)
 - c. Groundwater Recharge (GWR)
 - d. Municipal and Domestic Supply (MUN)
 - e. Preservation of Rare and Endangered Species (RARE)
 - f. Navigation (NAV)
 - g. Water Contact Recreation (REC1)
 - h. Non-contact Water Recreation (REC2)
 - i. Warm Freshwater Habitat (WARM)
 - j. Cold Freshwater Habitat (COLD)
 - k. Wildlife Habitat (WILD)
 - l. Estuarine Habitat (EST)
 - m. Fish Migration (MIGR) Fish Spawning (SPWN)
29. SMP activities could temporarily impact beneficial uses of waters of the State for:
 - a. Cold Freshwater Habitat (COLD)
 - b. Fish Migration (MIGR)
 - c. Preservation of Rare and Endangered Species (RARE)
 - d. Non-contract Water Recreation (REC2)
 - e. Fish Spawning (SPWN)
 - f. Warm Freshwater Habitat (WARM)
 - g. Wildlife Habitat (WILD)
30. The Guadalupe River and San Francisco Bay are identified as impaired by mercury on the CWA section 303(d) list. The Total Maximum Daily Loads (TMDLs) for the Guadalupe River and the San Francisco Bay is 0.2 milligram mercury per kilogram suspended sediment dry weight annual median (0.2 mg/kg dry wt., annual median).

31. San Francisco Bay is identified as impaired by polychlorinated byphenyls (PCBs) on the CWA section 303(d) list. The TMDLs is an average fish issue concentration of 10 mg total PCBs per kg of typically consumed fish, on a wet weight basis (10 µg/kg wet weight).
32. Urban Creeks of the Bay Area are identified as impaired by diazinon and other pesticides resulting from stormwater runoff on the CWA section 303(d) list.
 - a. The TMDLs for Pesticide-related Toxicity is expressed in terms of acute toxic units (TUa) and chronic toxic units (TUc). The targets are as follows: pesticide-related acute and chronic toxicity in urban creek water and sediment, as determined through standard toxicity tests, shall not exceed 1.0 TUa or 1.0 TUc, where $TUa = 100/NOAEC$ and $TUc = 100/NOEC$. “NOAEC” refers to the “no observed adverse effect concentration,” which is the highest tested concentration of a sample that causes no observable effect (i.e., mortality) to exposed organisms during an acute toxicity test. For purposes of this strategy, “NOEC” refers to the “no observable effect concentration,” which is the highest tested concentration of a sample that causes no observable effect to exposed organism during a chronic toxicity test. NOAEC and NOEC are both expressed as the percentage of a sample in a test container (e.g., an undiluted sample has a concentration of 100%).
 - b. The TMDLs for diazinon concentration in urban creeks shall not exceed 100 ng/l as a one-hour average. The target addresses both acute and chronic diazinon-related toxicity.
33. The California Environmental Quality Act (CEQA) requires all discretionary projects approved by public agencies to be in full compliance with CEQA, and requires a lead agency (in this case, the District) to prepare an appropriate environmental document for such projects. The District prepared and certified the Stream Maintenance Program Update Final Subsequent Environmental Impact Report (FSEIR) on February 14, 2012, State Clearinghouse No. 2000 102 055. The FSEIR found significant impacts that are under the purview and jurisdiction of the Regional Water Board: 1) aquatic species including habitat for special status species; 2) water quality; and 3) hazardous materials. The FSEIR also found that the mitigation measures would mitigate all of these impacts to less than significant levels. The mitigation measures specified in the FSEIR include compensatory mitigation to mitigate for any temporary disturbance or loss of aquatic habitat and specific BMPs to avoid and minimize maintenance activity-related impacts.
34. The Regional Water Board, as a responsible agency under CEQA, has considered the FSEIR, and finds that the significant environmental impacts of the proposed activities, which are within the Regional Water Board’s purview and jurisdiction, have been identified and mitigated to less than significant levels. The SMP Manual adopted with this Order contains further avoidance, minimization, and mitigation measures in addition to those identified in the FSEIR, such as developing Maintenance Guidelines as explained in more detail under Provision Nos. 69-71 of this Order. The additional monitoring requirements contained in this Order will provide information regarding the effectiveness of the required mitigation measures. In adopting this Order, the Regional Water Board has further eliminated or substantially lessened the water quality effects identified in the FSEIR, and therefore approves the SMP. Overall, the Regional Water Board finds that the SMP will enhance and protect natural resources and the environment.

35. The Regional Water Board provided public notice of the application pursuant to title 23, California Code of Regulations, section 3858 on February 10, 2014, and posted information describing the project on the Regional Water Board's website. The Regional Water Board has notified the District and interested parties of its intent to issue WDRs and Water Quality Certification for the activities proposed in the SMP.
36. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this Order.
37. The federal Clean Water Act (33 U.S.C. §§ 1251-1387) was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (33 U.S.C. § 1251(a).) Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit which may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the project will be in compliance with specified provisions of the Clean Water Act, including water quality standards and implementation plans promulgated pursuant to section 303 of the Clean Water Act (33 U.S.C. § 1313). Clean Water Act section 401 directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the Clean Water Act and with any other appropriate requirement of state law. Section 401 further provides that state certification conditions shall become conditions of any federal license or permit for the project. This discharge is also regulated under Water Code section 13263 and California Code of Regulations, title 23.

IT IS HEREBY ORDERED that the District shall comply with CWA sections 301, 302, 303, 306, 307, and 401, and with applicable provisions of State law. The District, its agents, successors, and assigns shall comply with the following terms and conditions in carrying out the Stream Maintenance Program:

A. *Discharge Prohibitions*

1. The direct or indirect discharge of wastes, as defined in Water Code, section 13050(d), within or outside of the active project site, to surface waters or surface water drainage courses is prohibited, except as authorized in this Order.
2. The District shall not cause degradation of any water supply.
3. Excavated sediment shall remain within designated disposal areas at all times. The designated disposal areas are: a) any offsite, authorized temporary or permanent location maintained in compliance with federal and State regulations, b) any onsite, authorized temporary or permanent location, provided material shall be isolated and contained to prevent impacts to waters of the State and their beneficial uses, or c) a permitted landfill.
4. The discharge of sediment and runoff or decant water from excavated materials disposed of at any temporary or permanent disposal site, to waters of the State, is prohibited.
5. Maintenance activities subject to these requirements shall not cause a condition of pollution or nuisance as defined in Water Code section 13050.
6. Groundwater beneficial uses shall not be degraded as a result of the SMP.

7. No debris, soil, silt, sand, cement, concrete, or washings thereof, or other construction related materials or wastes, oil or petroleum products or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the State. When operations are completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be washed into waters of the State.

