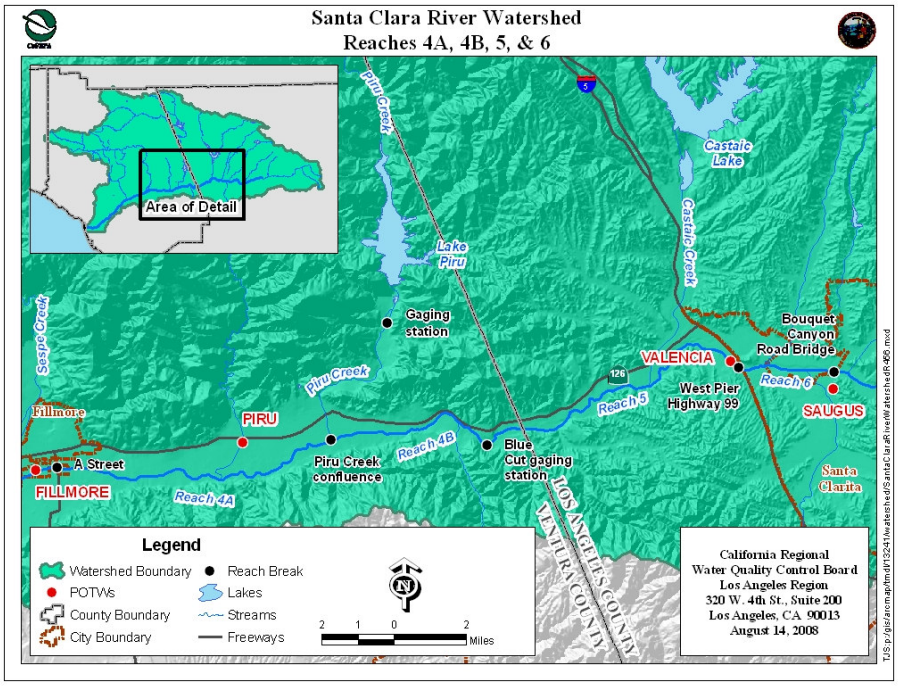
Substitute Environmental Document for the Upper Santa Clara River Chloride TMDL Reconsideration and Conditional Site Specific Objectives

Prepared under the California Environmental Quality Act (CEQA) Requirements of a Certified Regulatory Program



September 30, 2008

California Regional Water Quality Control Board
Los Angeles Region
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1. EXECUTIVE SUMMARY

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the Lead Agency for evaluating the environmental impacts of the proposed reconsideration and conditional site-specific objectives (SSOs) of the Total Maximum Daily Load (TMDL) for chloride in reaches and groundwater basins in the Upper Santa Clara River (USCR) watershed. This Substitute Environmental Document (SED) analyzes environmental impacts that may occur from reasonably foreseeable methods of implementing a TMDL for chloride in the USCR. This SED is based on a proposed Chloride TMDL that will be considered by the Regional Board, and if approved by the Regional Board, implemented through an amendment to the Water Quality Control Plan, Los Angeles Region (Basin Plan). The proposed Chloride TMDL is described in the Staff Report, Tentative Board Resolution, and Tentative Basin Plan Amendment available on the Regional Board's website. This SED analyzes foreseeable methods of compliance with the Chloride TMDL and provides the public information regarding environmental impacts, mitigation, and alternatives in accordance with the California Environmental Quality Act (CEQA).

The SED will be considered by the Regional Board when the Regional Board considers adoption of the Chloride TMDL as a Basin Plan Amendment. Approval of the SED is separate from approval of a specific project alternative or a component of an alternative. Approval of the SED refers to the process of: (1) addressing comments, (2) confirming that the Regional Board considered the information in the SED, and (3) affirming that the SED reflects independent judgment and analysis by the Regional Board (Section 15090 of CEQA Guidelines (Title 14 of California Code of Regulations)).

Water quality in the USCR is impaired by chloride, as documented in current 2006 State of California 303(d) lists of water quality limited segments being addressed. Chloride loading to the USCR result in impairments of existing beneficial uses associated with agricultural supply (AGR), groundwater recharge (GWR), and rare and endangered species habitat (RARE).

The Regional Board first adopted a TMDL for chloride in the USCR on October 24, 2002 (Resolution No. 2002-018). The TMDL contained an 8-1/2 year implementation plan to attain chloride Water Quality Objectives (WQOs). Upon petition by the Sanitation Districts of Los Angeles County (Districts), the State Board remanded the Chloride TMDL (State Board Resolution No. 2003-0014) to the Regional Board on February 19, 2003. In response to the remand, the Regional Board revised the TMDL Implementation Plan to extend the interim waste load allocations and final compliance date to 13 years after the TMDL effective date. It also included two additional special studies and several mandatory reconsiderations of the TMDL by the Regional Board. The Regional Board adopted the revised TMDL on July 10, 2003 (Resolution No. 2003-008).

The TMDL was amended in 2004 (Resolution No. 2004-004) to conform the interim waste load allocations for the Saugus and Valencia Water Reclamation Plants (WRPs) to the effluent limits in 1994 Time Schedule Orders associated with National Pollutant Discharge Elimination System (NPDES) permits. In May 2004, the Regional Board and Districts signed a Settlement Agreement and Stipulation Concerning Chlorides in the UCSR. The Regional Board and Districts agreed that, if or when new or revised NPDES permits are subsequently issued to the Saugus and Valencia WRPs prior to the date that a revised WQO or final waste load allocations (WLAs) take effect in accordance with the

Chloride TMDL Amendments, interim chloride effluent limitations reflecting the interim WLAs in the TMDL, including any revisions thereto, will be included in the revised permits.

The TMDL Reconsideration was revised and adopted on August 3, 2006 (Resolution No. 2006-016) to revise the schedule for TMDL planning and implementation tasks. The Groundwater and Surface Water Interaction Study (GSWI) will allow the Regional Board to consider a chloride site-specific objective (SSO) in the USCR and revisions of WLAs for the Saugus and Valencia WRPs within six months after completion of GSWI.

The Chloride TMDL establishes waste load allocations (WLAs) to point sources and load allocations (LAs) to nonpoint sources. WLAs will be implemented through the NPDES permits. Discharges will be subject to NPDES permits, which will contain requirements for chloride and other constituents. The source analysis indicates point sources of chloride are from Saugus and Valencia WRPs and nonpoint sources are not a major source of chloride. The implementation plan will be implemented through 12 tasks in three catagories: 1) special studies, 2) administrative and implementation planning, and 3) actions to reduce and dilute chloride to the Upper Santa Clara River (USCR).

Potential adverse impacts to the environment stem principally from the construction, operation, and maintenance of the implementation alternatives including: 1) the reduction of the chloride in WRP's effluent through the removal of self-regenerating water softeners (SRWS) and the conversion of chlorination disinfection to Ultra-Violet (UV) disinfection, 2) the construction of Microfiltration – Reverse Osmosis (MF/RO) facilities and brine disposal via deep well injection to existing wells, 3) the construction of RO water conveyance pipelines, groundwater extraction wells, and a RO blend pipeline, 4) supplemental water pipelines and discharges to the river, 5) the construction of sufficient MF/RO facilities at both Saugus and Valencia WRPs and development of a 43-mile brine discharge pipeline via ocean outfall, and 6) the construction of minimal MF/RO facilities at both WRPs and a 43-mile effluent discharge pipeline via ocean outfall.

This SED analyzes two Program Alternatives and six types of Implementation Alternatives (see Sections 4 and 5 of this SED for a description of the alternatives) that encompass actions within the jurisdiction of the Regional Board and implementing agencies. The SED analyzes the potential environmental impacts in accordance with significance criteria widely accepted by agencies in the USCR for CEQA review. The TMDL does not specify types of projects, specific locations, or mitigation measures for those projects. Projects are specified, designed, constructed, operated, and mitigated by the TMDL responsible agencies. Consequently, this environmental analysis is structured in accordance with guidelines for a Tier 1 Program SED rather than a Tier 2 Project SED.

Agencies that will implement specific projects may use this SED to help with the selection and approval of project alternatives. The implementing agency will be the lead agency and has responsibility for environmental review of the projects determined necessary to implement this TMDL.

Approval of projects (i.e. project alternatives or components of project alternatives) refers to the decision of either the implementing agencies to select and carry out an alternative or a component of an alternative. Section 5 of this SED summarizes the components that comprise the project alternatives analyzed in this SED. The

components assessed at a project level have specific locations that will be determined by implementing agencies. The project level components will be subject to additional environmental review, including review by agencies implementing Chloride TMDL projects.

Many of the specific projects analyzed in this SED will involve construction projects and maintenance of UV disinfection facility, MF/RO facilities, brine disposal deep wells, water conveyance pipelines, groundwater extraction wells, and ocean outfalls. Construction of proposed projects could generate varying degrees of environmental impacts. The potential impacts could include, for example, noise associated with construction, air emissions associated with vehicles to deliver materials during construction, traffic associated with increased vehicle trips and where construction or attendant activities occur near or in thoroughfares. These foreseeable impacts are analyzed in detail in Section 6 of this SED.

To address the environmental and nuisance impacts from these routine and essential activities, public works departments are required to employ a variety of techniques, "best management practices (BMPs)", and other mitigation measures to minimize the impacts on the environment. Generally accepted and recognized mitigation measures for construction projects on the scale of these maintenance projects include, for example, management of traffic by planning construction activities for certain times of the day, development of detailed traffic plans in coordination with police or fire protection authorities; mitigation of excessive noise by planning construction activities for certain times of the day, use of less noisy equipment, use of sound barriers; reduction of air emissions by use of lower emissions vehicles. These mitigation methods and BMPs are discussed in detail in this SED. They are intended to avoid or minimize site specific impacts, and in many cases they do so to less than significant levels, considering the context of the urbanized baseline conditions.

This SED finds foreseeable methods to comply with the reconsideration of Chloride TMDL by focusing on implementation alternatives, such as 1) the reduction of the chloride in WRP's effluent through the removal of self-regenerating water softeners (SRWS) and the conversion of chlorination disinfection to Ultra-Violet (UV) disinfection, 2) the construction of Microfiltration – Reverse Osmosis (MF/RO) facilities and brine disposal via deep well injection to existing wells, 3) the construction of RO water conveyance pipelines, groundwater extraction wells, and a RO blend pipeline, and 4) supplemental water pipelines and discharges to the river. The SED finds that environmental impacts from the Chloride TMDL are those impacts related to the implementation alternatives. The SED identifies mitigation methods for impacts with potentially significant effects. The SED can be used by implementing agencies to expedite any additional environmental analysis of specific projects required to comply with the Chloride TMDL. To the extent that there are unavoidable adverse environmental impacts, the benefits of this TMDL outweigh these impacts.

As discussed in this SED, California Water Code section 13360 prohibits the Regional Board from specifying the manner of compliance with the TMDL. Methods of compliance and selection of specific alternatives and associated mitigation measures are the responsibility of the agencies for implementing the Chloride TMDL.

Many of the mitigation measures identified in this SED are common practices currently employed by responsible agencies when planning and implementing capital

improvement projects. Since the decision to perform these measures is strictly within the responsibility and jurisdiction of the individual implementing agencies, such measures can and should be adopted by these agencies. (Title 14, California Code of Regulations, Section 15091(a)(2).)

The regulatory requirements and the program objectives for the USCR Chloride TMDL are provided in Section 2 and Section 3, respectively. Section 4 discusses the program level alternatives for this TMDL and presents implementation alternatives to achieve compliance with the final waste load allocations of chloride. Section 5 provides a detailed description of implementation alternatives. Section 6 discusses environmental setting, impacts, and mitigation (Section 6.1), and the CEQA Checklist and Determination with in-depth analysis of each alternative (Section 6.2). Other environmental considerations are discussed in Section 7. The Statement of Overriding Considerations and Determination is discussed in Section 8. A list of references is included in Section 9 of this SED.

2. REGULATORY REQUIREMENTS FOR ENVIRONMENTAL IMPACT ANALYSIS OF THE TMDL

This section presents the regulatory requirements for assessing environmental impacts of a TMDL implemented through a Basin Plan Amendment at the Regional Board. This TMDL for chloride contamination in the Upper Santa Clara River is evaluated at a program level of detail under a *Certified Regulatory Program* and the information and analyses are presented in this Substitute Environmental Document (SED) as discussed in this section.

2.1 EXEMPTION FROM CERTAIN CEQA REQUIREMENTS

The California Secretary of Resources has certified the State and Regional Boards' basin planning process as exempt from certain requirements of the California Environmental Quality Act (CEQA), including preparation of an initial study, negative declaration, and environmental impact report (California Code of Regulations, Title 14, Section 15251(g)). As the proposed amendment to the Basin Plan is part of the basin planning process, the environmental information developed for and included with the amendment is considered a substitute for an initial study, negative declaration, and/or environmental impact report.

2.2 CALIFORNIA CODE OF REGULATIONS AND PUBLIC RESOURCES CODE REQUIREMENTS

While the "certified regulatory program" of the Regional Board is exempt from certain CEQA requirements, it is subject to the substantive requirements of California Code of Regulations, Title 23, Section 3777(a), which requires a written report that includes a description of the proposed activity, an analysis of reasonable alternatives, and an identification of mitigation measures to minimize any significant adverse environmental impacts. Section 3777(a) also requires the Regional Board to complete an environmental checklist as part of its substitute environmental document. This checklist is provided in section 6 of this document.

In addition, the Regional Board must fulfill substantive obligations when adopting performance standards such as TMDLs, as described in Public Resources Code section 21159. Section 21159, which allows expedited environmental review for mandated projects, provides that an agency shall perform, at the time of the adoption of a rule or regulation requiring the installation of pollution control equipment, or a performance standard or treatment requirement, an Environmental Analysis of the reasonably foreseeable methods of compliance. The statute further requires that the environmental analysis at a minimum, include, all of the following:

(1) An analysis of the reasonably foreseeable environmental impacts of the methods of compliance.

(2) An analysis of reasonably foreseeable feasible mitigation measures to lessen the adverse environmental impacts.

(3) An analysis of reasonably foreseeable alternative means of compliance with the rule or regulation that would have less significant adverse impacts. (Public Resources Code, § 21159(a).)

Section 21159(c) requires that the environmental analysis takes into account a reasonable range of:

(1) Environmental, economic, and technical factors,

(2) Population and geographic areas, and

(3) Specific sites.

2.3 PROGRAM AND PROJECT LEVEL ANALYSES

Public Resources Code § 21159(d) specifically states that the public agency is not required to conduct a "project level analysis." Rather, a project level analysis must be performed by the local agencies that are required to implement the requirements of the TMDL (Pub. Res. Code § 21159.2.). Notably, ***the Regional Board is prohibited from specifying the manner of compliance with its regulations*** (Water Code § 13360), and accordingly, the actual environmental impacts will necessarily depend upon the compliance strategy selected by the local agencies and other permittees.

This Substitute Environmental Document identifies the reasonably foreseeable environmental impacts of the reasonably foreseeable methods of compliance (Pub. Res. Code, § 21159(a)(1).), based on information developed before, during, and after the CEQA scoping process that is specified in California Public Resources Code section 21083.9. This analysis is a program level (i.e., macroscopic) analysis. CEQA requires the Regional Board to conduct a program level analysis of environmental impacts (Pub. Res. Code, § 21159(d)). Similarly, the CEQA substitute document does not engage in speculation or conjecture (Pub. Res. Code, § 21159(a)). When the CEQA analysis identifies a potentially significant environmental impact, the accompanying analysis identifies reasonably foreseeable feasible mitigation measures (Pub. Res. Code, § 21159(a)(2)). Because responsible agencies will most likely use implementation alternatives, the SED has identified the reasonably foreseeable alternative means of compliance (Pub. Res. Code, § 21159(a)(3)).

2.4 PURPOSE OF CEQA

CEQA's basic purposes are to: 1) inform the decision makers and public about the potential significant environmental effects of a proposed project, 2) identify ways that environmental damage may be mitigated, 3) prevent significant, avoidable damage to the environment by requiring changes in projects, through the use of alternative or mitigation measures when feasible, and 4) disclose to the public why an agency approved a project if significant effects are involved (Cal. Code Regs., tit. 14, § 15002(a)).

To fulfill these functions, a CEQA review need not be exhaustive, and CEQA documents need not be perfect. They need only be adequate, complete, and good faith efforts at full disclosure (Cal.Code Regs., tit.14, § 15151). The Court stated in River Valley Preservation Project v. Metropolitan Transit Development Board (1995) 37 Cal.App.4th 154, 178:

"As we have stated previously, "[our limited function is consistent with the principle that ""[t]he purpose of CEQA is not to generate paper, but to compel government at all levels

to make decisions with environmental consequences in mind. . . .””” (City of Santee v. County of San Diego (1989) 214 Cal.App.3d 1438, 1448 [263 Cal.Rptr. 340]; quoting Laurel Heights I, supra, 47 Cal.3d at p. 393.) “We look ‘not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.’ (Guidelines, §§ 15151.)” (City of Fremont v. San Francisco Bay Area Rapid Transit Dist., supra, 34 Cal.App.4th at p. 1786.)"

Nor does a CEQA require unanimity of opinion among experts. The analysis is satisfactory as long as those opinions are considered (Cal.Code Regs.,tit. 14, § 15151).

In this document, the Regional Board staff has performed a good faith effort at full disclosure of the reasonably foreseeable environmental impacts that could be attendant with the proposed reconsideration of the Chloride TMDL for the Upper Santa Clara River. Our analysis and conclusions are described as follows.

3. TMDL OVERVIEW AND PROGRAM OBJECTIVES

3.1 INTRODUCTION – LEGAL BACKGROUND

The Total Maximum Daily Load (TMDL) was designed to attain the water quality standards for chloride in the Upper Santa Clara River (USCR). The TMDL was prepared pursuant to state and federal requirements to preserve and enhance water quality in the USCR. The adoption of a TMDL is not discretionary and is compelled by section 303(d) of the federal Clean Water Act (33 USC 1313(d)).

The California Water Quality Control Plan, Los Angeles Region, also known as the Basin Plan, sets water quality standards for surface and ground waters in the region. These standards are comprised of designated beneficial uses for surface and ground waters, and numeric and narrative objectives necessary to support beneficial uses and the state's antidegradation policy. Such standards are mandated for all waterbodies within the state under the Porter-Cologne Water Quality Act. In addition, the Basin Plan describes implementation programs to protect all waters in the region. The Basin Plan implements the Porter-Cologne Water Quality Control Act (commencing at Section 1300 of the "California Water Code") and serves as the State Water Quality Control Plan applicable to the USCR in Counties of Los Angeles and Ventura, also requiring water quality standards for all surface waters as required pursuant to the federal Clean Water Act (CWA).

Section 305(b) of the CWA mandates biennial assessments of the nation's water resources. These water quality assessments are used, with any other available data and information, to identify and prioritize waters not attaining water quality standards. The resulting amalgamation of waters is referred to as the "303(d) List" or the "Impaired Waters List". Section 303(d)(1)(C) and (d)(1)(D) of CWA require that the state establish TMDLs for each listed water. Those TMDLs, and the 303(d) List itself, must be submitted to USEPA for approval under section 303(d)(2). Section 303(d)(3) requires that the state also develop TMDLs for all waters that are not on the 303(d) List as well, however TMDLs for waters that do not meet the criteria for listing are not subject to approval by USEPA.

TMDLs must be established at a level necessary to attain water quality standards, considering seasonal variations and a margin of safety. TMDLs must also include an allocation of parts of the total allowable load (or loading capacity) to all point sources, nonpoint sources, and natural background in the form of waste load and load allocations, accordingly. Waste load and load allocations must be assigned for all sources of the impairing pollutant, irrespective of whether they are discharged to the impaired reach or to an upstream tributary. TMDLs are generally established in California through the basin planning process, (i.e., an amendment to the basin plan to incorporate a new or revised program of implementation of the water quality standards, pursuant to Water Code section 13242). The process that the Regional Board uses for establishing TMDLs is the same whether under section 303(d)(1) or 303(d)(3).

USEPA's authority over the 303(d) program includes the obligation to approve or disapprove the identification of impaired waters. If any list or TMDL is disapproved, USEPA must establish its own list or TMDL.

As part of California's 1998 and 2002 303(d) list submittals, the Regional Board identified USCR as being impaired due to chloride.

The Regional Board first adopted a TMDL for chloride in the USCR on October 24, 2002 (Resolution No. 2002-018). The TMDL contained an 8-1/2 year implementation plan to attain chloride Water Quality Objectives (WQOs). Upon petition by the Districts, the State Board remanded the Chloride TMDL (State Board Resolution No. 2003-0014) to the Regional Board on February 19, 2003. In response to the remand, the Regional Board revised the TMDL Implementation Plan to extend the interim waste load allocations and final compliance date to 13 years after the TMDL effective date. It also included two additional special studies and several mandatory reconsiderations of the TMDL by the Regional Board. The Regional Board adopted the revised TMDL on July 10, 2003 (Resolution No. 2003-008).

The TMDL was amended in 2004 (Resolution No. 2004-004) to conform the interim waste load allocations for the Saugus and Valencia Water Reclamation Plants (WRPs) to the effluent limits in 1994 Time Schedule Orders associated with National Pollutant Discharge Elimination System (NPDES) permits. In May 2004, the Regional Board and Districts signed a Settlement Agreement and Stipulation Concerning Chlorides in the UCSR. The Regional Board and Sanitation Districts of Los Angeles County agreed that, if or when new or revised NPDES permits are subsequently issued to the Saugus or Valencia treatment plants prior to the date that a revised WQO or final waste load allocations take effect in accordance with the Chloride TMDL Amendments, interim chloride effluent limitations reflecting the interim waste load allocations in the TMDL, including any revisions thereto, will be included in the revised permits.

The TMDL Reconsideration was revised and adopted on August 3, 2006 (Resolution No. 2006-016) to revise the schedule for TMDL planning and implementation tasks. The Groundwater and Surface Water Interaction Study (GSWI) will allow the Regional Board to consider a chloride site-specific objective (SSO) in the USCR and revisions of waste load allocations for the Saugus and Valencia WRPs within six months after completion of GSWI. By accelerating the date of Regional Board consideration of a SSO, implementation of advanced treatment planning activities can be accelerated and the attainment of the chloride WQO can be accelerated by 3 years. Regional Board staff assesses that integrated planning and design can reduce chloride loading to surface and ground waters relative to the current TMDL schedule and also reduce the risk of schedule delay during construction of advanced treatment remedies.

In 2007, the Regional Board amended the Basin Plan to divide Reach 4 into two separate reaches. This action was based on historical and current water quality, flow, and land use data showing significant water quality differences between the western and eastern portions of Reach 4. Staff found that Reach 4 of the SCR contains unique hydrogeologic conditions due to the significant alterations to land uses and waste discharges within the USCR watershed that supported the separation of the reach into two separate reaches, 4A and 4B, divided at the confluence of Piru Creek.

The USCR Chloride TMDL is a Basin Plan Amendment and is subject to the 2001 provision of the Public Resources Code Section 21083.9 that requires a CEQA Scoping to be conducted for Regional Projects. CEQA Scoping involves identifying a range of project/program related actions, alternatives, mitigation measures, and significant effects to be analyzed in an Environmental Impact Report or its functionally equivalent

document. On July 29, 2008 a CEQA Scoping hearing was held to present and discuss the foreseeable potential environmental impacts of compliance with the USCR Chloride TMDL. A notice of the CEQA Scoping hearing was sent to interested parties within the USCR watershed. Input from all stakeholders and interested parties was solicited for consideration in the development of the Substitute Environmental Document (SED).

This SED is being released for public comments accompanying the TMDL staff report, Basin Plan amendment, and tentative resolution for adoption by the Regional Board; these documents should be considered as a whole when evaluating the environmental impacts of implementing the TMDL. When complete, the SED will also include a response to comments on this draft SED.

3.2 PROJECT PURPOSE, TMDL GOALS, AND WATER QUALITY OBJECTIVES

3.2.1 PROJECT PURPOSE

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) proposes an amendment to the Water Quality Control Plan for the Los Angeles Region, also known as the Basin Plan, to incorporate a Total Maximum Daily Load (TMDL) to reduce chloride in the Upper Santa Clara River (USCR).

As further set forth herein, this project's purpose is to adopt a regulation that will guide Regional Board permitting, enforcement, and other actions to require responsible parties to take appropriate measures to restore and maintain applicable Water Quality Standards pertaining to chloride in the USCR.

Section 303(d) of the CWA requires states to identify waters not meeting state water quality standards, and establish TMDLs for those waters, at levels necessary to resolve the impairments and maintain water quality standards. The purpose of this project is to both comply with the requirements of section 303(d) and to resolve the impairments and maintain compliance with water quality standards in the relevant water bodies.

3.2.2 TMDL GOALS

The Basin Plan designates beneficial uses of waterbodies, establishes water quality objectives for the protection of these beneficial uses, and outlines a plan of implementation for maintaining and enhancing water quality. The proposed amendment would incorporate into the Basin Plan a TMDL for chloride in the USCR.

The beneficial uses likely to be impaired by chloride include: agricultural supply (AGR), groundwater recharge (GWR), and rare and endangered species habitat (RARE).

The Regional Board's goals in adopting the TMDL are to eliminate the significant water quality impacts caused by chloride in the USCR.

3.2.3 WATER QUALITY OBJECTIVES

As stated in Chapter 3 of the Basin Plan, Water Quality Objectives (WQOs) are intended to protect the public health and welfare and to maintain or enhance water quality in

relation to the designated existing and potential beneficial uses of the water. The Basin Plan specifies numeric WQOs for chloride concentration in the USCR.

The proposed numeric target for this TMDL pertains to Reaches 4B, 5, and 6 of the Santa Clara River and is based on achieving revised WQOs throughout the impaired reaches. These adjusted objectives are based on technical studies about the chloride levels, including levels that are protective of salt sensitive crops, chloride source identification, and the magnitude of assimilative capacity in the upper reaches of the Santa Clara River as submitted by County Sanitation Districts of Los Angeles County in accordance with tasks 2 through 7 of the current TMDL (Resolution No. 2006-016).

4. DESCRIPTION OF PROGRAM LEVEL ALTERNATIVES

This substitute environmental document analyzes two program alternatives that encompass actions within the jurisdiction of the Regional Board and implementing agencies. The program alternatives include: 1) Do not revise Chloride Water Quality Objectives (WQOs) as they are presented in the current Basin Plan and 2) Revise Chloride WQOs, including Conditional Site Specific Objectives (SSOs) and Alternative Water Resources Management (AWRM) Program. The specifics of the many projects which would make up a program alternative are discussed in detail in Section 5.

The components assessed at a program level generally are program elements that would be implemented as part of the Chloride TMDL, but these elements do not have specific locations or design details identified. The components assessed at a project level have specific locations which will be determined by implementing agencies. The project level components will be subject to additional future environmental review, including review by agencies implementing Chloride TMDL projects.

4.1 PROGRAM LEVEL ALTERNATIVES

4.1.1 ALTERNATIVE1 – MAINTAIN CURRENT BASIN PLAN OBJECTIVES – NO ACTION

This program alternative is based on implementation of the TMDL that was amended by the Regional Board on August 3, 2006. The amended TMDL focuses on the reduction of chloride in the Upper Santa Clara River (USCR) to protect all beneficial uses in the Santa Clara River and achieve existing water quality objectives.

The current TMDL waste load allocations (WLAs) and load allocations (LAs) are established through an amendment to Basin Plan, and both chloride concentrations are 100 mg/L. WLAs are assigned to Nation Pollutant Discharge Elimination System (NPDES) discharges. LAs are assigned to nonpoint sources.

This alternative provides a program for addressing the adverse impacts of chloride through progressive controls in discharges to USCR through a 10-year schedule. The WLAs and the implementation schedule will be considered by NPDES permit writers when developing permit limits that are adopted in separate subsequent actions by the Regional Board.

It was determined that in order to meet WQOs (i.e., the chloride concentration of 100 mg/L), this alternative would likely require the construction of sufficient Microfiltration – Reverse Osmosis (MF/RO) facilities at both Saugus and Valencia Water Reclamation Plants (WRPs). MF/RO treatment would result in a significant amount of brine waste that would require disposal by the development of a 43-mile brine discharge pipeline via ocean outfall. Alternatively, this alternative could be implemented through minimal advanced treatment at both WRPs for a limited amount of WRP wastewater. The balance of the WRP recycled water would be conveyed to the Pacific Ocean via a 43-mile effluent discharge pipeline and ocean outfall.

This TMDL program alternative anticipates compliance through installation of the facilities as discussed in Section 5. Potential adverse impacts to the environment stem principally from the construction, operation, and maintenance of these facilities.

4.1.2 ALTERNATIVE 2 – ADOPT CONDITIONAL SSOS AND REVISED TMDL WLAS

This program alternative is based on a TMDL that will be revised by the Regional Board to include allocations based on conditional Site Specific Objectives (SSOs) for chloride. The TMDL WLAs are established through an amendment to Basin Plan. WLAs for chloride will be greater than 100 mg/L in Reaches 4B, 5 and 6 of the USCR in order to allow for an Alternative Water Resources Management (AWRM) approach while still protecting beneficial uses and achieving an overall salt balance in the watershed. This would be achieved by lowering water quality objectives for groundwater underlying Reach 4B and requiring increased chloride exports. This alternative provides a program for addressing the adverse impacts of chloride through progressive controls in discharges to USCR through a 10-year schedule to attain compliance. The WLAs and the implementation schedule, once they are incorporated into the Basin Plan, will be considered by NPDES permit writers when developing permit limits that are adopted in separate subsequent actions by the Regional Board.

As an alternative to the advanced treatment scenarios at the WRPs, a number of stakeholders in the USCR watershed developed the AWRM compliance option. The AWRM Program contains several key elements, which combined, would provide a regional watershed solution for the USCR Chloride TMDL that benefits numerous stakeholders within the watershed. The key elements of the AWRM Program include: 1) implementing measures to reduce chloride in WRP discharges, 2) constructing advanced treatment for a portion of the recycled water from the Valencia WRP, 3) procuring supplemental water to enhance assimilative capacity (i.e., local groundwater or surface water) for release to the Santa Clara River to improve water quality conditions and attain WQOs, 4) constructing water supply facilities in Ventura County, 5) providing alternative water supply to protect salt-sensitive agricultural beneficial uses of the Santa Clara River, and 6) supporting the expansion of recycled water uses within the Santa Clarita Valley (LWA, 2008).

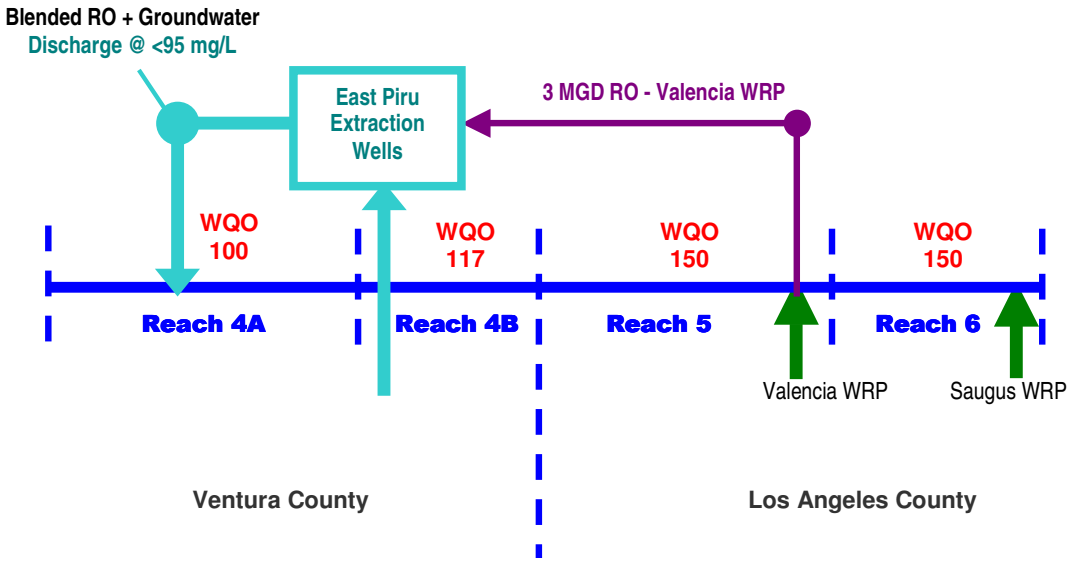
The AWRM compliance option provides more benefits than other potential scenarios and compliance options that have been identified. However, it will not result in compliance with the 100 mg/L water quality objectives at all times and in all locations for Reaches 4B, 5 and 6 of the USCR. Given the benefits of chloride reduction and protectiveness of the AWRM compliance option and in the context of achieving a salt balance for the watershed, this compliance option includes conditional SSOs that support the AWRM, while still being protective of beneficial uses. Revised surface water and groundwater water quality objectives are presented in the TMDL Staff Report. The proposed SSOs and TMDL revisions will impact reaches 4B, 5, and 6 of the Santa Clara River and the groundwater basins underlying those reaches. The proposed SSOs, when implemented with the AWRM Program, will ensure protection of beneficial uses considering the environmental characteristics of and the water quality available to the USCR. The proposed SSOs are more stringent than historical effluent limitations for the Saugus and Valencia WRPs and would result in improved water quality over existing conditions. In addition, the proposed SSOs are below the USEPA aquatic life chloride criteria, which according to the Threatened and Endangered Species (TES) Study are protective of the most chloride-sensitive organisms for which data are available. Therefore, it is not expected that the proposed SSOs will harm in-stream or riparian species or habitat.

The proposed SSOs are consistent with the State Antidegradation Policy (State Board Resolution No. 68-16), in that the changes to water quality objectives (i) consider maximum benefits to the people of the state, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies. Likewise, the amendment is consistent with the federal Antidegradation Policy (40 CFR 131.12).

It was determined that in order to meet SSOs and implement AWRM, this alternative would likely require: 1) the reduction of the chloride in WRP's effluent through the removal of self-regenerating water softeners (SRWS) and the conversion of chlorination disinfection to Ultra-Violet (UV) disinfection, 2) the construction of a Microfiltration – Reverse Osmosis (MF/RO) facility and brine disposal via deep well injection to existing wells, 3) the construction of RO water conveyance pipelines, groundwater extraction wells, and a RO blend pipeline, and 4) supplemental water pipelines and discharges to the river. This TMDL program alternative anticipates compliance through installation of these facilities as discussed in Section 5.

These facilities would be operated in two modes depending on the chloride concentration in the supply water as shown in Figure 4-1.

AWRM Operation when SWP Cl < 80 mg/L



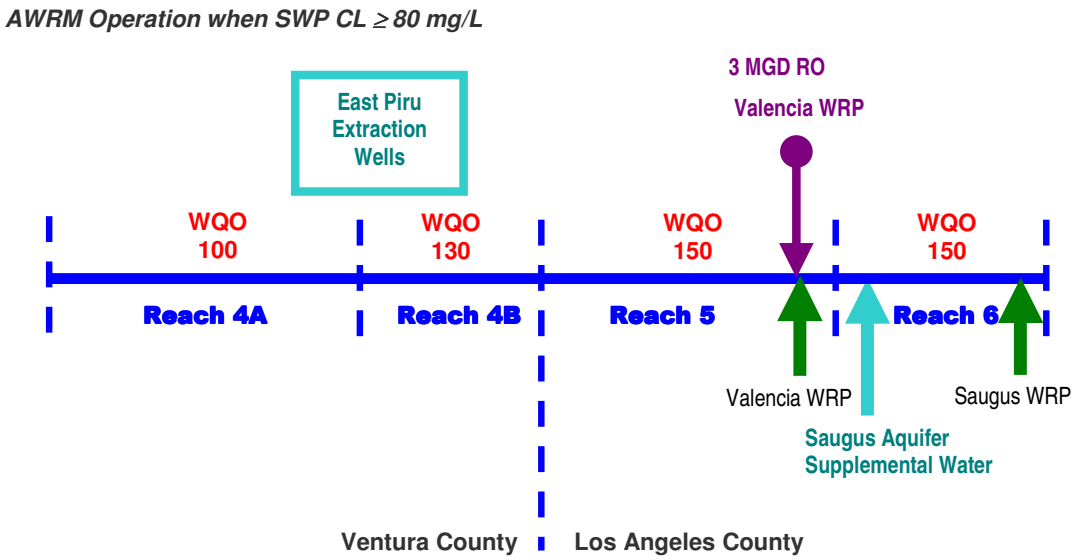


Figure 4-1. Schematic illustration of AWRM Facilities

During typical hydrologic cycles when supply water concentration is below 80 mg/l, the permeate water from the RO would be delivered to extraction wells for Ventura County water supply benefit. This option provides further water quality benefits for Ventura County because increased flows can mitigate sea water intrusion to the Oxnard Plain. During periods of high chloride conditions (greater than or equal to 80 mg/L) in the Castaic Lake Reservoir, the RO permeate water will be discharged to 4B. In addition to discharging this RO permeate water to the river, the Groundwater – Surface Water Interaction Model (GSWIM) study also found that the use of additional supplemental water released to SCR is needed in certain critical conditions to assure compliance with the revised WQOs in Reach 4B.

The AWRM contemplates the use of existing Saugus aquifer wells to deliver low chloride supplemental water directly to the USCR because infrastructure already exists and would not need to be constructed. These supplemental waters would be delivered through contractual arrangements between the Districts and the Upper Basin Water Purveyors and would be discharged directly to the USCR. However, although chloride concentrations in these alternative supplemental water wells are very low (20 to 42 mg/L), sulfate concentrations consistently exceed the existing surface water quality objective of 300 mg/L for Reach 6 and the TDS groundwater objectives of 700 mg/L for the groundwater basin underlying Reach 6.

This program alternative therefore includes interim wasteload allocations (for sulfate and TDS for the dilution water discharges. These wasteload allocations would apply until then end of the TMDL Implementation period in order to allow (1) time for construction of infrastructure to connect the supplemental water to the Valencia WRP and be diluted with the RO permeate, or (2) time for the Districts to conduct additional special studies to provide adequate justification for SSOs for sulfate and TDS. If infrastructure to remove the direct discharge of supplemental water to the USCR is not constructed or if the Regional Board does not approve SSOs for sulfate and TDS, the interim WLAs would expire.