B. Discharge Specifications

1. Appropriate soil erosion control measures as specified in the SMP Manual and BMPs Listings (Attachment F of the SMP Manual) shall be undertaken and maintained to prevent discharge of sediment to surface waters or surface water drainage courses.
2. Excavated material shall be fully contained to prevent any wind transport, surface runoff or erosion into waters of the State, per the BMPs Listings for temporary storage.
3. In accordance with Water Code section 13260, the District shall file with the Regional Water Board a report of any material change in the character, location, or quantity of this waste discharge that is beyond the scope of this Order. Any proposed material change in the discharge requires approval by the Regional Water Board after a hearing.
4. The District shall notify the Regional Water Board promptly by telephone or email, and in no case more than 24 hours after, if an adverse condition occurs as a result of a discharge. An adverse condition includes, but is not limited to, a violation or threatened violation of the conditions of this Order, spill of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance. A written notification of the adverse condition shall be submitted to the Regional Water Board within five days of occurrence. The written notification shall identify the adverse condition, describe the actions taken or planned to remedy the condition, and specify a timetable, subject to approval by the Regional Water Board's Executive Officer, for the remedial actions that follow any initial response to the adverse condition.

C. Receiving Water Limitations

1. SMP activities shall not cause the following conditions to exist in waters of the State at any place:
 - a. Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
 - b. Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or otherwise adversely affect beneficial uses.
 - c. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth cause nuisance or adversely affect beneficial uses.

- d. Waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
 - e. The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.
2. SMP activities shall not cause the following limits to be exceeded in waters of the State at any point:
- a. Dissolved Oxygen: 5.0 (WARM) or 7.0 (COLD) mg/l minimum. When natural factors cause lesser concentrations, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
 - b. Dissolved Sulfide: All water shall be free from dissolved sulfide concentrations above natural background levels.
 - c. pH: A variation of natural ambient pH by more than 0.5 pH units.
 - d. Toxicity: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
 - e. Un-ionized Ammonia: 0.025 mg/L as N, annual median; and 0.16 mg/L as N, maximum.
 - f. Salinity: The project shall not increase total dissolved solids or salinity to adversely affect beneficial uses.
 - g. Turbidity: Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.
3. SMP activities shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted there under. If more stringent applicable water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board may revise and modify this Order in accordance with such more stringent standards.

D. Provisions

Vegetation Management

1. The District shall follow the vegetation management guidelines described in Chapters 3 and 4 of the SMP Manual and this Order.

2. For all large woody debris activities, the District shall follow the guidelines described in Chapters 3 and 4, and Attachment E of the SMP.
3. All vegetation management activities that could result in the runoff of pesticides, which are not registered for aquatic use, into waters of the State, are prohibited.
4. Vegetation management activities that could result in the destabilization of channel banks or increase sediment input into waters of the State that is not consistent with the SMP Manual are prohibited.
5. Vegetation management and replanting shall be conducted using a strategy which maximizes the functions of the vegetation to shade the active channel, stabilize active channel banks, and provide instream habitat.
6. Vegetation management activities shall not adversely impact the riparian zone, shade, canopy coverage, or habitat. Overall vegetation management activities consistent with the SMP Manual including implementation of BMPs and compensatory mitigation, as described in the SMP Manual, shall improve beneficial uses.

Pesticides and Herbicides

7. The District shall continue coverage under the Statewide General National Pollutant Discharge Elimination System Permit for the Discharge of Aquatic Pesticides for Aquatic Weed Control in Waters of the United States General Permit No. CAG990005.
8. The District shall comply with the Integrated Pest Management (IPM) Policy or Ordinance pursuant to Sections C.9.a – C.9.g of the California Regional Water Quality Control Board San Francisco Bay Regional Municipal Regional Stormwater NPDES Permit (Order No. R2-2009-0074).

Sediment Removal

9. The District shall follow the sediment removal guidelines described in Chapters 3 and 5 of the SMP Manual and this Order.
10. In Modified and Modified with Ecological Value channel reaches, only sediment removal within the as-built design shall be allowed per the reach-specific thresholds and criteria specified in the MGs. If maintenance thresholds and criteria have not yet been developed for the reach where sediment removal will be conducted, sediment removal shall be conducted as determined in accordance with Provision No. 73 of this Order.
11. In Unmodified channels, sediment removal shall be conducted per the reach-specific thresholds and criteria specified in the MGs, if developed, or as determined in accordance with Provision No. 73 of this Order.
12. In stream features (e.g. bars and other depositional features) shall be preserved in their location unless bars or other depositional features must be removed to provide conveyance capacity. The NPWs shall include an explanation of why these features cannot be avoided and propose mitigation. During removal of bars or other depositional features, the District

shall minimize impacts and preserve habitat functions to the extent practicable to protect beneficial uses.

13. After sediment removal, the District shall grade the channel so that the transition between the existing channel both upstream and downstream is smooth and continuous between the maintained and non-maintained areas, and does not present a "wall" of sediment or other blockage that could erode or cause erosion once flows are restored.
14. After sediment removal, the District shall compact the soil to match pre-excavation conditions so that disturbed soils are not transported downstream.
15. Excavated materials, maintenance materials, and equipment shall not cover aquatic or riparian vegetation.
16. The District may temporarily stockpile excavated sediment prior to disposal or reuse, provided that appropriate State and federal regulations are met and effective BMPs are implemented to protect water quality and beneficial uses. The excavated sediment may be stockpiled onsite so that it can be loaded into trucks for offsite disposal within seven calendar days of the completion of the active work. Onsite stockpiled materials shall be fully contained to prevent any wind or water transport. The excavated sediment may also be temporarily stockpiled at an offsite location. Offsite stockpiles shall be covered and surrounded with perimeter sediment control BMPs to ensure that excavated materials remain stable. Runoff, sediment, or decant water from excavated materials shall not contact waters of the State.
17. To prevent sediment-laden water from being released back into waters of the State during transport of spoils to disposal or reuse locations, truck beds shall be lined with an impervious material (e.g., plastic), or the tailgate shall be blocked with wattles or other appropriate filtration material.
18. Sediment removed as part of maintenance activities shall be properly characterized through laboratory analytical testing, as described in Sediment Characterization Plan (Attachment G of the SMP Manual) and be hauled offsite to suitable upland disposal sites, permitted landfill, or at a reuse site in accordance with applicable State and federal regulations including applicable Provisions of this Order. Proposed disposal and reuse locations shall be submitted by District annually in the NPWs and approved by the Regional Water Board's Executive Officer. The Regional Water Board Executive Officer will approve the sediment disposal and reuse proposal and provide a notice to proceed, or indicate needed modifications, within 30 days of receipt.
19. Excavated sediment that contains mercury concentrations exceeding the screening guidelines specified in the Beneficial Reuse of Dredge Materials: Sediment Screening and Test Guidelines (May 2000) shall be disposed of in accordance with the sediment disposal proposal pursuant to Provision Nos. 18-21 of the Order. Upon completing sediment removal activities, the District shall remedy any residual sediment that contains mercury concentrations exceeding the screening guidelines in accordance with the San Francisco Bay and Guadalupe River TMDLs for mercury.