Potential adverse impacts to the environment stem principally from the construction, operation, and maintenance of these facilities. This document analyzes these impacts and concludes that installation of implementation projects are of relatively short duration and typical of "baseline" construction and maintenance projects that occur presently in this TMDL area. It also concludes that significant impacts can be mitigated or there are alternative means of compliance available, and that the benefits of the program outweigh any significant adverse environmental effects.

4.1.3 RECOMMENDED PROGRAM LEVEL ALTERNATIVE

This environmental analysis finds that program level Alternative 2 is the most environmentally feasible alternative, and has the least associated significant adverse impacts.

Both program Alternatives 1 and 2 will comply with the law and remove the chloride impairment from USCR.

The key difference between program Alternatives 1 and 2 is the revised WQOs, which would allow for smaller-scale projects with fewer impacts to the environment. Alternative 1 will need to construct MF/RO facilities at both Saugus and Valencia WRPs, a 43-mile brine disposal pipeline and ocean outfall. Alternative 1 could also potentially be implemented through minimal advanced treatment system and discharge of effluent to the ocean. This would not achieve the project purpose of protecting beneficial uses because it would remove a source of water to the river which is used for agricultural, aquatic life, and habitat beneficial uses. In addition, Alternative 1 is not likely to achieve attainment of the existing 100 mg/L WQOs at all times in the receiving water. In contrast, Alternative 2 would require the construction of a much smaller MF/RO facility at Valencia WRP and no ocean outfall for brine disposal. The revisions to the WQOs under Alternative 2 will protect all beneficial uses and meet State and Federal requirements.

4.2 PROJECT LEVEL ALTERNATIVES

The program alternatives above present many alternatives and options, and do not require any specific projects to achieve compliance. Rather, a project level analysis must be performed by the local agencies that are required to implement the requirements of the TMDL (Pub. Res. Code § 21159.2). Notably, the Regional Board is prohibited from specifying the manner of compliance with its regulations (Water Code § 13360), and accordingly, the actual environmental impacts will necessarily depend upon the compliance strategy selected by the local agencies and other permittees. Although the Regional Board cannot mandate the manner of compliance, foreseeable environmental impacts from methods of compliance are well known, as are feasible mitigation measures.

During the development of the TMDL, a CEQA scoping meeting on July 29, 2008 was held during which the manner of compliance was discussed. At this meeting, the most reasonable means of compliance discussed included:

- Removal of self-regenerating water softeners (SRWS),

- Conversion of treated wastewater disinfection from chlorination to Ultra-Violet (UV) disinfection,

- Construction of a Microfiltration – Reverse Osmosis (MF/RO) facility at the Valencia WRP,

- Brine disposal via deep well injection to existing wells,

- Construction of groundwater extraction wells located in the Piru Basin,

- Construction of conveyance pipelines and discharges in Reaches 4A and 4B, and

- Supplemental water pipelines and discharges to the river.

In addition, the discussion of larger MF/RO facilities, and brine disposal or effluent discharge via ocean outfall is included.

The components assessed at a project level have specific locations which will be determined by implementing agencies. The project level components will be subject to additional future environmental review, including review by agencies implementing Chloride TMDL projects. Section 5 of this SED includes an extensive discussion of the project alternatives.

5. DESCRIPTION OF IMPLEMENTATION ALTERNATIVES

This Section of the SED begins with a description of the types of facilities and the types of sites where they might be placed in compliance with the reconsideration of the Upper Santa Clara River Chloride TMDL.

The Regional Board is prohibited from specifying the manner of compliance with its regulations (Water Code § 13360), and accordingly, the actual compliance strategies will be selected by the local agencies and other permittees. Although the Regional Board does not mandate the manner of compliance, foreseeable methods of compliance are well known. The most likely measures of compliance include: 1) the reduction of the chloride in Water Reclamation Plant (WRP) effluent through the removal of self-regenerating water softeners (SRWS) and the conversion of chlorination disinfection to Ultra-Violet (UV) disinfection, 2) the construction of a 3-MGD Microfiltration – Reverse Osmosis (MF/RO) facility and brine disposal via deep well injection to existing wells, and 3) the construction of a RO water conveyance pipeline, groundwater extraction wells, and a RO blend pipeline, and 4) supplemental water pipelines and discharges to the river. In addition, the discussion of larger MF/RO facilities and a brine disposal via ocean outfall, as well as minimal MF/RO facilities and an effluent discharge via ocean outfall is included.

The project level components will be subject to additional future environmental review. A project level environmental analysis must be performed by the local agencies that are required to implement the requirements of the TMDL (Pub. Res. Code § 21159.2).

5.1 IMPLEMENTATION ALTERNATIVES

Implementation alternatives are discussed for the recommended program alternative (i.e., Alternative 2). Implementation alternatives for Alternative 1 (e.g., 43-mile brine disposal pipeline and ocean outfall) are also discussed in order to compare the potential impacts of the two alternatives. Implementation alternatives involve the use of engineered systems and methods to treat or divert water at either the point of generation or point of discharge to receiving waters. These controls can require construction and operation activities that create potentially significant environmental impacts.

5.1.1 REDUCE CHLORIDE IN WATER RECLAMATION PLANT (WRP) EFFLUENT

A) REMOVE SELF-REGENERATING WATER SOFTENERS (SRWS)

A water softener is a unit that is used to soften water by removing the minerals such as calcium and magnesium that cause the water to be hard. The self-regenerating water softeners (also known as automatic water softeners, rock salt water softeners, or ion-exchange water softeners) require use of sodium chloride (rock salt) to regenerate the exchange capacity of the resin. After this regeneration, the salt is discharged and will result in excessive amounts of salt ending up in the waste stream (Karajeh and King, 2005).

To deal with this problem, the Santa Clarita Valley Sanitation Districts (SCVSD) passed an ordinance that became effective on March 27, 2003 that prohibits new installation of SRWS. The ordinance applies only to the installation of water softeners that use either sodium chloride or potassium chloride to regenerate on site. In addition, SCVSD

proposed a new ordinance on June 11, 2008 banning the use of existing SRWS. This ordinance will be voted by qualified voters in the district's service area in the November 2008 election. The removal of SWRS is intended to reduce the amount of chloride being discharged into the District's sanitary sewer collection system.

Potential impacts associated with SWRS would be the release of hazardous substances in the event of an accident or upset conditions. However, proper handling of the system would ensure its safe removal.

B) CONVERT FROM CHLORINATION DISINFECTION TO ULTRA-VIOLET (UV) DISINFECTION SYSTEM

Disinfection is usually the last treatment unit process prior to discharge of treated effluent. Disinfection is used to destroy or inactivate pathogens to low or immeasurable levels to prevent the spread of waterborne diseases to downstream users and the environment.

Chlorine is the most widely used disinfectant for municipal wastewater because it destroys target organisms by oxidizing cellular material. Chlorine can be supplied in many forms, which include chlorine gas, hypochloride solutions, and other chlorine compounds in solid or liquid form. However, chlorine has certain health and safety limitations. For example, the chlorine residual, even at low concentration, is toxic to aquatic life and may require dechlorination. All forms of chlorine are highly corrosive and toxic. Thus, storage, shipping, and handling pose a risk, requiring increased safety regulations (U.S. EPA, 1999a). Generally, chlorinated effluents require dechlorination before effluent discharge.

An UV disinfection system transfers electromagnetic energy from a mercury arc lamp to an organism's genetic material (DNA and RNA). When UV radiation penetrates the cell wall of an organism, it destroys the cell's ability to produce. Water must be relatively free from particulates (measured as turbidity) for effective disinfection because the UV light must penetrate the effluent to destroy pathogens (U.S. EPA, 1999b). In California, UV facilities for water must meet design and operational requirements recommended in a document entitled "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse", Second Edition (National Water Research Institute, 2003). UV radiation is generally a more expensive disinfection process than chlorine gas or sodium hypochlorite, although in recent years it has become more cost-competitive.

An alternative disinfection technology such as UV disinfection could replace chlorine gas and sodium hypochlorite (NaOCl) at a water reclamation plant (WRP). The use of UV disinfection will reduce chloride loading associated with the existing chloramination facilities at both Saugus and Valencia WRPs. In addition, the use of UV disinfection will reduce the potential for the formation of disinfection byproducts (i.e. trihalomethanes (THMs) and N-nitrosodimethylamine (NDMA)) associated with chlorination. The proposed project will demonstrate the sequential use of free chlorine/UV disinfection as an alternative disinfection method to the current disinfection method utilizing chloramination.

Potential impacts associated with UV facility would be related to the construction of the facility and would include impacts due to the use of vehicles, construction heavy

machinery & equipment. However, these activities would occur on an already developed site and the potential impacts would be minimal.

5.1.2 BUILD A MICROFILTRATION-REVERSE OSMOSIS (MF/RO) FACILITY

A) MF/RO ADVANCED TREATMENT FACILITY

Advanced wastewater treatment processes are generally used when high quality reclaimed water is needed. Filtration is one of the advanced treatment processes used to remove particulate matter prior to disinfection. In recent years, membrane separation is the most advanced filtration technology used for removal of dissolved compounds and pathogens from wastewater. Semi-permeable membranes of different materials, pore sizes, and configurations are typically utilized to "filter" out the undesirable impurities. Depending on the type of membrane and operational parameters selected for advanced treatment, very high percentages of microbial and chemical constituents can be removed from the water (U.S. EPA, 2004).

Advanced membrane treatment processes are categorized according to the pore size of the membrane. Membrane pore sizes range from 0.0001 to 0.1 microns. These categories, moving from the largest pore size to the smallest, are microfiltration (MF), ultrafiltration (UF), nanofiltration (NF), and reverse osmosis (RO) as shown in Figure 5.1. MF involves use of membranes that serve to separate particles generally in the 0.1 to 10 micron range. MF has been demonstrated to be an excellent pretreatment step to treatment using RO (U.S. EPA, 2004). RO involves use of membranes to remove particles as small as ions from a solution. In RO, feedwater is pumped at high pressure through permeable membranes, separating salts from the water. The feedwater is pretreated to remove particles that would clog the membranes. The quality of the water produced depends on the pressure, the concentration of salts in the feedwater, and the salt permeation constant of the membranes.

A combination of MF followed by RO (MF/RO) is one of the prevalent advanced treatment scheme used for producing high quality reclaimed water from secondary-treated wastewater. When paired together, an RO membrane system is preceded by a low-pressure membrane for removal of particles that might otherwise foul the RO membranes. This integrated "dual-membrane" process could reduce maintenance and optimize RO treatment. In the separation process, MF/RO also produces a concentrated brine waste stream that requires disposal. The brine wastes may contain all or some of the following constituents that are present in the raw water source including high salt concentrations, chemicals used during defouling of plant equipment and pretreatment, and toxic metals (which are most likely to be present if the discharge water was in contact with metallic materials used in construction of the plant facilities).

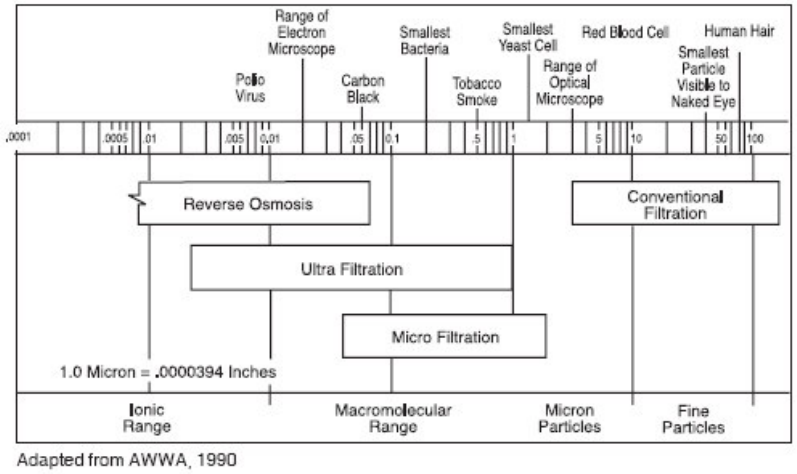


Figure 5.1. Particle Size Separation Comparison Chart for conventional filtration, microfiltration, ultrafiltration, and reverse osmosis (Source: U.S. EPA, 2004).

Under program Alternative 1, which does not involve site specific objectives (SSOs), two larger MF/RO facilities at the Valencia and Saugus WRPs could potentially be required to meet WQOs equal to 100 mg/L in all reaches. Such facilities could potentially have a design capacity of 15.4 MGD at Valencia WRP and 3.6 MGD at Saugus WRP in order to accommodate future population growth through 2030 (LWA, 2008). Under program Alternative 2, which involves SSOs, a 3-MGD MF/RO facility at the Valencia WRP would potentially be required.

Potential impacts associated with MF/RO facility would be related to the construction of the facility and would include impacts due to the use of vehicles, construction heavy machinery & equipment. However, these activities would occur on an already developed site and the potential impacts would be minimal. The operation and maintenance of a MF/RO facility could include de-scaling compounds and other small amounts of cleaning materials that may be considered hazardous. These materials should be properly labeled, used and stored according to State and Federal law. Potential impacts related to a release of chemicals from the MF/RO facility would be reduced to less than significant.

B) BRINE DISPOSAL VIA DEEP WELL INJECTION

In recent years, deep well injection has been applied for disposal of industrial, municipal and liquid hazardous wastes. Injection wells depth range from 1000 to 8000 ft depending on geological considerations at the selected site (Mickley & Associates, 2006). The selected site should have the natural ability to contain and confine the injected waste, where it would be isolated from potable water sources. The location of the deep-well injection wells is dependent on suitable geologic conditions that preclude the possibility of the liquid waste degrading the quality of groundwater.

Prior to drilling any injection well, a careful assessment of geological conditions must be conducted in order to determine the depth and location of suitable porous aquifer reservoirs. Rock formations such as sandstone are highly porous and are able to take in

large volumes of liquid. Other rock formations such as shales and clays are essentially impermeable and act as confining layers that make it possible to dispose of liquids underground into porous strata and prevent migration of the waste water into potable water aquifers (Mickley & Associates, 2006).

To prevent contamination of drinking water sources, injection wells must be separated from aquifers developed for drinking water purposes. Monitoring wells should be installed along with injection wells and operators should check monitoring wells regularly to detect any changes to groundwater quality. Deep injection wells should also be subjected to tests for strength under pressure and checked for leaks that could contaminate adjacent aquifers. The above constraints increase the overall cost of deep well injection for concentrate disposal (Younos, 2005).

Injection wells are divided into five classes (CFR 1989a, b). Class I wells include:

- Wells used by generators of hazardous wastes or by owners or operators of hazardous waste management facilities to inject hazardous wastes beneath the lowermost formation containing, within 0.25 mile of the well bore, an underground source of drinking water

- Other industrial and domestic disposal wells that inject fluids beneath the lowermost formation containing, within 0.25 mile of the well bore, an underground source of drinking water Classes II through V include wells for many specific uses and different fluids.

Only Class I wells are pertinent to the disposal of brine concentrate (Mickley & Associates, 2006).

Deep well injection has been applied successfully for brine disposal from several membrane plants in Florida. Design criteria for these installations have been discussed in a recent paper (Skehan and Kwiatkowski, 2000). The properly designed and operated injection wells should provide long-term confinement that makes deep well disposal an environmentally acceptable option. A possible solution for deep well injection in Southern California could involve utilization of abandoned oil wells, which are no longer in use (Glater and Cohen, 2003). The oil and gas wells have allowed the entrapment and containment of naturally occurring oil and gas deposits, which have been held in place for millions of years.

The AWRM proposal would include the use of existing abandoned oil wells in the proximity of the Valencia WRP to dispose RO concentrate. In order to convert from a Class II injection wells used by the Oil and Gas industry into a Class I non-hazardous waste injection wells, documentation of adequate construction and demonstration of mechanical integrity would be required.

The proposed RO treatment capacity is about 3 MGD. The brine disposal for a 3 MGD MF/RO facility is estimated at 0.5 MGD. Assuming an 18% concentrate stream, a total flow rate of 375 gallons per minute (gpm) must be disposed via deep injection wells. Historic oil field activity should be evaluated in order to obtain the perspective injection volume being considered. The formation pressure developed for a given injection rate would be based on the net sand thickness, formation permeability, initial formation pressure, and native fluid viscosity.

The deep well injection system would include a transfer pump station, conveyance pipelines, well site storage facilities, high pressure injection pumps and injection wells. The RO brine concentrate would be stored in storage tanks at the WRP to balance flow from the plant into the wellfield and provide flexibility for operation and equipment sizing.

Potential impacts associated with deep well injection would occur in the areas of geology and groundwater due to the operation of brine injection to the subsurface. Additional impacts could occur during the construction of deep wells. Although the use of existing wells would avoid this construction impact, drawbacks to deep well injection include the limited life span of the deep wells and the need to find alternative disposal methods when they reach capacity.

5.1.3 CONSTRUCT WATER SUPPLY FACILITIES

In order to export accumulated salt in groundwater and provide the water supply benefits for Ventura County, one of the compliance options is the construction of the Ventura County water supply facilities, as shown in Figure 5-2. These facilities which would allow for salt export and water supply benefits by blending high quality Valencia RO water with more saline groundwater in East Piru, to develop a blended water supply that is less than 95 mg/L in chloride. The water supply facilities would be comprised of the following: (1) 10 groundwater extraction wells in the East Piru groundwater basin; (2) a 12-mile RO permeate pipeline from the Valencia WRP to the East Piru extraction wells; and (3) a 6-mile conveyance pipeline for the blended East Piru groundwater and Valencia WRP RO water (East Piru Pipeline) for discharge to Reach 4A of the Santa Clara River, downstream of the "Dry Gap". These facilities would be utilized to deliver high quality RO water for a water supply and salt export benefit, when RO water is not necessary for compliance with revised WQOs (Geomatrix, 2008).

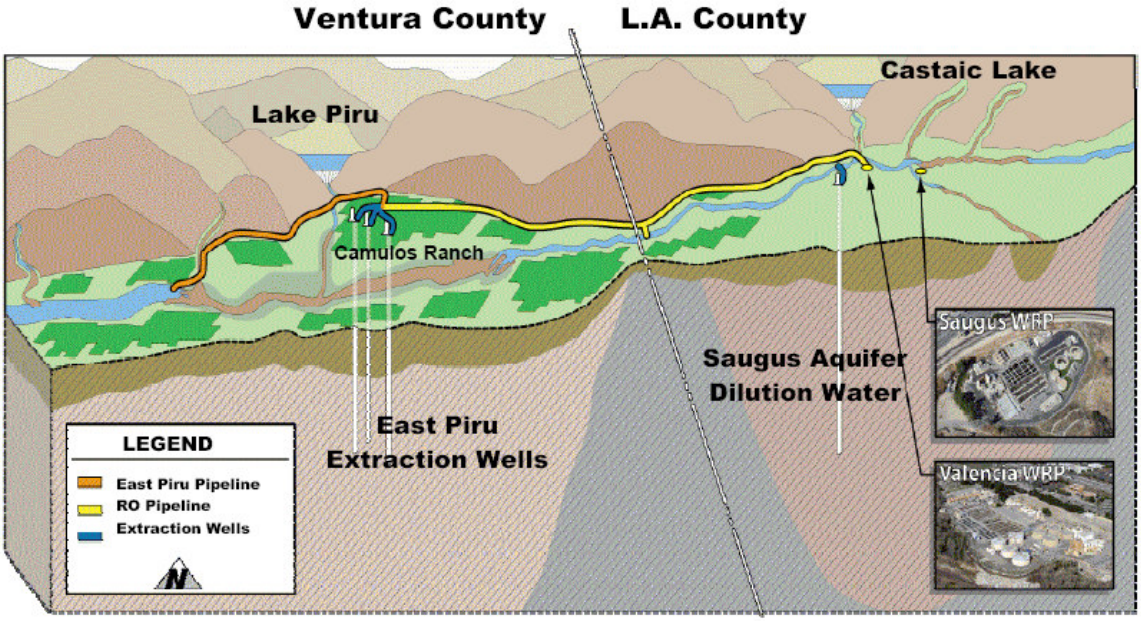


Figure 5-2. Schematic of the Ventura County water supply facilities (Geomatrix, 2008)

Through the blending of high quality Valencia RO water with more saline groundwater underlying Reach 4B, a new blended water supply can be developed and managed, which will not only export salt accumulated in groundwater in the East Piru basin, but also comply with downstream surface water WQOs, and ultimately increase water supplies in the Ventura County through increased flows at the Freeman Diversion. In addition, the extraction of more saline groundwater underlying Reach 4B, will allow for greater recharge of high quality storm flows in the SCR, which are typically low in chloride, lowering chloride levels in the groundwater (Geomatrix, 2008).

Potential impacts from this alternative include impacts to geology and groundwater from the drilling of supply wells. The pumping groundwater would reduce the groundwater levels in Piru Basin. However, by lowering groundwater levels higher quality storm water flows could recharge the groundwater basin and improve the quality in the basin, which would be a positive impact.

5.1.4 SUPPLEMENTAL WATER PIPELINES AND DISCHARGES TO THE SANTA CLARA RIVER

This alternative is to provide low chloride supplemental water pumped from the Saugus Aquifer wells or some other local water resource to the SCR as an interim measure prior to completion of the AWRM Program facilities. The infrastructure already exists and would not need to be constructed. In addition, the release of supplemental water to the SCR would be required during drought conditions to comply with revised WQOs for Reach 4B. These supplemental waters would be delivered through contractual arrangements between the Districts and the Upper Basin Water Purveyors.

Although chloride concentrations in these alternative supplemental water wells are low (20 to 42 mg/L), sulfate concentrations exceed the existing surface water quality objective of 300 mg/L for Reach 6 and the TDS groundwater objectives of 700 mg/L for the groundwater basin underlying Reach 6.

The proposed alternative includes interim wasteload allocations for sulfate and TDS for the dilution water discharges. These wasteload allocations would apply until then end of the TMDL Implementation period in order to allow (1) time for construction of infrastructure to connect the supplemental water to the Valencia WRP and be diluted with the RO permeate, or (2) time for the Districts to conduct additional special studies to provide adequate justification for SSOs for sulfate and TDS. If infrastructure to remove the direct discharge of supplemental water to the USCR is not constructed or if the Regional Board does not approve SSOs for sulfate and TDS, the interim WLAs would expire.

5.1.5 BUILD SUFFICIENT MF/RO FACILITIES AND BRINE DISPOSAL VIA OCEAN OUTFALL

This alternative includes the construction and operation of sufficient MF/RO facilities at the Valencia and Saugus WRPs to ensure the entire effluent discharge (blend of advanced treated and tertiary treated) below the existing WQOs of 100 mg/L. Sufficient MF/RO treatment capacity (i.e. 15.4 MGD at Valencia WRP and 3.6 MGD at Saugus WRP) would be required. MF/RO treatment would result in a significant amount of brine waste that would require the construction of a 43-mile brine disposal pipeline and ocean outfall (LWA, 2008).

A) MF/RO ADVANCED TREATMENT FACILITIES

See 5.1.2 A) MF/RO ADVANCED TREATMENT FACILITIES.

B) BRINE DISPOSAL VIA OCEAN OUTFALL

The MF/RO facility generates brine waste that will be collected and discharged all the way to the Pacific Ocean through a conveyance pipeline to an ocean outfall in the Ventura County. The design of the pipeline may take into consideration of the following criteria, but not limited to:

i. The thickness of the pipe wall, which may have to be increased in sensitive areas to minimize the risk of water loss due to damage or corrosion.

ii. The depth of the pipe, which should take into account sensitivity, land use and the potential for damage due to excavation, construction or agricultural activities.

iii. The provision of stop valves at river crossings, monitoring equipment to identify leaks and facilities to stop leaks.

iv. Maintenance and inspection programs for the operational pipeline may need to be more exhaustive in sensitive areas and there will be a continuing need to monitor development along the route.

v. Emergency procedures for dealing with leaks or damage to the pipeline will need to take into account the time taken to reach the site and effect a repair.

The alignment of the proposed pipeline system will lie within the Santa Clara Watershed, and extend approximately 43 miles from its upstream end in the City of Santa Clarita to its downstream terminus near Harbor Beach in the City of Ventura. The pipeline system could pass through the cities of Santa Clarita, Fillmore, Santa Paula, and Ventura as well as portions of unincorporated Ventura County.

The brine waste discharged to ocean outfall will be diluted by the surrounding seawater. This dilution could be enhanced through the use of a diffuser which has one or more discharge ports along its length to spread the discharge over a wider area, thereby lowering the concentration at any one location. In an ocean outfall, the discharge is of lower salinity than the ocean water, and the discharge has positive buoyancy. The less denser effluent rises in the more denser ocean water after it is discharged (Mickley & Associates, 2006).

The corresponding potential routes to the outfall sites will be based on topography, surrounding environment and other concerns. Routes will include a combination of pipeline and tunneled sections depending upon the existing terrain and the estimated flow rate. Total distance, elevations, materials, and other factors will influence the overall cost of the ocean outfall route. The final outfall to the ocean can be laid at various depths and distances from the shore.

Potential impacts from this alternative include impacts to plant and animal life, especially marine species from the discharge of treated effluent and/or brine waste. Due to the salinity and chemical constituents in the brine waste, the high specific weight of the brine

could create a plume at the outlet and make the brine plume sink to the bottom, which could affect the benthic organisms and plants. Additional impacts could occur during the construction of a conveyance pipeline and an ocean outfall. Mitigation measures should be taken to reduce impacts on the marine environment.

5.1.6 BUILD MINIMAL MF/RO FACILITIES AND EFFLUENT DISPOSAL VIA OCEAN OUTFALL

This alternative was suggested by stakeholders as a potential means of compliance with the current TMDL amended on August 3, 2006, which requires attainment of water quality objectives equal to 100 mg/L. This alternative includes the construction and operation MF/RO treatment facilities for a limited amount of WRPs wastewater (i.e. 4.6 MGD from Valencia WRP and 5.0 MGD from the Saugus WRP). The facilities would be sized to produce sufficient high quality of treated water to meet the existing WQO of 100 mg/L, for discharge to the Santa Clara River (SCR) to maintain river habitat and protected endangered species. The remaining WRP effluent and RO brine waste would be conveyed to the Pacific Ocean in the Ventura County via a 43-mile conveyance pipeline and ocean outfall (Geomatrix, 2008). The objective of this alternative is to export the chlorides in the WRP wastewater exceeding the existing WQOs directly to the ocean rather than discharging them locally to the SCR. In addition, the diversion of wastewater into an ocean disposal pipeline would also serve to dilute and dispose of highly concentrated brine waste from the RO process.

A) MF/RO ADVANCED TREATMENT FACILITIES

See 5.1.2 A) MF/RO ADVANCED TREATMENT FACILITIES.

B) EFFLUENT DISPOSAL VIA OCEAN OUTFALL

The description of pipeline and ocean outfall has been discussed in 5.1.5. B).

6. SETTING, IMPACTS, AND MITIGATION

6.1 INTRODUCTION

This section presents the environmental setting, impacts, and mitigation, where applicable, for the proposed implementation alternatives evaluated in this draft Substitute Environmental Document (SED). The implementation alternatives for achieving compliance with the waterbodies of concern in the Upper Santa Clara River Chloride TMDL (Chloride TMDL) are described in detail in Section 5 of this document and again in the TMDL Staff Report. Each of these implementation alternatives has been independently evaluated in this draft SED. The environmental setting for the waterbodies of concern in the Chloride TMDL is discussed in Section 6.1. Section 6.2 is the environmental checklist, which includes the potential negative environmental impacts of the Implementation Alternatives (see Section 5 for a detailed description of the TMDL Implementation Alternatives).

6.1.1 APPROACH TO ENVIRONMENTAL SETTING AND IMPACT ANALYSIS

Any potential environmental impacts associated with the waterbodies of concern in the Chloride TMDL depend upon the specific compliance projects selected by the responsible jurisdictions, most of whom are public agencies subject to their own CEQA obligations (See details in Public Resources Code § 21159.2). This CEQA substitute document identifies broad mitigation approaches that could be considered at the program level. Consistent with PRC§21159, the substitute document does not engage in speculation or conjecture, but rather considers the reasonably foreseeable environmental impacts of the foreseeable methods of compliance, the reasonably foreseeable feasible mitigation measures, and the reasonably foreseeable alternative means of compliance, which would avoid or reduce the identified impacts.

Within each of the sections listed above, this draft SED evaluates the impacts of each implementation alternative relative to the subject resource area. The physical scope of the environmental setting and the analysis in this SED is the Upper Santa Clara River and surrounding area as shown in Figure 6 -1. This area is the geographic area for assessing impacts of the different implementation alternatives, because the discharge of chloride to this area would be controlled and/or eliminated by any one of or a combination of the implementation alternatives. Also, any potential impacts of implementing the proposed alternatives would be focused in this area.

The implementation alternatives evaluated in this draft SED are evaluated at a program level for impacts for each resource area. An assumption is made that a more detailed project level analysis will be conducted by all responsible agencies once their mode of achieving compliance with the Chloride TMDL has been determined. The analysis in this draft SED assumes that, project proponents will design, install, and maintain implementation measures following all applicable laws, regulations, ordinances, and formally adopted municipal and/or agency codes, standards, and practices. Several handbooks are available and currently used by agencies that provide guidance for the selection certain Design Pollution Prevention, Construction Site, and Maintenance Best Management Practices (BMPs) into a project to minimize environmental impacts (CASQA, 2003, Caltrans, 2007a and 2007b).

6.1.2 PROGRAM LEVEL VERSUS PROJECT LEVEL ANALYSIS

As previously discussed, the Regional Board is the lead agency for the TMDL program, while the responsible agencies are the lead agencies for any and all projects implemented, within their jurisdiction, to comply with the program. The Regional Board does not specify the actual means of compliance by which responsible agencies choose to comply with the TMDL. Therefore, the implementation alternatives are mostly evaluated at a program level in this draft SED. The alternatives assessed at a program level generally are projects that would be implemented as part of TMDL compliance. PRC §21159 places the responsibility of project level analysis on the agencies that will implement the water board's TMDL.

6.1.3 ENVIRONMENTAL SETTING

The Santa Clara River is the largest river system in Southern California that remains in a relatively natural state. The river originates on the northern slope of the San Gabriel Mountains in Los Angeles County, traverses Ventura County, and flows into the Pacific Ocean between the cities of San Buenaventura (Ventura) and Oxnard. Municipalities within the watershed include Santa Clarita, Newhall, Fillmore, Santa Paula, and Ventura (Figure 6-1).

Extensive patches of high quality riparian habitat exist along the length of the river and its tributaries. Two endangered fish, the unarmored stickleback and the steelhead trout, are resident in the river. One of the Santa Clara River's largest tributaries, Sespe Creek, is designated a wild trout stream by the state of California and a wild and scenic river by the United States Forest Service. Piru and Santa Paula Creeks, tributaries to the Santa Clara River, also support steelhead habitat. In addition, the river serves as an important wildlife corridor. The Santa Clara River drains to the Pacific Ocean through a lagoon that supports a large variety of wildlife.

The predominant land uses in the Santa Clara River watershed include agriculture, open space, and residential uses. Revenue from the agricultural industry within the Santa Clara River watershed is estimated at over $700 million annually. Residential use is increasing rapidly both in the upper and lower watershed. The number of housing units in the watershed is estimated to increase by 187 percent from 1997 to 2025.

The upper reaches of the Santa Clara River include Reaches 5 and 6, which are located upstream of the Blue Cut gauging station that lies west of the Los Angeles - Ventura County line between the Cities of Fillmore and Santa Clarita. The upper boundary extends to Bouquet Canyon, upstream of the City of Santa Clarita. The portion of the river within Los Angeles County is generally described as the Upper Santa Clara River, and the portion within Ventura County is generally referred to as the Lower Santa Clara River. Two major point sources, the Saugus and Valencia WRPs, discharge to the USCR. Below Reach 5 are reaches 4A and 4B, divided at the confluence of Piru Creek.

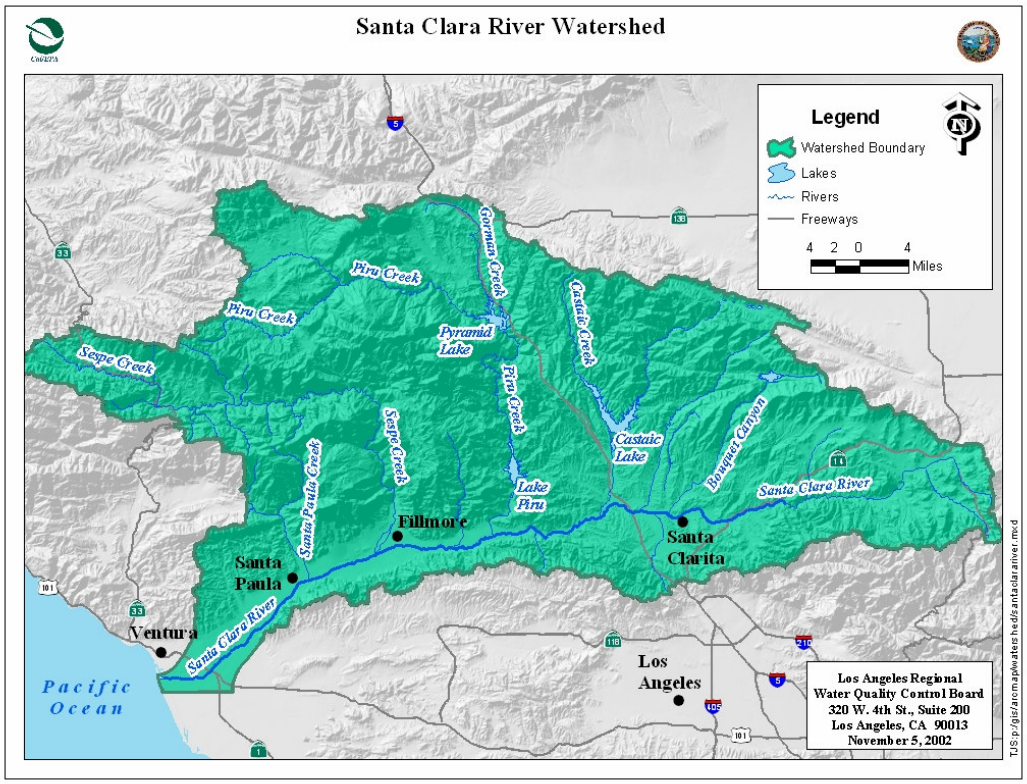


Figure 6-1. Schematic Map of the Santa Clara River Watershed.

Projects under Alternative 2 would take place in the upper Santa Clara River watershed. Schematics of the components of the AWRM facilities required to implement Alternative 2 are presented in 4-1 and 5-2.

6.1.4 BENEFICIAL USES OF UPPER SANTA CLARA RIVER (USCR)

Key beneficial uses for the USCR are described in the Water Quality Control Plan, Los Angeles Region (Basin Plan) and include agricultural supply (AGR), groundwater recharge (GWR) and rare and endangered species habitat (RARE). A full description of each of these beneficial uses is included in the Basin Plan. AGR is designated as existing or potential for all reaches of the Santa Clara River, including the USCR, except the headwaters. GWR is designated as an existing or potential beneficial use for the entire Santa Clara River. RARE is an existing and potential designated beneficial use for the upper reaches included in this TMDL. Two types of endangered and rare aquatic species are known to reside in the watershed: steelhead trout and unarmored three-spine stickleback.

6.2 POTENTIAL EFFECTS OF GLOBAL WARMING

Global warming and the potential impacts on California's future water supplies are a growing topic of concern for water management. California Water Plan Update 2005 prepared by Department of Water Resources (DWR) contains the assessment of such potential impacts in a California Water Plan.

As a result of global climate change, California's future hydrologic conditions will likely be different from patterns observed over the past century. A number of changes including increased temperatures, reductions to the Sierra snowpack, earlier snowmelt, different patterns of precipitation and runoff, and a rising sea may profoundly affect the ability to manage water supplies and other natural resources (CDWR, 2005).

The water quality in the USCR and imported water from State Water Project (SWP) could also be adversely impacted by global warming. A rise in average temperature could result in increased salinity in the SWP water and USCR. Under any climate change-impacted scenario, the responsible agencies may need to consider additional treatment options to respond to water quality impacts such as increased salinity in the SWP water and USCR, additional storage to take advantage of more wet-season water, additional all-weather supply to replace reduced water supply from existing sources, and additional water transfers.