20. For SMP maintenance projects that excavate or remove between 25 and 500 cubic yards of sediment, the Regional Water Board Executive Officer will consider the District's request to waive the sediment characterization for beneficial reuse on a case-by-case basis.
- a) As part of any sediment characterization waiver request, the Regional Water Board Executive Officer requires the District to provide the following information: (1) a narrative discussion explaining the justification for waiving sediment characterization, which may include, but need not be limited to, interpretation of existing historic sediment characterization data for the project reach and/or entire stream channel; (2) project-specific information: location of the sediment removal project, stream length where sediment will be removed, and volume of sediment to be removed; and (3) sediment reuse information: location of reuse, sediment reuse purpose, foundation reuse or surface reuse, and volume of sediment to be reused.

The Regional Water Board Executive Officer will utilize the Beneficial Reuse Guidelines and existing TMDL load allocations for the stream reach in reviewing sediment characterization waiver requests.

21. The District will not be required to conduct sediment characterization for beneficial reuse of sediments from minor maintenance sediment removal project (limited to 25 cubic yards per project as defined in the SMP Manual for SMP2) activities, except for any minor maintenance sediment removal conducted within the Guadalupe River Watershed. Sediment characterization is required for reuse of any excavated sediments within the Guadalupe River Watershed due to the high concentrations of mercury found in the sediments within this watershed.
22. The discharge of any hazardous, designated or non-hazardous waste, as defined in California Code of Regulations, Title 27, shall be conducted in accordance with applicable State and federal regulations.
23. The District shall clean up, remove and relocate any wastes that are discharged in violation of this Order.
24. The District shall demonstrate compliance with all permitting and CEQA review requirements for offsite sediment disposal sites proposed for the SMP and for any alternative offsite sediment disposal sites. If requested by the Regional Water Board's Executive Officer, a delineation of existing jurisdictional waters of the State and United States at any temporary or permanent sediment disposal site, verified according to Corps' delineation standards, shall be conducted prior to the preparation for disposal and submitted for the Regional Water Board's Executive Officer's acceptance prior to the disposal of sediment.

Vegetation Management and Sediment Removal

25. For all proposed sediment removal and vegetation management, the District will follow the MGs and procedures described in Chapter 3 of the SMP Manual and Provision Nos. 69-71 of this Order to justify maintenance needs based on the analysis of channel capacity; hydraulic constrictions; and sediment, vegetation, and roughness objectives.

26. The District shall have equipment and supplies onsite (or readily available nearby) for rapid deployment in the event the District has caused or potentially may cause an exceedence of receiving water limitations specified in this Order.
27. All staging shall occur on adjacent access roads or previously disturbed areas. Soil and riprap shall be staged in areas that have been previously disturbed (e.g., service road, turn-outs). If repair activities affect the active channel, the work area shall be isolated from flowing channel segments and restored to pre-project conditions after maintenance activities are complete.

Bank Stabilization

28. The District shall follow the bank stabilization guidelines and methods described in Chapters 3 and 6 of the SMP Manual.
29. The District shall follow the Bank Stabilization Method Selection Process specified in Chapter 6 of the SMP Manual to determine the most appropriate bank stabilization method for each bank stabilization project. The use of hardscape materials shall be restricted to areas where bioengineering systems are demonstrated to be infeasible. Any changes to the bank repair methods (Attachment A – Bank Stabilization Methods) shall be proposed in the NPW, or equivalent document, and approved in writing by the Regional Water Board's Executive Officer prior to implementation. The Regional Water Board Executive Officer will approve any changes to the bank repair method(s) proposed in the NPW or equivalent document, or indicate needed modifications, within 30 days of receipt.
30. Where bank stabilization activities may result in modifications to channel cross-sections and/or profiles, the banks shall be re-contoured to match the adjacent bank slope.

Management of Animals Conflict

31. The District shall follow the guidelines for management of animal conflict described in Chapters 3 and 7 of the SMP Manual.
32. Management of animal conflict activities shall not result in direct or cumulative impacts to water quality or beneficial uses of waters of the State.

Minor Maintenance

33. The District shall follow the guidelines for minor-maintenance activities described in Chapters 3 and 8 of the SMP Manual.
34. Minor maintenance activities shall not result in direct or cumulative impacts to water quality or beneficial uses of waters of the State.
35. Minor maintenance activities shall not impact more than 0.08 acre of wetland and/or riparian habitat per activity site and 0.4 acre total per year for all activities. Minor maintenance projects resulting in impacts equal to or greater than 0.01 acre shall be included in annual reporting as described in the SMP Manual.

36. Minor sediment removal is defined as 25 cubic yards or less of material removed from any outfall, culvert, flap gate, tide gate, inlet, grade control structure, fish ladder, fish screen, bridge, or, stream flow measuring station (stream gauge) to maintain functions of such structures. Removal of sediment shall not extend farther than 100 feet in any direction from the structure.

Program and Project Limits

37. The District shall comply with the specified program and project limits for each work activity as described in Chapters 3-8 of the SMP Manual. The SMP is managed programmatically and each work activity has a range of overall program and project-specific limitations. Types of limits may include acreage, areal extent, linear feet, percentage of hardscape for bank stabilization, number of trees that can be removed, and the amount of herbicides and pesticides that can be used. These limits are provided to define maximum project, annual, and program maintenance activities until such time as MGs are established. Where MGs exist, projects will comply with the quantitative objectives as described in the MGs for the particular reach. In the event that conformance with MGs results in exceedance of the limits described in the SMP Manual, the requirements of the MGs shall be followed.
38. The District may request the Regional Water Board Executive Officer to waive the Per-Project Limits for vegetation management, sediment removal, bank stabilization, management of animal conflicts, or minor maintenance projects. Any request for a waiver of Per-Project Limits shall be submitted with the NPW and include the following:
 - a) A narrative description of the waterbody. This should include known information about the volume and duration of flood flow events; the approximate length, width, and depth of the waterbody and characteristics observed associated with the OHWM (e.g. bed and bank, wrack line or scour marks): a description of the adjacent vegetation community and a statement regarding the wetland status of the adjacent areas (i.e. wetland or non-wetland) surrounding land use; water quality; issues related to cumulative impacts in the watershed, and any other relevant information;
 - b) An analysis of the potential impacts of the proposed SMP maintenance activity on the waterbody;
 - c) An analysis of the potential for special-status plants or animals to be impacted by the proposed SMP maintenance activity;
 - d) Measures the District will take to avoid and minimize impacts to waters of the State, including alternative implementation and construction methods; and
 - e) A compensatory mitigation plan describing how the District proposes to mitigate for unavoidable impacts resulting from the proposed activity.