6.3. CEQA CHECKLIST AND DETERMINATION

6.3.1 ENVIRONMENTAL CHECKLIST

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
1.	**Earth. Will the proposal result in:**				
	a. Unstable earth conditions or in changes in geologic substructures?	X			
	b. Disruptions, displacements, compaction or overcoming of the soil?	X			
	c. Change in topography or ground surface relief features?			X	
	d. The destruction, covering or modification of any unique geologic or physical features?			X	
	e. Any increase in wind or water erosion of soils, either on or off the site?	X			
	f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	X			
	g. Exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards?			X	
2.	**Air. Will the proposal result in:**				
	a. Substantial air emissions or deterioration of ambient air quality?	X			
	b. The creation of objectionable odors?			X	
	c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?				X
3.	**Water. Will the proposal result in:**				

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	a. Changes in currents, or the course of direction or water movements, in either marine or fresh waters?	X			
	b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?	X			
	c. Alterations to the course of flow of flood waters?			X	
	d. Change in the amount of surface water in any water body?	X			
	e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?	X			
	f. Alteration of the direction or rate of flow of ground waters?	X			
	g. Change in the quantity or quality of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	X			
	h. Substantial reduction in the amount of water otherwise available for public water supplies?				X
	i. Exposure of people or property to water related hazards such as flooding or tidal waves?	X			
4.	**Plant Life. Will the proposal result in:**				
	a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants)?	X			
	b. Reduction of the numbers of any unique, rare or endangered species of plants?	X			
	c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?				X
	d. Reduction in acreage of any agricultural crop?			X	

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
5.	**Animal Life. Will the proposal result in:**				
	a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?	X			
	b. Reduction of the numbers of any unique, rare or endangered species of animals?	X			
	c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	X			
	d. Deterioration to existing fish or wildlife habitat?	X			
6.	**Noise. Will the proposal result in:**				
	a. Increases in existing noise levels?	X			
	b. Exposure of people to severe noise levels?	X			
7.	**Light and Glare. Will the proposal:**				
	a. Produce new light or glare?				X
8.	**Land Use. Will the proposal result in:**				
	a. Substantial alteration of the present or planned land use of an area?				X
9.	**Natural Resources. Will the proposal result in:**				
	a. Increase in the rate of use of any natural resources?				X
	b. Substantial depletion of any nonrenewable natural resource?				X

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
10.	**Risk of Upset. Will the proposal involve:**				
	a. A risk of an explosion or the release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?	X			
11.	**Population. Will the proposal:**				
	a. Alter the location, distribution, density, or growth rate of the human population of an area?				X
12.	**Housing. Will the proposal:**				
	a. Affect existing housing, or create a demand for additional housing?			X	
13.	**Transportation/Circulation. Will the proposal result in:**				
	a. Generation of substantial additional vehicular movement?	X			
	b. Effects on existing parking facilities, or demand for new parking?			X	
	c. Substantial impact upon existing transportation systems?			X	
	d. Alterations to present patterns of circulation or movement of people and/or goods?			X	
	e. Alterations to waterborne, rail or air traffic?				X
	f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?			X	

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
14.	**Public Service. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:**				
	a. Fire protection?			X	
	b. Police protection?			X	
	c. Schools?			X	
	d. Parks or other recreational facilities?			X	
	e. Maintenance of public facilities, including roads?	X			
	f. Other governmental services?	X			
15.	**Energy. Will the proposal result in:**				
	a. Use of substantial amounts of fuel or energy?	X			
	b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?			X	
16.	**Utilities and Service Systems. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:**				
	a. Power or natural gas?			X	
	b. Communications systems?			X	
	c. Water?	X			
	d. Sewer or septic tanks?	X			
	e. Storm water drainage?			X	
	f. Solid waste and disposal?			X	
17.	**Human Health. Will the proposal result in:**				

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	a. Creation of any health hazard or potential health hazard (excluding mental health)?	X			
	b. Exposure of people to potential health hazards?	X			
18.	**Aesthetics. Will the proposal result in:**				
	a. The obstruction of any scenic vista or view open to the public?	X			
	b. The creation of an aesthetically offensive site open to public view?	X			
19.	**Recreation. Will the proposal result in:**				
	a. Impact upon the quality or quantity of existing recreational opportunities?			X	
20.	**Archeological/Historical. Will the proposal:**				
	a. Result in the alteration of a significant archeological or historical site structure, object or building?	X			
21.	**Mandatory Findings of Significance**				
	Potential to degrade: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X			

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	Short-term: Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.)			X	
	Cumulative: Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)	X			
	Substantial adverse: Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

6.2.2 DISCUSSION OF ENVIRONMENTAL EVALUATION

The analysis of potential environmental impacts is based on the numerous alternative means of compliance available for controlling chloride in the Upper Santa Clara River (USCR) in response to the proposed Basin Plan amendment. These include implementation alternatives such as 1) the reduction of the chloride in Water Reclamation Plant (WRP) effluent through the removal of self-regenerating water softeners (SRWS) and the conversion of chlorination disinfection to Ultra-Violet (UV) disinfection, 2) the construction of a Microfiltration – Reverse Osmosis (MF/RO) facility and brine disposal via deep well injection, 3) the construction of RO water conveyance pipelines, and groundwater extraction wells and a RO blend pipeline, 4) supplemental water pipelines and discharges to the river, 5) the construction of sufficient MF/RO facilities and brine disposal via ocean outfall, and 6) the construction of minimal MF/RO facilities and effluent disposal via ocean outfall. Implementation alternatives for both Program Alternatives 1 and 2 are evaluated. Potential impacts are discussed below. The evaluation considers whether the environmental impact indicated will have a substantial, adverse change in any of the physical conditions within the area affected by the activity. In addition, the evaluation discusses environmental effects in proportion to their severity and probability of occurrence. For many impact areas, potentially significant impacts occur from the implementation alternatives associated with Program Alternative 1. There are fewer potential impacts or less significant impacts due to implementation alternatives associated with Program Alternative 2.

Pursuant to section 13360 of the California Water Code, the Regional Board cannot dictate which compliance measures responsible agencies may choose to adopt or which mitigation measures they would employ to implement the Chloride TMDL. However, the Regional Board does recommend that appropriate compliance and mitigation measures as discussed herein, which are readily available and generally considered to be consistent with industry standards, be applied in order to reduce, and if possible avoid, potential environmental impacts, such that there is no significant impact. Since the decision to perform these measures is strictly within the responsibility and jurisdiction of the individual implementing agencies, such measures can and should be adopted by these agencies. (Title 14, California Code of Regulations, Section 15091(a)(2))

The following analysis considers a range of implementation alternatives that might be used, but is by no means an exhaustive list of available alternatives. When alternatives are selected for implementation, a project level and site-specific CEQA analysis must be performed by the responsible agency.

1. **Earth. a.** Will the proposal result in unstable earth conditions or in changes in geologic substructures?

Answer: Potentially Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in unstable earth conditions or in changes in geologic substructures. No impact would be anticipated.

Ultra-violet (UV) Disinfection Facility

Construction of a UV disinfection facility will involve earthwork including soil excavation, filling, soil compaction and grading, but that would not be of the depth or scale to result in unstable earth conditions or in changes in geologic substructures. The impact would be less than significant.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction of a MF/RO facility will involve earthwork including soil excavation, filling, soil compaction and grading, but that would not be of the depth or scale to result in unstable earth conditions or in changes in geologic substructures. The impact would be less than significant.

Brine Disposal via Deep Well Injection

Implementation of this proposed alternative will involve the construction of conveyance pipelines for deep well injection, which will require soil excavation, trenching and backfilling for short term, and that would not be of the depth or scale to result in unstable earth conditions or in changes in geologic substructures. However, the injection of brine fluids into existing deep wells for brine disposal could result in unstable earth conditions or in changes in geologic substructures. Injection of brine concentrate at the wells could slightly increase the risk of localized low-intensity earthquakes by changing internal pressures within geologic formations. Pressure monitors could be installed in the pipelines and wells to detect leaks and/or catastrophic failure. Proper design and precautions taken during construction and operation of system could prevent any potential impacts.

Groundwater Extraction Wells

Implementation of this proposed alternative will involve earthwork including soil excavation, filling, soil compaction and grading. Well holes drilling could affect the integrity of the cap rock and underground reservoir characteristics, which could result in unstable earth conditions or in changes in geologic substructures. Proper sizing and siting is necessary to ensure extraction wells are installed away from areas with loose or compressible soils, areas with slopes that could destabilize from increased groundwater flow. Geological surveys can be conducted prior to construction to aid in siting the extraction wells.

RO Permeate Pipeline

Construction of a RO permeate pipeline will involve soil excavation, trenching and backfilling, but that would not be of the depth or scale to result in unstable earth conditions or in changes in geologic substructures. The impact would be less than significant.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction of a conveyance pipeline will involve soil excavation, trenching and backfilling, but that would not be of the depth or scale to result in unstable earth conditions or in changes in geologic substructures. The impact would be less than significant.

Supplemental Water Pipelines and Discharges to the River

Construction of conveyance pipelines will involve soil excavation, trenching and backfilling, but that would not be of the depth or scale to result in unstable earth conditions or in changes in geologic substructures. The impact would be less than significant.

Brine Disposal via Ocean Outfall

Implementation of this proposed alternative will involve the construction of a conveyance pipeline to the ocean. This will involve soil excavation, trenching and backfilling, which would not be of the depth or scale to result in unstable earth conditions or in changes in geologic substructures. The impact would be less than significant.

Effluent Discharge via Ocean Outfall

Implementation of this proposed alternative will involve the construction of a conveyance pipeline to the ocean. Construction activities will involve soil excavation, trenching and backfilling, which would not be of the depth or scale to result in unstable earth conditions or in changes in geologic substructures. The impact would be less than significant.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

1. Earth. b. Will the proposal result in disruptions, displacements, compaction or overcoming of the soil?

Answer: Potentially Significant Impact

Disruption of the soil may occur during construction activities associated with installation of advanced treatment facilities, pumps, and pipelines in urbanized areas in the Santa Clara River Watershed. This high amount of urbanization has already led to soil compaction and hardscaping. However, to the extent that any soil is disturbed during construction, standard construction BMPs, including but not limited to, shoring, piling and soil stabilization could mitigate these potential short-term impacts. Prior to earthwork, a geotechnical study could be conducted to evaluate geology and soil conditions.

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in disruptions, displacements, compaction or overcoming of the soil. The impact would be less significant.

Ultra-violet (UV) Disinfection facility

Construction of a UV disinfection facility will involve soil excavation or ground disturbance that could potentially cause disruptions, displacements, compaction or overcoming of the soil as a result of heavy equipment use. However, these impacts would be short term. Proper construction BMPs including but not limited to removal or treatment of liquefiable soils, ground improvements and reinforced foundations could be implemented to prevent any potential impacts.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction of a MF/RO facility will involve soil excavation or ground disturbance that could potentially cause disruptions, displacements, compaction or overcoming of the soil as a result of heavy equipment use. However, these impacts would be short term. Proper construction BMPs including but not limited to removal or treatment of liquefiable soils, ground improvements and reinforced foundations could be implemented to prevent any potential impacts.

Brine Disposal via Deep Well Injection

Implementation of this proposed alternative will involve the injection of brine waste to nearby abandoned oil wells. In addition, the project will involve the construction of conveyance pipelines from RO facility to deep wells, which will require soil excavation or ground disturbance that could potentially cause disruptions, displacements, compaction or overcoming of the soil as a result of heavy equipment use. Proper construction BMPs including but not limited to removal or treatment of liquefiable soils, ground improvements and reinforced foundations could be implemented to prevent any potential impacts.

Groundwater Extraction Wells

Implementation of this proposed alternative will involve soil excavation or ground disturbance that would potentially cause disruptions, displacements, compaction or

overcoming of the soil as a result of heavy equipment use. Proper construction BMPs including but not limited to removal or treatment of liquefiable soils, ground improvements and reinforced foundations could be implemented to prevent any potential impacts.

RO Permeate Pipeline

Implementation of this proposed alternative will involve trenching or ground disturbance that would potentially cause disruptions, displacements, compaction or overcoming of the soil. Proper construction BMPs including but not limited to removal or treatment of liquefiable soils, ground improvements and reinforced foundations could be implemented to prevent any potential impacts.

Conveyance Pipeline for the Blended Groundwater and RO Water

Implementation of this proposed alternative will involve trenching or ground disturbance that would potentially cause disruptions, displacements, compaction or overcoming of the soil. Proper construction BMPs including but not limited to removal or treatment of liquefiable soils, ground improvements and reinforced foundations could be implemented to prevent any potential impacts.

Supplemental Water Pipelines and Discharges to the River

Implementation of this proposed alternative will involve trenching or ground disturbance that would potentially cause disruptions, displacements, compaction or overcoming of the soil. Proper construction BMPs including but not limited to removal or treatment of liquefiable soils, ground improvements and reinforced foundations could be implemented to prevent any potential impacts.

Brine Disposal via Ocean Outfall

Implementation of this proposed alternative will involve the construction of conveyance pipelines from the WRPs and RO facilities to Pacific Ocean. This will involve the construction and operation of subsurface and subsea structures that would potentially cause disruptions, displacements, compaction or overcoming of the soil. Proper construction BMPs including but not limited to removal or treatment of liquefiable soils, ground improvements and reinforced foundations could be implemented to prevent any potential impacts.

Effluent Discharge via Ocean Outfall

Implementation of this proposed alternative will involve the construction of conveyance pipelines from the WRPs and RO facilities to Pacific Ocean. This will involve the construction and operation of subsurface and subsea structures that would potentially cause disruptions, displacements, compaction or overcoming of the soil. Proper construction BMPs including but not limited to removal or treatment of liquefiable soils, ground improvements and reinforced foundations could be implemented to prevent any potential impacts.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

1. **Earth. c.** Will the proposal result in change in topography or ground surface relief features?

Answer: Less Than Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS requires no ground disturbance which might result in change in topography or ground surface relief features. No impact would be anticipated.

Ultra-violet (UV) Disinfection Facility

Implementation of this alternative requires soil excavation or ground disturbance. The construction activities would only be temporary and short-term. This facility would not be of the size or scale to result in change in topography or ground surface relief features. Therefore, the impact would be less than significant.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Implementation of this alternative requires soil excavation or ground disturbance. The construction activities would only be temporary and short-term. This facility would not be of the size or scale to result in change in topography or ground surface relief features. Therefore, the impact would be less than significant.

Brine Disposal via Deep Well Injection

Implementation of this alternative requires soil excavation or ground disturbance to construct pipelines to transport brine waste to existing deep wells for disposal. The construction activities would only be temporary and short-term. This alternative would not be of the size or scale to result in change in topography or ground surface relief features. Therefore, the impact would be less than significant.

Groundwater Extraction Wells

Construction of groundwater extraction wells requires soil excavation or ground disturbance. Extraction wells would not be of the size or scale to result in change in topography or ground surface relief features. Therefore, the impact would be less than significant.

RO Permeate Pipeline

Implementation of this alternative requires soil excavation or ground disturbance. This impact would only be temporary and short-term. The RO permeate pipeline would not be of the size or scale to result in change in topography or ground surface relief features. Therefore, the impact would be less than significant.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction of a conveyance pipeline will involve soil excavation or ground disturbance. This impact would only be temporary and short-term. The conveyance pipeline would not be of the size or scale to result in change in topography or ground surface relief features. Therefore, the impact would be less than significant.

Supplemental Water Pipelines and Discharges to the River

Construction of conveyance pipelines will involve soil excavation or ground disturbance. This impact would only be temporary and short-term. The conveyance pipeline would not be of the size or scale to result in change in topography or ground surface relief features. Therefore, the impact would be less than significant.

Brine Disposal via Ocean Outfall

Implementation of this alternative requires soil excavation or ground disturbance. The impact would only be temporary and short-term. This onshore pipeline and offshore outfall would not be of the size or scale to result in change in topography or ground surface relief features. Therefore, the impact would be less than significant.

Effluent Discharge via Ocean Outfall

Implementation of this alternative requires soil excavation or ground disturbance. The impact would only be temporary and short-term. This onshore pipeline and offshore outfall would not be of the size or scale to result in change in topography or ground surface relief features. Therefore, the impact would be less than significant.

1. Earth d. Will the proposal result in the destruction, covering or modification of any unique geologic or physical features?

Answer: Less Than Significant Impact

Implementation of these proposed alternatives would not be of the size or scale to result in destruction, covering or modification of any unique geologic or physical features. Therefore, the impact would be less significant.

1. Earth. e. Will the proposal result in any increase in wind or water erosion of soils, either on or off the site?

Answer: Potentially Significant Impact

Proposed alternatives will involve earth-moving activities such as excavation, filling, compaction, or grading. The existing on-site groundcover and vegetation would be removed, which could raise the potential for surface soils to be eroded. However, construction related erosion impacts would cease with the cessation of construction. Wind or water erosion of top soils may occur as a potential short-term impact. In urbanized areas, on-site soil erosion during construction activities will be similar to typical temporary capital improvement projects and maintenance activities currently performed by responsible municipalities and/or agencies. Erosion control BMPs could be used during implementation to minimize offsite sediment runoff or deposition. BMPs would include measures such as limiting construction activities to the minimum area necessary, using shoring technique or silt fences, re-vegetating bare soil areas, and covering or stabilizing topsoil stockpiles. Construction sites are required to retain sediment on site, both under general construction stormwater NPDES permits and through the construction program of the applicable MS4 permit; both of which are already designed to minimize or eliminate soil erosion impacts to receiving water.

Self-regenerating Water Softeners (SRWS)

The removal of SRWS requires no ground disturbance which would result in any increase in wind or water erosion of soils, either on or off the site. No impact would be anticipated.

Ultra-violet (UV) Disinfection Facility

Construction of a UV disinfection facility will involve soil excavation and remove on-site vegetation during construction activities. With the loss of the vegetation, surface soils would be exposed to wind and surface runoff. Further, the foundation soils may consist primarily of mixtures of soft clay, silt, silty sand, and sand. These materials could tend to be easily eroded under conditions of uncontrolled wind and surface runoff. Implementing erosion control BMPs would reduce soil erosion impacts.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction of a MF/RO facility will involve soil excavation and remove on-site vegetation during construction activities. With the loss of the vegetation, surface soils would be exposed to wind and surface runoff. Further, the foundation soils may consist primarily of mixtures of soft clay, silt, silty sand, and sand. These materials could tend to be easily eroded under conditions of uncontrolled wind and surface runoff. Implementing erosion control BMPs would reduce soil erosion impacts.

Brine Disposal via Deep Well Injection

Implementation of this alternative requires soil excavation or ground disturbance during temporary construction activities. The foundation soils may consist primarily of mixtures of soft clay, silt, silty sand, and sand. These materials could tend to be easily eroded under conditions of uncontrolled wind and surface runoff. Erosion control BMPs could

be used during implementation to minimize offsite sediment runoff or deposition. Proper design and precautions taken during construction and operation of disposal system would prevent any potential impacts.

Groundwater Extraction Wells

Implementation of this alternative requires soil excavation or ground disturbance during construction activities. The foundation soils may consist primarily of mixtures of soft clay, silt, silty sand, and sand. These materials could tend to be easily eroded under conditions of uncontrolled wind and surface runoff. Erosion control BMPs should be used during implementation to minimize offsite sediment runoff or deposition. Proper design and precautions taken during construction and operation of extraction wells would prevent any potential impacts.

RO Permeate Pipeline

Implementation of this alternative requires soil excavation and trenching during construction activities. The foundation soils may consist primarily of mixtures of soft clay, silt, silty sand, and sand. These materials could tend to be easily eroded under conditions of uncontrolled wind and surface runoff. Erosion control BMPs could be used during implementation to minimize offsite sediment runoff or deposition. Proper design and precautions taken during construction and maintenance of the pipeline would prevent any potential impacts.

Conveyance Pipeline for the Blended Groundwater and RO Water

Implementation of this alternative requires soil excavation and trenching during construction activities. The foundation soils may consist primarily of mixtures of soft clay, silt, silty sand, and sand. These materials could tend to be easily eroded under conditions of uncontrolled wind and surface runoff. Erosion and sediment control BMPs could be used during implementation to minimize offsite sediment runoff or deposition. Proper design and precautions taken during construction and maintenance of the pipeline would prevent any potential impacts.

Supplemental Water Pipelines and Discharges to the River

Implementation of this alternative requires soil excavation and trenching during construction activities. The foundation soils may consist primarily of mixtures of soft clay, silt, silty sand, and sand. These materials could tend to be easily eroded under conditions of uncontrolled wind and surface runoff. Erosion and sediment control BMPs could be used during implementation to minimize offsite sediment runoff or deposition. Proper design and precautions taken during construction and maintenance of the pipeline would prevent any potential impacts.