Best Management Practices

39. The District shall implement the Best Management Practices BMPs (Attachment F of the SMP Manual), to prevent pollutants from draining, washing, or otherwise discharging into

waters of the State during SMP maintenance activities. The BMPs may be revised, as necessary, with the written approval of the Regional Water Board's Executive Officer, provided that any revisions meet the overall criteria described in this Order and the revised SMP is as protective or more protective of water quality and beneficial uses of waters of the State.

40. The District shall visually inspect each active maintenance site, during business hours, within two business days (48 hours) prior to each qualifying rain event producing precipitation of ½ inch or more over a 24-hour period. The visual observations shall include:
 - a) All stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the District shall implement appropriate corrective actions.
 - b) All BMPs to identify whether they have been properly implemented in accordance with SMP and this Order. If needed, the discharger shall implement appropriate corrective actions.
 - c) Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.
41. The District shall visually inspect each maintenance site at least once daily during extended storm events to confirm that BMPs are effective and maintained as necessary.
42. The District shall visually inspect each maintenance site within two business days (48 hours) after each qualifying rain event to determine whether the BMPs were effective and identify the need to modify or include additional BMPs to be protective.
43. The District shall visually inspect the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more over a 24-hour period at the time of discharge, within each maintenance site. Stored or contained stormwater that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to discharge.
44. The District shall record the time, date and rain gauge reading of all qualifying rain events.
45. The District shall maintain records of all visual observations (as specified in Provision Nos. 40-44 of this Order), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.
46. The District is not required to conduct visual observations (inspections) during dangerous weather conditions such as flooding and electrical storms or outside of scheduled site business hours.
47. The District shall divert any flow around active maintenance areas consistent with Chapter 3 and Attachment F (BMPs) of the SMP Manual.
48. The District shall halt work activities and notify Regional Water Board and California Department of Fish and Wildlife staff if fish, amphibians or other aquatic organisms are exhibiting stress or death within 1,000 feet of maintenance activities or discharges. The District shall immediately assign a qualified biologist to investigate the cause of the

problem, and to determine if the cause is related to SMP activities. If so, the District shall prepare and implement an acceptable corrective action plan.

Compensatory Mitigation

49. The District has a mitigation deficit associated with SMP activities conducted during the 2002-2013 period (SMP-1) under Order R2-2002-0028, as described in Finding No. 23 of this Order. The District shall complete the remaining mitigation requirements of 3.0 mitigation acres for the Freshwater Wetland Creation/Restoration mitigation component and 12.0 mitigation credits for the Stream and Watershed Protection mitigation component by December 31, 2014 including finalizing land acquisition(s) and associated conservation easements and long-term management plans. If the District is not able to complete the remaining mitigation requirements by December 31, 2014, the District shall submit to the Regional Water Board's Executive Officer for written approval by November 1, 2014, an alternative mitigation proposal(s) that explains the District's plan and timeline to complete the remaining mitigation requirements.
50. Mitigation for impacts associated with in-stream activities conducted during the 2002-2013 period (SMP-1), where work was actually performed, has been provided through the compensatory mitigation program under SMP-1. These areas are identified as the Previously Mitigated Areas (PMAs). No additional mitigation is required under this Order for SMP activities conducted during the 2014-2023 period (SMP-2) for maintenance activities that are of the same type as those previously mitigated under SMP-1 that are conducted in the channels shown in Chapter 10 of the SMP Manual. Canals were included in the SMP-1 Previously Mitigated Areas. However, these facilities are not included in SMP-2. Maintenance activities and reaches that were identified and permitted in 2002 but not conducted during the 2002-2013 period are not included in the PMAs. For such maintenance activities and reaches, maintenance activities conducted under SMP-2 will be mitigated under SMP-2 as described below and in Section 10.4 of the SMP Manual.
51. The District shall implement the mitigation program described in Chapter 10 of the SMP Manual to mitigate for impacts to water quality and beneficial uses from SMP maintenance activities. Mitigation will be provided for SMP maintenance activities under SMP-2 maintenance activities in new work areas, defined as the following: (1) areas not covered by SMP-1 mitigation; (2) areas where maintenance in SMP-1 channels was previously identified, but where work never occurred; and (3) areas where maintenance activities were conducted under SMP-1 but the maintenance activities conducted under SMP-2 is of a different type than that conducted under SMP-1. The mitigation types, methods, and ratios described in Chapter 10 of the SMP Manual, and summarized below, will be applied to address SMP-2 mitigation requirements.
 - a. On-site and Off-site Ecologic Services Based Mitigation: On-site and Off-site Ecological Services Based Mitigation consists of replacing or enhancing ecological services at the impact site or nearby. Ecological services may include the removal of non-native invasive species to facilitate growth of native species; restoration of native plant communities following maintenance activities; or replacement or reconstruction of habitat features following maintenance activities. Ecological

services mitigation shall be conducted using the mitigation ratios summarized in Chapter 10 of the SMP Manual.

- i. **Invasive Plant Management Program (IPMP):** Eliminate or significantly reduce populations of invasive plant species by removing or controlling the growth of invasive plants within the SMP Program area, as described in Attachment D (Invasive Plant Management Program) of the SMP Manual.
 - ii. **Riparian Restoration Planting Program:** Restore and enhance riparian habitat along the channel banks and floodplain. Restoration will be accomplished primarily via the re-vegetation of creek banks and floodplains within the SMP area where the existing physical conditions (i.e., topography, hydrology, and soils) are suitable to establish native-dominated riparian habitat.
 - iii. **Tree and Shrub Replacement:** Removal of trees 6-12" dbh will be mitigated through tree replacement and planting based on a counting and appraisal of the removed trees. Attachment C (Tree Scoring for Removal of Trees and Shrubs 6-12" DBH - April, 2011) provides a tree appraisal and evaluation protocol to determine how replacement tree planting will occur. Removal of trees less than 6" dbh, and not within a PMA, will be mitigated through the invasive plant management and riparian planting programs described above that address general impacts to wetlands, aquatic, and riparian habitat.
- b. **Bank Stabilization:** Bank stabilization mitigation will depend on the bank stabilization method and channel type. The District will conduct bank stabilization mitigation activities along the entire bank slope to provide enhancement and restoration via On-site and Off-site Ecologic Services Based Mitigation as described above and at the mitigation ratios summarized in Chapter 10 of the SMP Manual. The District may accrue mitigation credit for implementing mitigation that exceeds the required mitigation ratio on the basis of areal extent, habitat function, and/or natural resources enhanced or restored. The District may apply this mitigation credit to another specifically identified bank stabilization project within the same watershed, as approved by the Regional Water Board Executive Officer on a case-by-case basis. Mitigation credits and their application to other bank stabilization sites will be identified and tracked in NPWs and ASRs as described in Chapters 11 and 12 of the SMP Manual.
- c. **Land Acquisition Based Mitigation:** Land Acquisition Based Mitigation under SMP-2 is separate from and independent of the land acquisition requirements associated with SMP-1. Land will be acquired and protected in perpetuity to address repeated impacts and longer term mitigation needs, and may include in-kind or out-of-kind preservation, enhancement, restoration, or establishment as indicated in Chapter 10 of the SMP Manual. The District may also collaborate with other landowners to fund, develop, monitor, and ensure success of aquatic resource preservation, enhancement, restoration, or establishment projects on non-District owned lands. Mitigation ratios will vary depending on the type of mitigation activity conducted in the acquired land and will be included in the NPW for review and approval by the Regional Water Board Executive Officer. The District will develop a long-term management plan, acceptable to the Regional Water Board Executive Officer, for all acquired lands.