Brine Disposal via Ocean Outfall

Implementation of this alternative requires soil excavation or ground disturbance during construction activities. The foundation soils may consist primarily of mixtures of soft clay, silt, silty sand, and sand. These materials would tend to be easily eroded under conditions of uncontrolled wind and surface runoff. Erosion and sediment control BMPs should be used during implementation to minimize offsite sediment runoff or deposition.

Proper design and precautions taken during construction and maintenance of the pipeline would prevent any potential impacts.

Effluent Discharge via Ocean Outfall

Implementation of this alternative requires soil excavation or ground disturbance during construction activities. The foundation soils may consist primarily of mixtures of soft clay, silt, silty sand, and sand. These materials would tend to be easily eroded under conditions of uncontrolled wind and surface runoff. Erosion and sediment control BMPs should be used during implementation to minimize offsite sediment runoff or deposition. Proper design and precautions taken during construction and maintenance of the pipeline would prevent any potential impacts.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

1. Earth. f. Will the proposal result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?

Answer: Potentially Significant Impact

The only potentially significant impacts are associated with effluent discharge to surface water, and brine disposal and effluent discharge via ocean outfall.

Self-regenerating Water Softener (SRWS)

The removal of SRWS requires no ground disturbance which would result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake. No impact would be anticipated.

Ultra-violet (UV) Disinfection Facility

This UV Disinfection facility will be installed within the Water Reclamation Plant. Construction on site may cause soil erosion or loss of topsoil. The duration of the disturbance should be minimized to reduce potential for erosion. The impact would only be temporary and less than significant.

Microfiltration-Reverse Osmosis (MF/RO) Facility

This MF/RO facility will be installed within the Water Reclamation Plant. Project construction may cause soil erosion or loss of topsoil. The duration of the disturbance can be minimized to reduce potential for erosion. The impact would only be temporary and less than significant.

Brine Disposal via Deep Well Injection

Project construction may cause soil erosion or loss of topsoil. The duration of the disturbance can be minimized to reduce potential for erosion. This impact would only be temporary and short-term. Therefore, implementation of this alternative would not result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake.

Groundwater Extraction Wells

Project construction may cause soil erosion or loss of topsoil. The duration of the disturbance can be minimized to reduce potential for erosion. This impact would only be temporary and short-term. Therefore, implementation of this alternative would not result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake.

RO Permeate Pipeline

Project construction may cause soil erosion or loss of topsoil. The duration of the disturbance can be minimized to reduce potential for erosion. This impact would only be temporary and short-term. Therefore, implementation of this alternative would not result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake.

Conveyance Pipeline for the Blended Groundwater and RO Water

Project construction may cause soil erosion or loss of topsoil. The duration of the disturbance can be minimized to reduce potential for erosion. This impact would only be temporary and short-term. Therefore, implementation of this alternative would not result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake.

Supplemental Water Pipelines and Discharges to the River

Project construction may cause soil erosion or loss of topsoil. The duration of the disturbance can be minimized to reduce potential for erosion. This impact would only be temporary and short-term. Therefore, implementation of this alternative would not result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake.

Brine Disposal via Ocean Outfall

Project construction may cause disturbance of the bed of the ocean, soil erosion or loss of topsoil. The duration of the disturbance can be minimized to reduce potential for erosion. The construction impact would only be temporary and short-term. Brine discharged to the ocean would result in corresponding changes in siltation, deposition or erosion which may modify the bed of the ocean.

Effluent Discharge via Ocean Outfall

Project construction may cause disturbance of the bed of the ocean, soil erosion or loss of topsoil. The duration of the disturbance can be minimized to reduce potential for erosion. The construction impact would only be temporary and short-term. Brine discharged to the ocean would result in corresponding changes in siltation, deposition or erosion which may modify the bed of the ocean.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

1. Earth. g. Will the proposal result in exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards?

Answer: Less than Significant Impact

Southern California is recognized as a seismically active area. Reasonably well-established historical records of earthquakes in California have been compiled for approximately the past 200 years. More accurate instrumental measurements have been available since 1933, when the last major earthquake occurred in Santa Clarita Valley (SCV). The San Fernando Earthquake (Richter magnitude 6.4) in 1971 and the Northridge Earthquake (Richter magnitude 6.7) both caused significant damage within the SCV (Sanitation Districts of Los Angeles County, 1998a). As demonstrated by historic seismicity, earthquakes generated by displacement along nearby regional faults should be anticipated during the design life of the project.

Seismic ground shaking of relatively loose, granular soils that are saturated or submerged can cause the soils to liquefy and temporarily behave as a dense fluid. This loss of support can produce local ground failure/deformation, such as settlement or lateral spreading that may damage overlying improvements. Liquefaction is caused by a sudden temporary increase in pore water pressure due to seismic densification or other

displacement of submerged granular soils. In particular, areas adjoining rivers or river channel or areas near the shore may have a higher potential for liquefaction due to a relatively high water table proximate to unconsolidated granular sediments.

Appropriate seismic design provisions and mitigation measures are necessary to reduce any potentially significant impacts on the exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards. Proper siting conducted with geotechnical studies prepared at the project level would avoid the risk of damage from seismic-related hazards. It is not reasonably foreseeable that responsible agencies would choose to comply with this TMDL through structural means in areas where doing so would result in exposure of people or property to geologic hazards.

Self-regenerating Water Softeners (SRWS)

It is not anticipated that the removal of SRWS would result in an exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards. The impact would be less significant.

Ultra-violet (UV) Disinfection Facility

The reasonable foreseeable methods will be in compliance with the requirements of the State of California and the Uniform Building Code (UBC). Proper mitigation measures and siting considerations would reduce any potential impacts to a less than significant level.

Microfiltration-Reverse Osmosis (MF/RO) Facility

The reasonable foreseeable methods will be in compliance with the requirements of the State of California and the UBC. Proper mitigation measures and siting considerations would reduce any potential impacts to a less than significant level.

Brine Disposal via Deep Well Injection

Proper siting conducted with geotechnical studies prepared at the project level would avoid the risk of damage from seismic-related hazards. It is not reasonably foreseeable that responsible agencies would choose to comply with this TMDL through structural means in areas where doing so would result in exposure of people or property to geologic hazards.

Groundwater Extraction Wells

Proper siting conducted with geotechnical studies prepared at the project level would avoid the risk of damage from seismic-related hazards. It is not reasonably foreseeable that responsible agencies would choose to comply with this TMDL through structural means in areas where doing so would result in exposure of people or property to geologic hazards. A site-specific geotechnical study would be completed as part of project design and recommendations would be fully implemented to reduce fault rupture and other seismic-related impacts to a less than significant level. Emergency shut-off valves should be designed and installed at all locations where flows would enter the pipeline, especially at critical areas such as active faults zones.

RO Permeate Pipeline

Due to the proximity of several faults, fault rupture is a potential threat, which would adversely affect the proposed pipelines during the design life of the project. A site-specific geotechnical study would be completed as part of project design and recommendations would be fully implemented to reduce fault rupture and other seismic-related impacts to a less than significant level. Emergency shut-off valves should be designed and installed at all locations where flows would enter the pipeline, especially at critical areas such as active faults zones.

Conveyance Pipeline for the Blended Groundwater and RO Water

Due to the proximity of several faults, fault rupture is a potential threat, which would adversely affect the proposed pipelines during the design life of the project. A site-specific geotechnical study would be completed as part of project design and recommendations would be fully implemented to reduce fault rupture and other seismic-related impacts to a less than significant level. Emergency shut-off valves should be designed and installed at all locations where flows would enter the pipeline, especially at critical areas such as active faults zones.

Supplemental Water Pipelines and Discharges to the River

Due to the proximity of several faults, fault rupture is a potential threat, which would adversely affect the proposed pipelines during the design life of the project. A site-specific geotechnical study would be completed as part of project design and recommendations would be fully implemented to reduce fault rupture and other seismic-related impacts to a less than significant level. Emergency shut-off valves should be designed and installed at all locations where flows would enter the pipeline, especially at critical areas such as active faults zones.

Brine Disposal via Ocean Outfall

Due to the proximity of several faults, fault rupture is a potential threat, which would adversely affect the proposed pipelines during the design life of the project. A site-specific geotechnical study would be completed as part of project design and recommendations would be fully implemented to reduce fault rupture and other seismic-related impacts to a less than significant level. Emergency shut-off valves should be designed and installed at all locations where flows would enter the pipeline, especially at critical areas such as active faults zones.

Effluent Discharge via Ocean Outfall

Due to the proximity of several faults, fault rupture is a potential threat, which would adversely affect the proposed pipelines during the design life of the project. A site-specific geotechnical study would be completed as part of project design and recommendations would be fully implemented to reduce fault rupture and other seismic-related impacts to a less than significant level. Emergency shut-off valves should be designed and installed at all locations where flows would enter the pipeline, especially at critical areas such as active faults zones.

2. Air. a. Will the proposal result in substantial air emissions or deterioration of ambient air quality?

Answer: Potentially Significant Impact

The proposed implementation alternatives have the potential to result in significant short-term, construction-related air quality impacts including but not limited to heavy-duty diesel powered vehicles and equipment operation, fugitive dust ($PM_{2.5}$ and PM_{10}) from disturbed soil, and evaporative volatile organic compounds (VOC) emissions from painting activities. These activities may exceed the thresholds of significance recommended by South Coast Air Quality Management District (SCAQMD) for short-term construction activities, including particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), carbon monoxide (CO), VOC, nitrogen oxides (NO_X), and reactive organic gases (ROG). Combustion emissions from construction equipment and vehicles (i.e., heavy equipment and delivery/haul trucks, worker commute vehicles, air compressors, and generators) would be generated during project construction. Emissions from construction worker commute trips would be minor compared to the emissions generated by construction equipment. Mitigation measures for increased air emissions due to increased vehicle trips or use of heavy equipment may include, but are not limited to, the following: 1) use of construction and maintenance vehicles with lower-emission engines, 2) use of soot reduction traps or diesel particulate filters, 3) use of emulsified diesel fuel, and 4) proper maintenance of vehicles and equipment so they operate cleanly and efficiently.

<u>Self-regenerating Water Softeners (SRWS)</u>

It is possible that workers and vehicles may be required to remove SRWS. However, the removal activities are not expected to have noticeable impact on air quality for the level of effort that would be required for the Upper Santa Clara River Watershed (USCR). 5% of homes in the USCR have SRWS; therefore, vehicles required for removal of SRWS would not be significantly greater than existing vehicle traffic.

<u>Ultra-violet (UV) Disinfection Facility</u>

The adverse impacts to ambient air quality may result from short-term increases in traffic during the construction and operational activities. These impacts of air pollutant emissions from vehicles and equipment are temporary and localized to construction and operational project sites. Best available control technologies (BACT) can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

<u>Microfiltration-Reverse Osmosis (MF/RO) Facilities</u>

The adverse impacts to ambient air quality may result from short-term increases in traffic during the construction and operational activities. These impacts of air pollutant emissions from vehicles and equipment are temporary and localized to construction and operational project sites. The operation of MF/RO facilities could also result in increases of carbon dioxide. BACT can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

Brine Disposal via Deep Well Injection

The adverse impacts to ambient air quality may result from short-term increases in traffic during the construction activities and long-term increases in traffic caused by ongoing maintenance of pipelines and deep wells. These impacts of air pollutant emissions from vehicles and equipment are temporary and localized to construction and operational project sites. BACT can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

Groundwater Extraction Wells

The adverse impacts to ambient air quality may result from short-term increases in traffic during the construction and operational activities. These impacts of air pollutant emissions from vehicles and equipment are temporary and localized to construction and operational project sites. BACT can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

RO Permeate Pipeline

Air emissions for the construction of this project would include fugitive dust emissions from trenching activities, construction vehicle emissions, and workers' vehicle emissions. This impact would be temporary and would span the duration of project construction. Mitigation measures for increased air emissions may include, but are not limited to, the following: 1) use of construction and maintenance vehicles with lower-emission engines, 2) use of soot reduction traps or diesel particulate filters, 3) use of emulsified diesel fuel, and 4) proper maintenance of vehicles and equipment so they operate cleanly and efficiently.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction of the proposed pipeline would result in temporary air emissions associated with fugitive dust emissions from trenching activities, construction equipment emissions, and haul truck trips and construction workers' vehicles emissions. These impacts are temporary and localized to construction and operational project sites. BACT can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

Supplemental Water Pipelines and Discharges to the River

Construction of the proposed pipelines would result in temporary air emissions associated with fugitive dust emissions from trenching activities, construction equipment emissions, and haul truck trips and construction workers' vehicles emissions. These impacts are temporary and localized to construction and operational project sites. BACT can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

Brine Disposal via Ocean Outfall

Construction of the proposed pipeline and outfall would result in temporary air emissions associated with fugitive dust emissions from trenching activities, construction equipment

emissions, and haul truck trips and construction workers' vehicles emissions. These impacts are temporary and localized to construction and operational project sites. BACT can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

Effluent Discharge via Ocean Outfall

Construction of the proposed pipeline and outfall would result in temporary air emissions associated with fugitive dust emissions from trenching activities, construction equipment emissions, and haul truck trips and construction workers' vehicles emissions. These impacts are temporary and localized to construction and operational project sites. BACT can be implemented to mitigate air impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

2. Air. b. Will the proposal result in creation of objectionable odors?

Answer: Less Than Significant Impact

It is not expected that implementation of the proposed alternatives would result in objectionable odors. Therefore, the impact would be less than significant.

2. Air. c. Will the proposal result in alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?

Answer: No Impact

Foreseeable methods of compliance would not be of the size or scale to result in alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally. No impact would be anticipated.

3. Water. a. Will the proposal result in changes in currents, or the course of direction or water movements, in either marine or fresh waters?

Answer: Potentially Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in changes in currents, or the course of direction or water movements, in marine or fresh waters. No impact is anticipated.

Ultra-violet (UV) Disinfection Facility

Construction and operation of a UV Disinfection facility would not result in changes in currents, or the course of direction or water movements, in marine or fresh waters. No impact is anticipated.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction and operation of a MF/RO facility would not result in changes in currents, or the course of direction or water movements, in marine or fresh waters. No impact is anticipated.

Brine Disposal via Deep Well Injection

The brine disposal via deep well injection could have potential negative impacts on minimum flows required to support aquatic life in the Upper Santa Clara River (USCR). Potential impacts to the decreased flow in the USCR should be considered at the project level. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wildlife Service (USFWS). Adequately modeling and planning can help mitigate any possible negative impacts caused by changes in water current or water movement.

Groundwater Extraction Wells

Construction and operation of groundwater extraction wells would not result in changes in currents, or the course of direction or water movements, in marine or fresh waters. No impact is anticipated.

RO Permeate Pipeline

Construction and maintenance of a RO permeate pipeline would not result in changes in currents, or the course of direction or water movements, in marine or fresh waters. No impact is anticipated.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction activities of a conveyance pipeline would not result in changes in currents, or the course of direction or water movements in fresh waters. However, the blended water discharged to Reach 4A of the Santa Clara River would impact the habitats of beneficial uses. The increased flows could affect the migration of fish such as steelhead

trout. However, the increased flows at the Freeman Diversion could increase water supplies in the Ventura County, which is a positive impact. Mitigation measures to maintain water quality to support habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS. Adequately modeling, siting and planning can help mitigate any possible negative impacts caused by changes in currents, or the course of direction or water movements in fresh water.

Supplemental Water Pipelines and Discharges to the River

Construction activities of conveyance pipelines would not result in changes in currents, or the course of direction or water movements in fresh waters. However, the supplemental water discharged to the Santa Clara River would impact the habitats of beneficial uses. The increased flows could affect the migration of fish such as steelhead trout. However, the increased flows during the drought condition, which is a positive impact for beneficial uses. Mitigation measures to maintain water quality to support habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS. Adequately modeling, siting and planning can help mitigate any possible negative impacts caused by changes in currents, or the course of direction or water movements in fresh water.

Brine Disposal via Ocean Outfall

The brine disposal via ocean outfall could have potential negative impacts on flows required to support aquatic life in the ocean. Potential impacts of the contaminated brine flow should be considered at the project level. Mitigation measures to maintain water quality to support habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS. Adequately modeling, siting and planning can help mitigate any possible negative impacts caused by changes in currents, or the course of direction or water movements in marine water.

Effluent Discharge via Ocean Outfall

Disposal of effluent from WRPs via ocean outfall could result in changes in currents, or the course of direction or water movements, in either marine or fresh waters by removing the effluent discharge from the Santa Clara River. This could have potential negative impacts on flows required to support aquatic life in the ocean. Potential impacts of the effluent discharge should be considered at the project level. Mitigation measures to maintain water quality to support habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS. Adequately modeling, siting and planning can help mitigate any possible negative impacts caused by changes in currents, or the course of direction or water movements in marine water.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are

required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

3. Water. b. Will the proposal result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?

Answer: Potentially Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff. No impact is anticipated.

Ultra-violet (UV) Disinfection Facility

Construction of a UV facility will involve grading and excavation activities. Temporary staging, use of construction equipment, and maintenance may impede or slow surface water runoff from the WRP facility to the storm drain system. This would be a site specific and localized impact that would not impact the drainage system as a whole. It is anticipated that the addition of an UV facility would be composed of new impervious surfaces, which would reduce the soil absorption rate of stormwater, resulting in an increase in surface water runoff. Mitigation measures are available to mitigate the potential impact, such as buffer strips, detention structure, and other LID measures.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction of a MF/RO facility will involve grading and excavation activities. Temporary staging, use of construction equipment, and maintenance may impede or slow surface water runoff from the WRP facility to the storm drain system. This would be a site specific and localized impact that would not impact the drainage system as a whole. It is anticipated that the addition of a MF/RO facility would be composed of new impervious surfaces, which would reduce the soil absorption rate of stormwater, resulting in an increase in surface water runoff. Mitigation measures are available to mitigate the potential impact, such as buffer strips, detention structure, and other LID measures.

Brine Disposal via Deep Well Injection

The use of existing wells to dispose of brine via injection would not cause changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff. However, to the extent that temporary staging, use of construction equipment, and construction of conveyance pipelines may temporarily impede or slow surface water runoff to the storm drain system. Construction BMPs and mitigation measures are available to mitigate the potential impact. These could include detention structures, vegetated swales, buffer strips, and other LID measures.

Groundwater Extraction Wells

Construction of groundwater extraction wells would involve excavation activities. Temporary staging and use of construction equipment may impede or slow surface water runoff to the storm drain system. This would result in temporary changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff. Construction BMPs and mitigation measures are available to mitigate the potential impact. These could include detention structures, vegetated swales, buffer strips, and other LID measures.