The District will also provide protection in perpetuity for non-District owned lands acquired as mitigation for SMP-2 activities through a conservation easement or other instrument acceptable to the Regional Water Board Executive Officer.

- d. **Species-Targeted Habitat Mitigation.** Mitigation for impacts on sensitive habitats and resources within waters of the State will be provided through Species-Targeted Habitat Mitigation. The following mitigation actions may be performed and integrated to compensate for effects on multiple sensitive habitats and resources:
 - i. **Mitigation for Impacts to Anadromous Salmonids:** When mitigation for SMP impacts to waters of the State and riparian habitats is conducted along creeks supporting anadromous salmonids (i.e., steelhead and Chinook salmon), the District will design the mitigation to benefit these species. Mitigation for the loss of spawning gravels and instream complexity features will be determined using maintenance site assessments as described in the SMP Manual.
 1. **Gravel Augmentation:** The District will implement gravel augmentation as described in Chapters 10-12 and Attachment I of the SMP Manual. The District will recommend a list of sites for review and approval by the regulatory permitting agencies in the NPW. Mitigation will be provided by placement of coarse substrate at identified and approved sites.
 2. **Instream Complexity Mitigation:** The District will implement instream complexity mitigation as described in Chapters 10-12 of the SMP Manual. The District will recommend a list of sites for review and approval by the regulatory permitting agencies in the NPW. Instream complexity features impacted by bank stabilization and sediment removal activities will be replaced on-site where conditions allow. Where on-site conditions do not permit replacement of instream complexity features, the District will install mitigation features at a site or sites selected from the approved list.
 - ii. **Large Woody Debris (LWD) Mitigation:** The District will implement LWD mitigation as described in chapters 10-12 and Attachment E of the SMP Manual. LWD includes downed logs, trees, and other woody debris positioned along the streambed. The District will assess site-specific LWD conditions to determine whether LWD features will be (1) retained; (2) modified; (3) removed and replaced; or (4) removed and not replaced. The District will provide LWD mitigation for all LWD features in anadromous salmonid channels that are removed and not replaced (Tier 4 above) to compensate for the important ecologic, geomorphic, and hydraulic functions the LWD provides in the stream channel.
 - iii. **Mitigation for Impacts to Tidal Wetland/Aquatic Species:** The District restored the “Island Ponds” (Ponds A19, A20, and A21), located between Coyote Slough and Mud Slough near Alviso, to tidal action to mitigate for impacts to tidal habitats and tidal marsh species anticipated from SMP-1 activities. By restoring these ponds, the District obtained credit for 30 acres of tidal habitat that will be suitable, as the habitat matures, as mitigation for impacts to tidal marsh species. Nine acres of tidal habitat mitigation credit is available as

mitigation and will be used by the District for impacts to tidal wetlands and aquatic habitats, as well as tidal marsh species that occur under SMP-2. The District will work with the USACE to develop a mitigation banking structure, as described in Chapter 10 of the SMP Manual, to apply these mitigation credits to impacts resulting from SMP-2 activities.

- e. The District may develop a single-user umbrella mitigation bank in coordination with the U.S. Army Corps of Engineers and Regional Water Board as described in Chapter 10 of the SMP Manual. The single user umbrella bank will allow for establishment of multiple mitigation sites over time and establish the site protection requirements set forth in a formal banking agreement between the Corps, Regional Water Board, and the District, and possibly the California Department of Fish and Wildlife.
 - f. This single-user mitigation bank will afford a structure with which to provide "consolidated" or "programmatic" mitigation. This bank will be used for impacts that cannot be addressed, or are not appropriately addressed, through the ecologic services based mitigation. The single-user mitigation bank would incorporate any new land acquisition based mitigation, the potential rollover of excess mitigation from SMP-1, other off-site mitigation for bank stabilization projects, and mitigation for other permanent or repeat impacts not accommodated in the other mitigation approaches. This umbrella banking structure would not apply to SMP-1 mitigation that was already accepted and permitted.
52. The SMP Manual includes mitigation ratios (Chapter 10 and Attachment D) associated with each maintenance activity (e.g. sediment removal, vegetation management, tree removal, etc.) and each mitigation type (e.g. Invasive Plant Management Program, Land Acquisition Based Mitigation, Instream Complexity, etc.). Due to the variation in maintenance activity impacts and mitigation types associated with Land Acquisition Based Mitigation and Instream Complexity (gravel augmentation and large woody debris replacement), the District shall propose mitigation for review and approval by the Regional Water Board Executive Officer. If the Regional Water Board Executive Officer determines that the District has not proposed adequate mitigation for the potential impact to waters of the State, additional or alternative mitigation may be required.
53. To the maximum extent practicable, the District shall implement compensatory mitigation projects in advance of or concurrent with the activity causing the permitted impacts. This is particularly true when off-site mitigation is pursued. Due to the nature of on-site mitigation, it is recognized that on-site mitigation activities will likely occur during or following the maintenance activities.
54. The District shall submit proposed mitigation as part of the NPWs to the Regional Water Board's Executive Officer for approval. In the event that a proposed mitigation activity is denied by the Regional Water Board's Executive Officer, an alternative mitigation proposal shall be submitted to the Regional Water Board's Executive Officer for written approval within 30 days. The Regional Water Board Executive Officer will approve the alternative mitigation proposal and provide a notice to proceed, or indicate needed modifications to the NPW, within 30 days of receipt. If the District becomes aware that an approved mitigation proposal is no longer viable, an alternative mitigation proposal shall

be submitted to the Regional Water Board Executive Officer for written approval within 90 days. The District shall implement the alternative mitigation proposal that the Regional Water Board's Executive Officer has approved.

55. If any of the mitigation sites have not developed in accordance with the performance criteria as described in Chapters 10 and 11 of the SMP Manual by year five (5) after completion of mitigation construction, the District shall prepare and implement a revised mitigation plan acceptable to the Regional Water Board's Executive Officer, addressing corrective action, outlining additional monitoring, or proposing new mitigation.
56. Throughout the course of the SMP, the District shall continue to look for in-kind mitigation opportunities within the District's jurisdiction to offset impacts resulting from maintenance activities.
57. Annual minor maintenance activities that impact greater than 0.01 acre of wetland or riparian habitat shall be mitigated per the mitigation program described in Chapter 10 of the SMP Manual.

Monitoring and Reporting

58. The District shall monitor all active maintenance project sites and mitigation project sites in accordance with Chapter 11 of the SMP Manual.
59. Any minor changes to any of the monitoring requirements or success criteria in Chapter 11 of the SMP Manual shall meet the overall criteria and function of the methods described in this Order and the SMP Manual and shall be approved in writing by the Regional Water Board's Executive Officer.
60. All monitoring reports shall be prepared and submitted to the Regional Water Board's Executive Officer for review and approval, in accordance with Chapters 11 and 12 of the SMP Manual.
61. The District shall submit an NPW, acceptable to the Regional Water Board Executive Officer, by April 15 of each year. The District shall submit NPWs according to the process established in the SMP Manual and this Order. Annual maintenance plans and NPWs shall be developed by an interdisciplinary team with expertise in hydraulic engineering, horticulture, and biology. The team's expertise shall be documented in the NPWs. The NPW shall include the information as specified in Chapter 12 of the SMP Manual. The Regional Water Board Executive Officer will approve the NPWs for that year's projects and provide a notice to proceed, or indicate needed modifications to the NPW, within 30 days of receipt. The District may also submit a second NPW (second submittal) that identifies additional maintenance projects that become necessary due to late season rain events. Second submittals will contain the same type of information as required in the NPW. The Regional Water Board Executive Officer will approve the second submittals and provide a notice to proceed, or indicate needed modifications to the NPW, within 15 days of receipt.
 - a) Where vegetation management and/or sediment removal is necessary but MGs do not exist, the District will develop and submit the following information in the NPW:

Santa Clara Valley Water District
Stream Maintenance Program
Waste Discharge Requirements and Water Quality Certification
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- i. Classification of the channel reach as Modified, Modified with Ecological Value, or Unmodified;
 - ii. Statement as to whether the channel reach is part of a Previously Mitigated Area (PMA), and if so, maintenance activities covered under the PMA;
 - iii. For modified and modified with ecological value channel reaches, the design flood return period for each reach (e.g., the one-hundred-year flood) and the design flow rate;
 - iv. For unmodified channel reaches, a description of the District's best estimate of the natural condition of the reach, and the assumptions to develop it.
 - v. Roughness and sediment objectives for the proposed maintenance, including the assumptions and rationale used to develop the objectives;
 - vi. Vegetation objectives for the proposed maintenance shall describe the desired vegetation condition (e.g., vegetation type, density, etc.) that optimizes environmental values while still providing the design flood flow conveyance.
 - vii. Determination of any increase in water surface elevation compared to the as-built condition and the cause of this increase, including whether the work site is a hydraulic constriction, or is subject to backwater effects caused by a downstream constriction, using available field data and/or a hydraulic model, if available;
 - viii. Evaluation of alternative approaches that could achieve the same result (e.g., removing a hydraulic constriction, removing sediment instead of in-channel vegetation, etc.);
 - ix. General channel reach dimensions;
 - x. Anticipated frequency of maintenance; and
 - xi. For all sediment removal and bank stabilization activities proposed in anadromous streams, regardless of channel type and whether MGs exist or not, provide an evaluation of alternative approaches (e.g. removing a hydraulic constriction, removing vegetation instead of sediment, considering an alternative bank stabilization method, etc.) that could achieve the same result while further minimizing or avoiding impacts to the sensitive habitat.
62. After May 1, and before June 15 of each year, the District shall organize a meeting and a field tour with the Regional Water Board along with other regulatory agencies to discuss the projects scheduled for that year.
63. The District shall submit ASRs by January 31 according to the process established in Chapter 12 of the SMP Manual.
64. California Wetlands Portal: The District shall provide Regional Water Board staff with the information necessary to use the California Wetlands Form to provide an annual summary of SMP projects reported in the PCRs. Regional Water Board staff will complete the standard California Wetlands form using the information provided in the PCRs. The District shall electronically submit the completed standard form and map(s) showing the locations and boundaries of all SMP projects to habitatdata@waterboards.ca.gov.

65. The District shall implement the Sediment Characterization Plan for the Santa Clara Valley Water District Multi-Year Stream Maintenance Program - San Francisco Region (Sediment Plan), Attachment G of the SMP Manual. The Sediment Plan may be updated and improved with the written approval of the Regional Water Board's Executive Officer provided that any amendments meet the overall criteria and function of the methods described in this Order and the SMP.
66. The District shall implement the Water Quality Monitoring Plan for the Santa Clara Valley Water District Multi-Year Stream Maintenance Program - San Francisco Region (Water Quality Plan), Attachment H of the SMP Manual.
67. After each maintenance season, the District and Regional Water Board staff shall meet in February or March to discuss the performance of the SMP, review lessons learned from the completed construction season, and determine the need to implement improved channel maintenance techniques and BMPs. Since project specific problems will already be included in the ASRs, lessons learned meetings will only occur if large scale problems arise that need to be discussed as deemed necessary by the District or the Regional Water Board.
68. After four years of SMP implementation, the District and Water Board will review the SMP to evaluate its overall effectiveness. The Regional Water Board will consider issuing Water Quality Certification and WDRs for an additional five years. The review will include an assessment of maintenance activities conducted, BMPs, adequacy of the SMP mitigation program, data management, adaptive updates and SMP Manual revisions, and overall program coordination and communication. The SMP Manual, the Water Quality Certification, and the WDRs may be revised or updated based on this review.