RO Permeate Pipeline

Construction of a RO permeate pipeline would involve trenching and excavation activities. Temporary staging and use of construction equipment may impede or slow surface water runoff to the storm drain system. This would result in temporary changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff. Construction BMPs and mitigation measures are available to mitigate the potential impact. These could include detention structures, vegetated swales, buffer strips, and other LID measures.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction of a conveyance pipeline would involve trenching and excavation activities. Temporary staging and use of construction equipment may impede or slow surface water runoff to the storm drain system. This would result in temporary changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff. Construction BMPs and mitigation measures are available to mitigate the potential impact. These could include detention structures, vegetated swales, buffer strips, and other LID measures.

Supplemental Water Pipelines and Discharges to the River

Construction of conveyance pipelines would involve trenching and excavation activities. Temporary staging and use of construction equipment may impede or slow surface water runoff to the storm drain system. This would result in temporary changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff. Construction BMPs and mitigation measures are available to mitigate the potential impact. These could include detention structures, vegetated swales, buffer strips, and other LID measures.

Brine Disposal via Ocean Outfall

Construction of a pipeline and an ocean outfall will involve trenching and excavation activities. Temporary staging and use of construction equipment may impede or slow surface water runoff to the storm drain system. This would result in temporary changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff. Construction BMPs and mitigation measures are available to mitigate the potential impact. These could include detention structures, vegetated swales, buffer strips, and other LID measures.

Effluent Discharge via Ocean Outfall

Construction of an effluent discharged pipeline and an ocean outfall will involve trenching and excavation activities. Temporary staging and use of construction equipment may impede or slow surface water runoff to the storm drain system. This would result in temporary changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff. Construction BMPs and mitigation measures are available to mitigate the potential impact. These could include detention structures, vegetated swales, buffer strips, and other LID measures.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

3. Water. c. Will the proposal result in alterations to the course of flow of flood waters?

Answer: Less Than Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in alterations to the course of flow of flood waters. No impact is anticipated.

Ultra-violet (UV) Disinfection Facility

A UV Disinfection facility would be built in the Water Reclamation Plant. The construction activities would not affect flood waters and would not result in altering the course of flow of flood waters. No impact is anticipated.

Microfiltration-Reverse Osmosis (MF/RO) Facility

A MF/RO facility would be built in the Water Reclamation Plant. The construction activities would not affect flood waters and would not result in altering the course of flow of flood waters. No impact is anticipated.

Brine Disposal via Deep Well Injection

Temporary staging, use of construction equipment, and maintenance associated with deep well injection would not result in altering the course of flow of flood waters. The impact is less than significant.

Groundwater Extraction Wells

Temporary staging, use of construction equipment, and maintenance associated with extraction wells would not result in altering the course of flow of flood waters. The impact is less than significant.

a RO Permeate Pipeline

Temporary staging, use of construction equipment, and maintenance associated with a RO pipeline would not result in altering the course of flow of flood waters. The impact is less than significant.

Conveyance Pipeline for the Blended Groundwater and RO Water

Temporary staging, use of construction equipment, and maintenance associated with conveyance pipelines would not result in altering the course of flow of flood waters. The impact is less than significant.

Supplemental Water Pipelines and Discharges to the River

Temporary staging, use of construction equipment, and maintenance associated with conveyance pipelines would not result in altering the course of flow of flood waters. The impact is less than significant.

Brine Disposal via Ocean Outfall

Temporary staging, use of construction equipment, and maintenance associated with brine disposal via ocean outfall would not result in altering the course of flow of flood waters. The impact is less than significant.

Effluent Discharge via Ocean Outfall

The removal of WRP effluent from the Santa Clara River would not affect the course of flow of flood waters. The impact is less than significant.

3. Water. d. Will the proposal result in change in the amount of surface water in any water body?

Answer: Potentially Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in change in the amount of surface water in the Upper Santa Clara River (USCR). However, this would reduce the salt into the wastewater collection system through brine discharge from the SRWS.

Ultra-violet (UV) Disinfection Facility

Construction and operation of a UV disinfection system would not result in change in the amount of surface water in the USCR. No impact is anticipated.

Microfiltration-Reverse Osmosis (MF/RO) Facility

The proposed MF/RO facility will produce high quality permeate water and also produce a concentrated brine waste stream that requires disposal. The RO permeate water will be delivered to Reach 4 of the USCR. This would reduce the effluent discharge to Reach 5 of the USCR. However, the discharged water would be of higher quality. Potential impacts that result in change in the amount of surface water in the USCR should be considered at the project level. Mitigation measures to support habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

Brine Disposal via Deep Well Injection

Brine disposal via deep well injection would reduce chloride or other pollutants in the WRP effluent to the USCR. This would be considered to be a positive impact and would help to improve surface water quality. In addition, the brine concentrate would be injected into a deep zone that is not connected with the fresh water aquifers or surface water. The reduction in effluent flows to USCR could have potential negative impacts on minimum flows required to support aquatic life in the USCR. Potential impacts that result in change in the amount of surface water in the USCR should be considered at the project level. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

Groundwater Extraction Wells

The extracted groundwater will be mixed with the RO permeate water, and then it will be discharged to the downstream reaches of the USCR. This would result in an increase of the amount of surface water in the downstream reaches of the USCR. The positive impact would be expected.

RO Permeate Pipeline

Conveyance of the RO permeate water to the downstream reaches of the USCR would reduce the effluent discharge to reach 5 of the USCR. The reduction in effluent flows to reach 5 of the USCR could have potential negative impacts on minimum flows required to support aquatic life in the USCR. Potential impacts that result in change in the amount of surface water in the USCR should be considered at the project level. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

Conveyance Pipeline for the Blended Groundwater and RO Water

The discharge of blended high quality RO water with more saline groundwater underlying Reach 4B will increase the amount of surface water in Reach 4A. Potential impacts that result in change in the amount of surface water in the USCR should be considered at the project level. Mitigation measures to maintain habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

Supplemental Water Pipelines and Discharges to the River

The discharge of supplemental water will increase the amount of surface water. Potential impacts that result in change in the amount of surface water in the USCR

should be considered at the project level. Mitigation measures to maintain habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

Brine Disposal via Ocean Outfall

The RO brine waste will be discharged into the ocean, which could result in decrease of surface water in the Santa Clara River. The reduction in effluent flows to USCR could have potential negative impacts on minimum flows required to support aquatic life in the USCR. Potential impacts that result in change in the amount of surface water in the USCR should be considered at the project level. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

Effluent Discharge via Ocean Outfall

The effluent from WRPs will be discharged into the ocean, which could result in decrease of surface water in the Santa Clara River, especially the average dry weather flow volumes from the WRP discharged point. The reduction in effluent flows to USCR could have potential negative impacts on minimum flows required to support aquatic life in the USCR. Potential impacts that result in change in the amount of surface water in the USCR should be considered at the project level. Mitigation measures to maintain minimal flow to support habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

3. Water. e. Will the proposal result in discharge to surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?

Answer: Potentially Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would reduce the discharge of salt and Total Dissolved Solids (TDS) from the SRWS into the wastewater collection system. A positive impact would occur on Water Reclamation Plant's (WRP) effluent to USCR.

Ultra-violet (UV) Disinfection Facility

The use of UV disinfection at the WRP will reduce chloride loading associated with the existing chloramination facility at the WRP. In addition, the use of UV disinfection will reduce the potential for the formation of disinfection byproducts (i.e. trihalomethanes and N-nitrosodimethylamine) associated with chlorination. The positive impact on surface water quality would be expected.

Microfiltration-Reverse Osmosis (MF/RO) Facility

The proposed MF/RO facility is intended to produce high quality water and also produce a concentrated brine waste stream that requires disposal. This would reduce the amount of effluent discharged to the USCR. However, it would be of higher quality water.

Brine Disposal via Deep Well Injection

The goal of brine disposal via deep well injection is to remove chloride or other pollutants in the WRP's effluent to USCR. This would be considered to be a positive impact and would help to improve surface water quality. In addition, the brine concentrate would be injected into a deep zone that is not connected with the fresh water aquifers or surface water. This will help to meet the revised TMDL WLAs and attain water quality objectives.

Groundwater Extraction Wells

The extracted groundwater would be blended with RO permeate water, and then it would be discharged to the downstream reaches of USCR to attain the chloride objective in the USCR. This would have a positive impact on surface water quality.

RO Permeate Pipeline

Construction of a RO permeate pipeline would not result in an alteration of surface water quality in the USCR. No impact is anticipated. No mitigation measures are required.

Conveyance Pipeline for the Blended Groundwater and RO Water

The discharge of blended high quality RO water with more saline groundwater underlying Reach 4B will reduce the chloride concentration in the groundwater and surface water to comply with revised WQOs. The blending water discharge to the downstream reaches of USCR would be considered to be a positive impact and would help to improve water quality. However, the blended water could degrade the water quality by changing the water temperature and water chemistry in the discharge area. Potential negative impacts that result in change in the water temperature and water chemistry in the SCR should be considered at the project level. Mitigation measures to maintain habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

Supplemental Water Pipelines and Discharges to the River

The discharge of low chloride supplemental water will reduce the chloride concentration in the surface water to comply with revised WQOs. The supplemental water discharge to the downstream reaches of USCR would be considered to be a positive impact and would help to improve water quality. However, the supplemental water could degrade the water quality by changing the water temperature and water chemistry, including sulfate and TDS, in the discharge area. The proposed alternative includes interim wasteload allocations for sulfate and TDS for the supplemental water discharges to allow (1) time for construction of infrastructure to connect the supplemental water to the Valencia WRP and be diluted with the RO permeate, or (2) time for the Districts to conduct additional special studies to provide adequate justification for SSOs for sulfate and TDS. Potential negative impacts that result in change in the water temperature and water chemistry in the SCR should be considered at the project level. These impacts would be temporary and would only occur during the TMDL implementation period. Mitigation measures to maintain habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

Brine Disposal via Ocean Outfall

The RO brine will be discharged into the ocean, which may be increased in temperature, contain residual chemicals from the pretreatment process, heavy metals from corrosion or intermittently used cleaning agents. This would potentially impact the water quality of ocean. These impacts could be mitigated by obtaining appropriate permits for the ocean outfall which could include effluent limits to comply with the Ocean Plan, Thermal Plan, and any other regulatory requirements.

Effluent Discharge via Ocean Outfall

The treated effluent and RO brine waste will be discharged into the ocean, which may be increased in temperature, contain residual chemicals from the pretreatment process, heavy metals from corrosion or intermittently used cleaning agents. This would potentially impact the water quality of ocean. These impacts could be mitigated by obtaining appropriate permits for the ocean outfall which could include effluent limits to comply with the Ocean Plan, Thermal Plan, and any other regulatory requirements.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

3. Water. f. Will the proposal result in alteration of the direction or rate of flow of ground waters?

Answer: Potentially Significant Impact

Most of the implementation alternatives, except brine disposal via deep well injection and the operation of groundwater extraction wells, would not likely change the direction or rate of flow of ground water because systems would not be installed in areas that are not already developed or at depths that could impact the ground water table.

Brine Disposal via Deep Well Injection

Injection of brine waste into deep wells could result in alteration of the direction or rate of flow of ground waters. Monitoring wells should be installed along with injection wells and operators should check monitoring wells regularly to detect any changes to groundwater flow. Proper siting and monitoring conducted with geotechnical studies prepared at the project level would avoid impacts.

Groundwater Extraction Wells

Groundwater with high chloride concentration would be pumped out of the aquifer through a series of extraction wells. When groundwater is extracted from the water-bearing zone, a cone of depression would be created that could draw groundwater into the aquifer. This could result in alteration of the direction or rate of flow of ground waters. Proper siting and monitoring conducted with geotechnical studies prepared at the project level would avoid impacts.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

3. Water. g. Change in the quantity or quality of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

Answer: Potentially Significant Impact

Most of the implementation alternatives, except brine disposal via ocean outfall and deep well injection and the construction of groundwater extraction wells, would not result in change in the quantity or quality of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations.

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in changes in the quantity or quality of ground waters. No impact is anticipated.

Ultra-violet (UV) Disinfection Facility

Construction of a UV disinfection facility will involve excavation activities. However, this would not result in changes in the quantity or quality of ground waters. No impact is anticipated.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction of a MF/RO facility will involve excavation activities. However, this would not result in changes in the quantity or quality of ground waters. No impact is anticipated.

Brine Disposal via Deep Well Injection

Injection of brine wastes into deep wells could result in changes in the quantity or quality of ground waters. Monitoring wells should be installed along with injection wells and operators should check monitoring wells regularly to detect any changes to groundwater quality. Proper siting and monitoring conducted with geotechnical studies prepared at the project level would avoid any potential negative impacts.

Groundwater Extraction Wells

Groundwater with higher chloride concentration will be pumped out of the aquifer through a series of extraction wells. This could result in changes in the quantity of ground waters. The pumping groundwater would reduce the groundwater levels in the shallow groundwater. By lowering groundwater levels, higher quality storm water flows could recharge the groundwater basin and improve the quality in the basin, which would be a positive impact. Proper siting and monitoring conducted with geotechnical studies prepared at the project level would avoid any potential negative impacts.

RO Permeate Pipeline

Construction of a RO permeate pipeline will involve trenching and excavation activities, which would not encounter shallow ground water. Therefore, no impact is anticipated.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction of a conveyance pipeline will involve trenching and excavation activities which would not encounter shallow ground water. Therefore, no impact is anticipated due to construction. The discharge of blended groundwater and RO treated wastewater to Reach 4A could have impacts on downstream reaches and groundwater underlying those reaches, including the Fillmore basin. The AWRM contemplates discharge to 4A not above 95 mg/L, which is below the water quality objective of 100 mg/L, but is greater than existing water quality in Reach 4A and the Fillmore basin. This could cause long term increases in chloride downstream of the TMDL area and impact source water for downstream cities. The raise in chloride in source water could impact the levels of

chloride in Fillmore treatment plant effluent. The discharge to reach 4A will be subject to a NPDES permit and the construction of all AWRM facilities will be subject to a separate CEQA review. Potential mitigation measures to avoid and mitigate downstream impacts could include extending the GWSI model downstream to analyze impacts of variations in of the flow and chloride concentrations downstream of Reach 4B before discharge to 4A begins. The TMDL includes chloride trend monitoring to determine any potential long term impacts to surface water and groundwater downstream of 4B. This would include monitoring in Reach 3 downstream of the Fillmore treatment plant.

Supplemental Water Pipelines and Discharges to the River

Construction of conveyance pipelines will involve trenching and excavation activities which would not encounter shallow ground water. In addition, the release of supplemental water to SCR would not result in changes in the quantity or quality of ground waters. Therefore, no impact is anticipated.

Brine Disposal via Ocean Outfall

Construction of a pipeline and an ocean outfall will involve trenching and excavation activities, which would not encounter shallow ground water. Therefore, no impact is anticipated.

Effluent Discharge via Ocean Outfall

Construction of a pipeline and an ocean outfall will involve trenching and excavation activities, which would not encounter shallow ground water. Therefore, no impact is anticipated due to construction. However, the removal of water from the river could lower water levels underlying groundwater basins, which could increase chloride in groundwater and increase pumping costs.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

3. Water. h. Will the proposal result in substantial reduction in the amount of water otherwise available for public water supplies?

Answer: No Impact

No impact is foreseeable. The implementation alternatives would not reduce public water supplies because the public water supplies are not drawn from the Santa Clara

River. However, implementation alternatives would improve the agricultural water supply by reducing chloride concentrations in surface and ground waters. This would be a positive impact.

3. Water. i. Will the proposal result in exposure of people or property to water related hazards such as flooding or tidal waves?

Answer: Potentially Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in exposure of people or property to water related hazards such as flooding or tidal waves. No impact is anticipated. No mitigation measures are required.

Ultra-violet (UV) Disinfection Facility

A UV disinfection facility may result in flooding hazards if the units or pipelines leak due to the operation of high pressure flows. This potential impact can be mitigated through proper design and monitoring. Potential risks of flooding due to leakage or clogging of units and pipelines can be avoided by monitoring during operations, and regular maintenance and inspection prior to operations.

Microfiltration-Reverse Osmosis (MF/RO) Facility

A MF/RO facility may result in flooding hazards if the units or pipelines leak due to the operation of high pressure flows. This potential impact can be mitigated through proper design and monitoring. Potential risks of flooding due to leakage or clogging of units and pipelines with debris can be avoided by monitoring during operations, and regular maintenance and inspection prior to operations.

Brine Disposal via Deep Well Injection

Deep well injections may result in flooding hazards if the collection or injection pipelines leak due to the operation of high pressure flows. This potential impact can be mitigated through proper design and monitoring. Potential risks of flooding due to clogging of conveyance pipelines or wells with mineral deposits can be avoided by regular maintenance and inspection prior to operations.

Groundwater Extraction Wells

Groundwater extraction wells may result in flooding hazards if leaks occur associated with the operation of high pressure flows. This potential impact can be mitigated through proper design. Potential risks of flooding due to clogging of conveyance pipelines and/or wells with mineral deposits can be avoided by regular maintenance and inspection prior to operations.

RO Permeate Pipeline

A RO permeate pipeline may result in a potentially significant impact due to flooding hazards if the pipeline became broken due to improper design and construction or due to an accident. This potential impact can be mitigated through the proper design, construction, and regular maintenance and monitoring to prevent the leakage.

Conveyance Pipeline for the Blended Groundwater and RO Water

A conveyance pipeline may result in a potentially significant impact due to flooding hazards if the pipeline became broken due to improper design and construction or due to an accident. This potential impact can be mitigated through the proper design, construction, and regular maintenance and monitoring to prevent the leakage.

Supplemental Water Pipelines and Discharges to the River

A conveyance pipeline may result in a potentially significant impact due to flooding hazards if the pipeline became broken due to improper design and construction or due to an accident. This potential impact can be mitigated through the proper design, construction, and regular maintenance and monitoring to prevent the leakage.

Brine Disposal via Ocean Outfall

A conveyance pipeline may result in a potentially significant impact due to flooding hazards if the pipeline became broken due to improper design and construction or due to an accident. This potential impact can be mitigated through the proper design, construction, and regular maintenance and monitoring to prevent the leakage.

Effluent Discharge via Ocean Outfall

A conveyance pipeline may result in a potentially significant impact due to flooding hazards if the pipeline became broken due to improper design and construction or due to an accident. This potential impact can be mitigated through the proper design, construction, and regular maintenance and monitoring to prevent the leakage.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

4. Plant Life. a. Will the proposal result in change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants)?

Answer: Potentially Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in a change in the diversity of species, or number of any species of plants. No impact is anticipated.

Ultra-violet (UV) Disinfection Facility

Construction of a UV disinfection facility will involve soil excavation and remove on-site vegetation during construction activities, which could result in a change in the diversity of species, or number of any species of plants. Excavation activities could disturb and remove the number of plant species at the water reclamation plant (WRP). Proper project siting and planning can help mitigate impacts to the plant life.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction of a MF/RO facility will involve soil excavation and remove on-site vegetation during construction activities, which could result in a change in the diversity of species, or number of any species of plants. Excavation activities could disturb and remove the number of plant species at the WRP. In addition, decreasing effluent discharge because of brine disposal or water supply to East Piru could potentially change the overall aquatic plant habit. Proper project siting and planning can help mitigate impacts to the plant life.