Quantitative Assessments

69. The District shall adhere to the guidelines described in Chapter 3 (Maintenance Planning and Impact Avoidance) of the SMP Manual, including implementing MGs to evaluate channel conditions and determine the need for maintenance. The District shall consider the natural function of the system, watershed processes, sensitive habitats, and local physical constraints in assessing how, where, and when routine maintenance activities should occur. The District shall identify and implement solutions to minimize the on-going need for maintenance activities.
70. The District shall modify the MGs, as described in Chapter 3 of the SMP Manual, to incorporate numeric maintenance guidelines and thresholds to meet District goals and objectives while minimizing impacts to channels and natural resources. These MGs shall be developed according to the workplan description and implementation schedule described in Provision No. 71.
71. The District shall develop a workplan and implementation schedule for developing new and updated MGs each year, as described in Chapter 3 of the SMP Manual. MGs shall describe general stream functions and characteristics, high flow capacity objectives and estimates of flood stage-discharge relationships for creek reaches, so that quantifiable information will inform when maintenance is needed to provide for flood protection. The

workplan shall be submitted to the Regional Water Board within 60 days following adoption of this Order. The workplan and any modifications shall be acceptable to the Regional Water Board Executive Officer. The workplan shall include a 10-year implementation schedule that addresses all channels listed in Chapter 3 (List of Facilities for MG Development (2014-2023)) of the SMP Manual. Any changes to the workplan must be approved in writing by the Regional Water Board Executive Officer. All existing MGs will be updated, and new MGs developed for channels without existing MGs, using the information described in Chapter 3.6 of the SMP Manual. The District will prioritize MGs for update or development based on the type of maintenance, associated impacts, and the volume and frequency of work likely to occur in the each reach. All existing MGs will be updated and new MGs, for channels without existing MGs, will be developed using the information described in Chapter 3.6 of the SMP Manual. Prioritization of developing or updating MGs will be based on the type of maintenance, associated impacts, and the volume and frequency of work.

72. Each successive Notice of Proposed Work during the permit term shall contain a higher percentage of work (e.g. proposed sediment removal, bank stabilization, and vegetation management) that is located within reaches where new or updated MGs have been developed.
73. For routine sediment removal or vegetation management work being performed in channels without updated or new MGs, the District will provide analytical documentation for work line items in the NPW. Analytical documentation shall include the information listed in Section 3.6 of the SMP Manual:
74. The following activities are exempt from annual notification requirements and may occur any time at the discretion of the District and consistent with the SMP Manual: (1) non-instream vegetation: (a) routine pruning – overhanging growth (of roadways and fence lines) and in PMAs, and (b) pruning of vegetation that is expected to result in the removal of less than 0.01 acres (436 sq. ft.) of riparian vegetation per project; (2) corrective pruning; (3) coppicing; (4) flaming; (5) grazing; (6) mowing, unless it is in sensitive habitats such as wetlands or woody riparian vegetation or there are potential impacts to special-status species; and (7) herbicide spraying on maintenance roads.

Fees

75. This Order combines WDRs and Water Quality Certification provisions. The annual fee shall reflect this, and consist of the following:

The fee amount for the WDRs portion shall be in accordance with the current fee schedule, per California Code of Regulations, section 2200(a), based on the discharge's Threat to Water Quality and Complexity rating of the Discharge to Land or Surface Waters, plus applicable surcharge(s). The Threat and Complexity rating shall be rated as 3B, and shall remain at this level throughout the period of this Order. After the initial year, this portion of the fee shall be billed annually to the District. The fee payment shall indicate the Order number, WDID number, and the applicable season.

Records Provisions

76. The District shall maintain a data management system to monitor stream maintenance activities, natural resources in the SMP maintenance jurisdiction, permitting requirements, and mitigation efforts, consistent with Chapter 12 of the SMP Manual and this Order.
77. The Regional Water Board's Executive Officer may request that data be provided to the Regional Water Board at times outside of the reporting requirements specified in this Order. Adequate time will be provided for the data request.
78. The District shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board's Executive Officer at any time, but not retroactively for greater than five years.
79. The District shall submit electronic versions of any submitted reports or documents.

General Provisions

80. All provisions in this Order apply to all channels and activities identified in the SMP Manual.
81. The following activities are not included in the SMP Manual and, therefore, are not covered in this Order: capital improvement projects; maintenance work that would increase the flow conveyance or water supply capacity of facility beyond the designed channel capacity (as-built design); maintenance work in channel reaches that are above 1,000-foot elevation level; maintenance work for dams, reservoirs and other water supply facilities, such as canals, pipelines outside of channel corridors, groundwater percolation ponds, and instream summer dams; installation of new or major modification of fish ladders; maintenance work conducted on private property by owners or other agencies; maintenance work performed by other agencies; area-wide intensive maintenance, or rehabilitation of large [>0.05 acre] areas installed as part of a capital improvement project that have persisted beyond the establishment period (period of time until the planting are self-sustaining); and emergency activities and procedures. A situation is considered an "emergency" if it is a sudden, unexpected occurrence involving a clear and imminent danger that demands immediate action to prevent or mitigate loss of or damage to life, health, property, or essential public services. Emergency includes such occurrences as fire, flood, earthquake or other soil or geologic movements, as well as such occurrences as riot, accident or sabotage (Pub. Res. Code § 21060.3).
82. All work performed within waters of the State shall be completed in a manner that minimizes impacts to beneficial uses and habitat; measures shall be employed to minimize disturbances that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation;

83. The District shall comply with all the Prohibitions, Discharge Specifications, Receiving Water Limitations, and Provisions of this Order immediately upon adoption of the Order or as provided in the Order.
84. The District shall comply with all necessary approvals or permits for the SMP and its mitigation projects from applicable regulatory agencies, including, but not limited to, the Regional Water Board, California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (Corps), U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and local agencies. The District shall submit copies of such approvals or permits to the Regional Water Board’s Executive Officer prior to SMP implementation.
85. This Order does not allow for the take, or incidental take, of any special status species. The District shall use the appropriate protocols, as approved by the CDFG, and USFWS, to ensure that Project activities do not impact the Beneficial Use of the Preservation of Rare and Endangered Species.
86. The District shall implement the SMP in accordance with the conditions described in the SMP Manual and all the associated attachments, and the findings herein, and shall comply with all applicable water quality standards. The SMP Manual and associated attachments are considered a “living document,” which allows for minor updates and revisions as maintenance techniques and methods to be more protective of the environment to improve the District’s stream maintenance program.
87. The District shall conduct SMP maintenance work during the dry season or low-flow season, June 15 – October 15, as shown in the work windows below. Depending on channel conditions (i.e. dry channel conditions) and whether the channel supports anadromous fish, The District may conduct limited SMP maintenance work activities per the work windows below.

In-channel Work Window for creeks supporting sensitive species (creeks supporting anadromous salmonids, and in San Francisco Bay tidal areas, green sturgeon and longfin smelt)

Work Activity	June 15 – Oct 15	Oct 15 – Oct 31 No work once significant rainfall occurs (0.5” within 24-hr within watershed)³	Nov 1 – Dec 31 No work once significant rainfall occurs (0.5” within 24-hr within watershed)³
In-channel hand pruning	X	X	X
In-channel hand removal	X	X	X
Herbicide	X^{1,2}	X	X^{1,2}
Sediment Removal	X	X	

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Bank Stabilization	X	X, if at least 50% complete on October 15	
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X = work is allowed

¹ Surfactant use on the 14 creeks supporting anadromous salmonids is permitted when the stream is dry in the immediate work location and no rain is forecast for the next 24 hours.

² Aquatic herbicide can only be used in California red-legged frog and California tiger salamander SMP mapped areas when the creek is dry and no rain is forecast for the next 48 hours.

³ After October 1st, seventy-two-hour look-ahead weather forecasts from the National Weather Service (or local vendor such as the Western Weather Group) are consulted to prepare for possible winterization measures. If a significant rainfall is forecast within the coming 72-hr forecast window, then maintenance work that may result in sediment runoff to the stream shall be stopped, to allow adequate time to complete erosion control measures. Winterization materials will be available and installed when rain falls. If after a storm event occurs and there was not significant rainfall, the project will continue until next significant rainfall or October 31st.

In-channel work window for creeks that do not support sensitive species (creeks NOT supporting anadromous salmonids, and in San Francisco Bay tidal areas, green sturgeon and longfin smelt)

Work Activity	June 15 – Oct 15	Oct 15 – Nov 30 No work once significant rainfall (0.5” within 24-hr within watershed) ¹	Dec 1 – Dec 31 No work once significant rainfall (0.5” within 24-hr within watershed) ¹	June 15 – Dec 31 Work even after significant rainfall (0.5” within 24-hr within watershed) ¹	Year Round, except where mechanized equipment crosses a creek or otherwise affects water quality
In-channel hand pruning					X
In-channel hand removal					X
Herbicide	X	X	X		
Sediment Removal	X	X		X, specific reaches of Berryessa, Lower Silver, Thompson, Canoas, Ross, Calabazas, San Tomas Aquino	
Bank Stabilization	X	X, if at least 50% complete on October 15 or is a new project that will be completed in five (5) days or less			

X = work is allowed

¹ Seventy-two-hour look-ahead weather forecasts from the National Weather Service (or local vendor such as the Western Weather Group) are consulted to prepare for possible winterization measures. If a significant rainfall is forecast within the coming 72-hr forecast window, then maintenance work that may result in sediment runoff to the stream shall be stopped, to allow adequate time to complete erosion control measures. Winterization materials will be available and installed when rain falls. If after a storm event occurs and there was not significant rainfall, the project will continue until next significant rainfall or October 31st.

Work Window for Non-Instream¹ SMP Maintenance Activities

Work Activity	Year-Round, except where mechanized equipment crosses a creek or otherwise affects water quality	Date Specific Work Period
Vegetation Management	X	
Herbicide	X Per Material Safety Data Sheet and Product label limitations	1
Large Woody Debris	X See Management of LWD guidelines	
Mowing		Feb 1 – Nov 30
Flaming	X	
Grazing	X	
Management of Animal Conflicts	X Per special status species and pesticide requirements	
Minor Maintenance	X Instream work follows activity specific work windows	
X = work is allowed 1. Herbicide application can only occur in California red-legged frog and California tiger salamander SMP mapped areas when the creek or area is dry and no rain is forecast for the next 48 hours		

88. Any deviation from the approved work windows requires prior approval by the Regional
 88. Water Board’s Executive Officer. The District may submit a work window extension
 88. request by October 1, for review and approval by the Water Board Executive Officer, for
 88. SMP activities that need additional time to complete beyond the work windows described
 88. above. The extension request shall include, but not be limited to, the following
 88. information: channel names and reaches, maintenance activity type, reason for the
 88. extension request and estimated date of completion. The Regional Water Board Executive
 88. Officer will approve the proposed work window extension and provide a notice to proceed,
 88. or indicate needed modifications to the work windows and/or proposed maintenance
 88. activity(ies), within 15 days of receipt.

88. If, at any time, an unauthorized discharge to surface water (including wetlands, rivers or
 88. streams) occurs, or any water quality problem arises that is not consistent with the
 88. requirements of this Order and the water quality objectives specified in the Basin Plan, the
 88. associated SMP activities shall cease immediately until corrective actions have been
 88. implemented, including ensuring that effective BMPs are implemented to eliminate the
 88. discharge and clean up and remediate any recoverable pollutants. The Regional Water

Board shall be notified promptly and in no case more than 24 hours after the unauthorized discharge or water quality problem arises.

90. All mitigation activities shall be completed as described in the SMP Manual and this Order.
91. All District or District contracted personnel who shall engage in maintenance activities shall be educated on the terms of this Order and the specific plans for the subject project site(s).
92. All District or District contracted personnel shall be trained in fluid (e.g., chemicals, fuels or oil) spill cleanup procedures.
93. The District shall maintain a copy of this Order, site-specific project plans, and site-specific BMP plans at each maintenance site at all times, so as to be available at all times to all personnel.
94. This Water Quality Certification and issuance of WDRs is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330 and California Code of Regulations, title 23, section 3867.
95. This Water Quality Certification is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to California Code of Regulations, title 23, section 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
96. The Regional Water Board may add to or modify conditions of this Order, as appropriate, to implement any new or revised total maximum daily load requirements.
97. The District shall correct any and all problems that arise from an SMP activity, including a failure to meet the conditions of this Order that results in an unauthorized release of pollutants, including sediment.
98. The District shall permit the Regional Water Board staff or its authorized representative, upon presentation of credentials:
 - a. Entry on to the premises on which maintenance activities are planned or underway, wastes are located, or in which records are kept.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Access to inspect any treatment equipment, monitoring equipment or monitoring method required by this Order.
 - d. Access to sample any discharge or surface water covered by this Order.
99. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under applicable State or federal law. For the purposes of CWA section 401(d), the applicability of any State law authorizing remedies, penalties, process

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or sanctions constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Order. In response to a suspected violation of any condition of this Order, pursuant to Water Code section 13267, the Regional Water Board may require the holder of any federal permit or license subject to this Order to furnish, under penalty of perjury, any technical or monitoring reports the Regional Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In response to any violation of the conditions of this Order, the Regional Water Board may add to or modify the conditions of this Order as appropriate to ensure compliance.

100. This Order is not transferable.
101. The authorization of this Order for SMP activities expires on December 31, 2019
Mitigation and monitoring requirements that extend beyond the term of this Order are not subject to the expiration date outlined above, and remain in full effect and are enforceable.

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I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on [mm dd, 2012].

Bruce H. Wolfe
Executive Officer

Attachment A: Stream Maintenance Program Manual
Attachment B: Attachments to SMP Manual
Attachment C: Mitigation Approach for 2012 – 2022 SMP Update