Brine Disposal via Deep Well Injection

Construction of injection well brine disposal systems would potentially result in a change in the diversity of species, or number of any species of plants. Excavation activity could disturb and remove the number of plant species. Proper project siting and planning can help mitigate impacts to the plant life.

Groundwater Extraction Wells

Construction of extraction wells could result in a temporary impact to plants in the construction zone. The number or diversity of plant species could be maintained by preserving them prior, during, and after the construction of extraction wells, or by reestablishing and maintaining the plant communities post construction. Proper project siting and planning can help mitigate impacts to the plant life.

RO Permeate Pipeline

Construction of a RO permeate pipeline could result in a temporary impact to plants in the construction zone. The number or diversity of plant species could be maintained by preserving them prior, during, and after the construction of pipeline, or by reestablishing and maintaining the plant communities post construction. Proper project siting and planning can help mitigate impacts to the plant life.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction of a conveyance pipeline could result in a temporary impact to plants in the construction zone. The number or diversity of plant species could be maintained by preserving them prior, during, and after the construction of conveyance pipelines, or by reestablishing and maintaining the plant communities post construction. The discharge of blended water to Reach 4A of the SCR could result in changes in the diversity of species, or number of any species of plants due to the change of water flows, water temperature and water chemistry in the downstream reaches. The biological studies of the river in areas around the discharge point should be conducted to determine the effects on plant life of the blended water discharge. Proper project siting and planning can help mitigate impacts to the plant life.

Supplemental Water Pipelines and Discharges to the River

Construction of conveyance pipelines could result in a temporary impact to plants in the construction zone. The number or diversity of plant species could be maintained by preserving them prior, during, and after the construction of conveyance pipelines, or by reestablishing and maintaining the plant communities post construction. The discharge of supplemental water to the SCR could result in changes in the diversity of species, or number of any species of aquatic plants due to the change of water flows, water temperature and water chemistry, including sulfate and TDS, in the downstream reaches. The biological studies of the river in areas around the discharge point should be conducted to determine the effects on plant life of the supplemental water discharge. Proper project siting and planning can help mitigate impacts to the plant life.

Brine Disposal via Ocean Outfall

Construction of an ocean outfall brine disposal system could result in a change in the diversity of species, or number of any species of plants. Excavation activities could disturb and remove the number of plant species. Proper project modeling, siting, and planning can help mitigate impacts to the plant life.

Effluent Discharge via Ocean Outfall

Construction of an ocean outfall effluent discharge system could result in a change in the diversity of species, or number of any species of plants. Excavation activities could disturb and remove the number of plant species. Proper project modeling, siting, and planning can help mitigate impacts to the plant life.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are

deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

4. Plant life. b. Will the proposal result in reduction of the numbers of any unique, rare or endangered species of plants?

Answer: Potentially Significant Impact

Mitigation measures could be implemented to ensure that potential impacts to unique, rare or endangered plant species are eliminated. When the specific projects are developed and sites identified, a search of the California Natural Diversity Database (CNDDB) could be employed to confirm that any potentially sensitive plant species or biological habitats in the site area are properly identified and protected as necessary. Focused protocol plant surveys for special-status-plant species could be conducted at each site location, if appropriate.

If sensitive plant species occur on the project site mitigation should be required in accordance with the Endangered Species Act. Mitigation measures should be developed in consultation with the California Department of Fish and Game (CDFG) and the United States Fish and Wildlife Service (USFWS). Responsible agencies should endeavor to avoid compliance measures that could result in reduction of the numbers of any unique, rare or endangered species of plants, and instead opt for such measures and/or identify and install projects in areas that will not reduce the numbers of such plants.

No special-status plant is observed at the Valencia Water Reclamation Plant (Sanitation of Districts of Los Angeles County, 1998b). Based on the study conducted by Impact Sciences Inc. (2006), three sensitive plant species including slender mariposa lily (*Calochortus clavatus var. gracilis*), Peirson's morning-glory (*Calystegia peirsonii*), and California walnut (*Juglans California var. California*) were reported during the survey. Therefore, the construction of implementation alternatives could result in reduction of the numbers of any unique, rare or endangered species of plants that have potential occur in or within the vicinity of the USCR.

<u>Self-regenerating Water Softeners (SRWS)</u>

The removal of SRWS would not result in reduction of the numbers of any unique, rare or endangered species of plants. No impact would be anticipated. No mitigation measures are required.

<u>Ultra-violet (UV) Disinfection Facility</u>

Construction of a UV disinfection facility associated with excavation activities will disturb and remove the number of plant species at the water reclamation plant (WRP). However, there is no special-status plant observed at the WRP. No impact would be anticipated. No mitigation measures are required.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction of a MF/RO facility associated with excavation activities will disturb and remove the number of plant species at the WRP. However, there is no special-status plant observed at the WRP. No impact would be anticipated. No mitigation measures are required.

Brine Disposal via Deep Well Injection

Construction of an injection well brine disposal system associated with excavation activities could disturb and remove the number of plant species including special-status plants observed at the project site. A qualified biologist shall conduct a set of preconstruction surveys for special-status-plant species. Proper project siting and planning can help mitigate impacts to the plant life.

Groundwater Extraction Wells

Construction of extraction wells could result in temporary impacts to plants including special-status plants in the construction zone. The number or diversity of plant species could be maintained by preserving them prior, during, and after the construction of extraction wells, or by reestablishing and maintaining the plant communities post construction. Proper project modeling, siting, and planning can help mitigate impacts to the plant life.

RO Permeate Pipeline

Construction of a RO permeate pipeline could result in temporary impacts to plants including special-status plants in the construction zone. The number or diversity of plant species could be maintained by preserving them prior, during, and after the construction of pipeline, or by reestablishing and maintaining the plant communities post construction. Proper project modeling, siting, and planning can help mitigate impacts to the plant life.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction of a conveyance pipeline could result in temporary impacts to plants including special-status plants in the construction zone. The number or diversity of plant species could be maintained by preserving them prior, during, and after the construction, or by reestablishing and maintaining the plant communities post construction. Proper project modeling, siting, and planning can help mitigate impacts to the plant life.

Supplemental Water Pipelines and Discharges to the River

Construction of conveyance pipelines could result in temporary impacts to plants including special-status plants in the construction zone. The number or diversity of plant species could be maintained by preserving them prior, during, and after the construction, or by reestablishing and maintaining the plant communities post construction. Proper project modeling, siting, and planning can help mitigate impacts to the plant life. The discharge of supplemental water to the SCR could result in changes in the diversity of species, or number of any species of aquatic plants due to the change of water flows, water temperature and water chemistry, including sulfate and TDS, in the downstream reaches. The biological studies of the river in areas around the discharge point should

be conducted to determine the effects on plant life of the supplemental water discharge. Proper project siting and planning can help mitigate impacts to the plant life.

Brine Disposal via Ocean Outfall

Construction of an ocean outfall brine disposal system could result in reduction of the numbers of any unique, rare or endangered species of plants. Excavation activities could disturb and remove the number of plant species including special-status plants. A qualified biologist shall conduct a set of preconstruction surveys for special-status-plant species. Proper project modeling, siting, and planning can help mitigate impacts to the plant life.

Effluent Discharge via Ocean Outfall

Construction of an ocean outfall effluent discharge system could result in reduction of the numbers of any unique, rare or endangered species of plants. Excavation activities could disturb and remove the number of plant species including special-status plants. The effluent from WRPs will be discharged into the ocean, which would result in decrease of water flows in the Santa Clara River, especially the average dry-weather flow volumes from the WRP discharged point to downstream reaches. The reduction in effluent flows to USCR could have potential negative impacts on minimum flows required to support aquatic plants in the USCR. A qualified biologist shall conduct a set of preconstruction surveys for special-status-plant species. Proper project modeling, siting, and planning can help mitigate impacts to the plant life.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

4. Plant life. c. Will the proposal result in introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?

Answer: No Impact

It is not reasonably foreseeable that construction of implementation alternatives would result in the introduction of exotic or invasive plant species into an area. Nor would it result in a barrier to the normal replenishment of existing species.

4. Plant life. d. Will the proposal result in reduction in acreage of any agricultural crop?

Answer: Less Than Significant Impact

In the USCR, some lands are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. To the extent that implementation strategies are employed in agricultural areas, many of these strategies may actually improve agricultural irrigation by reducing chloride concentration in the USCR. The available management practices or other potential strategies are unlikely to lead to a conversion of agricultural land to other uses. Therefore, direct impacts to reduction in acreage of any agricultural crop are expected to be less than significant.

5. Animal Life. a. Will the proposal result in change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?

Answer: Potentially Significant Impact

Depending on the implementation alternative chosen, it is possible that direct or indirect impact to animal life may occur. Responsible agencies should consult with the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) prior to implementing compliance strategies that pose a potentially significant impact to animal life for both protected and non-protected species. Furthermore, many special status bird species and birds are protected by the Migratory Bird Treaty Act. Appropriate measures such as bird, habitat, and nesting surveys for the protection of birds should be taken in conjunction with all construction, operation and maintenance activities at the project sites. Responsible agencies may also choose to implement compliance alternatives that incur less impact on animal life.

<u>Self-regenerating Water Softeners (SRWS)</u>

The removal of SRWS would not result in change in the diversity of species, or numbers of any species of animals. No impact is anticipated.

<u>Ultra-violet (UV) Disinfection Facility</u>

Construction of a UV disinfection facility at an existing WRP could result in change in the diversity of species, or number of any species of animals. Construction noise, vibrations, and human disturbance could affect animals and birds nesting at the WRP. Before construction, a survey for animals and birds should be conducted by a qualified biologist. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

<u>Microfiltration-Reverse Osmosis (MF/RO) Facility</u>

Construction of a MF/RO facility at an existing WRP could result in change in the diversity of species, or number of any species of animals. Construction noise,

vibrations, and human disturbance could cause affect animals and birds nesting at the WRP. In addition, decreasing discharge of effluent because of brine disposal or water supply to East Piru could potentially change the overall fish habit quality. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Brine Disposal via Deep Well Injection

Construction activities related to the brine disposal via deep well injection could result in change in the diversity of species, or number of any species of animals. Noise, human disturbance, and mechanical barriers from equipment could affect wildlife species and birds. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Groundwater Extraction Wells

Construction of extraction wells could result in adverse impacts to animals. Noise from construction activities, human disturbance, and mechanical barriers from equipment could affect wildlife species and birds. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

RO Permeate Pipeline

Construction of a RO permeate pipeline could result in adverse impacts to animals. Noise from construction activities, human disturbance, and mechanical barriers from equipment could affect wildlife species and birds. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction of a conveyance pipeline could result in adverse impacts to animals. Noise from construction activities, human disturbance, and mechanical barriers from equipment could affect wildlife species and birds. The discharge of blended water could affect the survival of fish such as steelhead trout if the temperature of discharge is too high. In addition, increasing discharge of effluent to downstream reaches during low-flow period could potentially change the overall fish habit quality. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Supplemental Water Pipelines and Discharges to the River

Construction of conveyance pipelines could result in adverse impacts to animals. Noise from construction activities, human disturbance, and mechanical barriers from equipment could affect wildlife species and birds. The discharge of supplemental water could affect the survival of fish such as steelhead trout or other animal species by changing the water temperature and water chemistry, including sulfate and TDS, in the discharge area and downstream. The proposed alternative includes interim wasteload allocations for sulfate and TDS for the supplemental water discharges to allow (1) time for construction of infrastructure to connect the supplemental water to the Valencia WRP and be diluted with the RO permeate, or (2) time for the Districts to conduct additional special studies to provide adequate justification for SSOs for sulfate and TDS. Potential negative impacts that result in change in the water temperature and water chemistry in the SCR should be considered at the project level. These impacts would be temporary

and would only occur during the TMDL implementation period. Mitigation measures to maintain habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

In addition, increasing discharge of effluent to downstream reaches during low-flow period could potentially change the overall fish habit quality. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Brine Disposal via Ocean Outfall

Construction of the brine disposal via ocean outfall could result in adverse impacts to animals. Noise from construction activities, human disturbance, and mechanical barriers from equipment could affect wildlife species and birds. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Effluent Discharge via Ocean Outfall

Construction of the effluent discharge via ocean outfall could result in adverse impacts to animals. Noise from construction activities, human disturbance, and mechanical barriers from equipment could affect wildlife species and birds. The effluent from WRPs will be discharged into the ocean, which would result in decrease of water flows in the Santa Clara River, especially the average dry-weather flow volumes from the WRP discharged point to downstream reaches. The reduction in effluent flows to USCR could have potential negative impacts on minimum flows required to support aquatic species in the USCR. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

5. Animal Life. b. Will the proposal result in reduction of the numbers of any unique, rare or endangered species of animals?

Answer: Potentially Significant Impact

Based on a review of the California Natural Diversity Database (CNDDB) and the biological documentation prepared by Sanitation of Districts of Los Angeles County (1998b), 28 special-status wildlife species have potential to inhabit the area along the

Santa Clara River from Saugus to the mouth of the river. Eight threatened or endangered species have been found along the Santa Clara River.

Depending on the implementation alternatives selected, direct or indirect impacts to special-status animal species may possibly occur during and after construction. If special-status species are present during activities such as ground disturbance, construction, operation and maintenance activities associated with the potential projects, direct impacts to special-status species could result including the following:

- Direct loss of a special-status species
- Increased human disturbance in previously undisturbed habitats
- Mortality by construction or other human-related activity
- Impairing essential behavioral activities, such as breeding, feeding or shelter/refugia
- Destruction or abandonment of active nest(s)/den sites
- Direct loss of occupied habitat

In addition, potential indirect impacts may include but are not limited to, the following:

- Displacement of wildlife by construction activities
- Disturbance in essential behavioral activities due to an increase in ambient noise levels and/or artificial light from outdoor lighting around facilities

Mitigation measures, however, could be implemented to ensure that special-status animals are not negatively impacted, nor their habitats diminished. For example, when the specific projects are developed and sites identified, a focus protocol animal survey and/or a search of the CNDDB should be performed to confirm that any potentially special-status animal species in the site area are properly identified and protected as necessary.

If special-status animal species are potentially near the project site area, as required by the Endangered Species Act (ESA), two weeks prior to grading or the construction of facilities and per applicable U.S. Fish and Wildlife Service (USFWS) and/or California Department of Fish and Game (CDFG) protocols, pre-construction surveys to determine the presence or absence of special-status species would be conducted. The surveys should extend an appropriate distance (buffer area) off site in accordance with USFWS and/or CDFG protocols to determine the presence or absence of any special-status species adjacent to the project site. If special-status species are present on the project site or within the buffer area, mitigation would be required under the ESA. To this extent, mitigation measures shall be developed with the USFWS and CDFG to reduce potential impacts.

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in reduction of the numbers of any unique, rare or endangered species of animals. No impact is anticipated.

Ultra-violet (UV) Disinfection Facility

Installation of a UV disinfection facility could temporarily disturb animal species. However, no unique, rare or endangered species of animals has been observed in the vicinity of the water reclamation plant (WRP). Therefore, the impact is less than significant.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Installation of a MF/RO facility could temporarily disturb animal species. However, no unique, rare or endangered species of animals has been observed in the vicinity of the WRP. Therefore, the impact is less than significant.

Brine Disposal via Deep Well Injection

Construction activities related to the brine disposal via deep well injection could result in a temporary impact on the numbers of any unique, rare or endangered species of animals if they are found at the site of the construction. Proper project modeling, siting, and planning as discussed above can help mitigate impacts to the animal life.

Groundwater Extraction Wells

Construction of extraction wells may involve ground disturbance and noise. This could result in reduction of the numbers of any unique, rare or endangered species of animals if they are present in the area. Proper project modeling, siting, and planning as discussed above can help mitigate impacts to the animal life.

RO Permeate Pipeline

Construction of a RO Permeate pipeline is not expected to cause a reduction in unique, rare or endangered animals. However, the construction activities may involve ground disturbance and noise. This could impact animal habitat. Proper project planning can help mitigate impacts to the animal life.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction of a conveyance pipeline is not expected to cause a reduction in unique, rare or endangered animals. However, the construction activities may involve ground disturbance and noise. This could impact animal habitat. The discharge of blended water into Reach 4A of the SCR could affect the survival of fish such as steelhead trout if the temperature of discharge is too high. In addition, increasing discharge of effluent to downstream reaches during low-flow period could potentially change the overall fish habit quality. Proper project planning can help mitigate impacts to the animal life.

Supplemental Water Pipelines and Discharges to the River

Construction of conveyance pipelines is not expected to cause a reduction in unique, rare or endangered animals. However, the construction activities may involve ground disturbance and noise. This could impact animal habitat. The discharge of supplemental water into the SCR could affect the survival of fish such as steelhead trout and other animal species by changing the water temperature and water chemistry, including sulfate and TDS, in the discharge area. The proposed alternative includes interim wasteload allocations for sulfate and TDS for the supplemental water discharges to allow (1) time for construction of infrastructure to connect the supplemental water to the Valencia WRP and be diluted with the RO permeate, or (2) time for the Districts to conduct additional special studies to provide adequate justification for SSOs for sulfate and TDS. Potential negative impacts that result in change in the water temperature and water chemistry in the SCR should be considered at the project level. These impacts would be temporary and would only occur during the TMDL implementation period. Mitigation measures to maintain habitat related beneficial uses should be reviewed and approved by the CDFG and USFWS.

In addition, increasing discharge of effluent to downstream reaches during low-flow period could potentially change the overall fish habit quality. Proper project planning can help mitigate impacts to the animal life.

Brine Disposal via Ocean Outfall

Construction of the brine disposal via ocean outfall could result in adverse impacts to animals. Noise from construction activities, human disturbance, and mechanical barriers from equipment would affect wildlife species, birds, and fishes. The RO brine will be discharged into the ocean, which may be increased in temperature, contain residual chemicals from the pretreatment process, heavy metals from corrosion or intermittently used cleaning agents. The change of marine water quality could adversely affect fishes and marine animals. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Effluent Discharge via Ocean Outfall

Construction of the effluent discharge from WRPs via ocean outfall could result in adverse impacts to animals. Noise from construction activities, human disturbance, and mechanical barriers from equipment would affect wildlife species, birds, and fishes. The treated effluent and RO brine will be discharged into the ocean, which may be increased in temperature, contain residual chemicals from the pretreatment process, heavy metals from corrosion or intermittently used cleaning agents. The change of marine water quality could adversely affect fishes and marine animals. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of

Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

5. Animal Life. c. Will the proposal result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals?

Answer: Potentially Significant Impact

It is not reasonably foreseeable that implementation alternatives will result in the introduction of a new animal species. However, certain potential project sites could function as a travel route or regional wildlife movement corridor.

A travel route is generally described as a landscape feature (such as a ridgeline, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g. water, food, den sites). Wildlife corridors are generally an area of habitat, usually linear in nature, which connect two or more habitat patches that would otherwise be fragmented or isolated from one another. Construction of a brine line or effluent discharge line could potentially impact a travel route.

Implementation alternatives may potentially impact wildlife crossings. A wildlife crossing is a small narrow area relatively short and constricted, which allows wildlife to pass under or through obstacles that would otherwise hinder movement. Crossings are typically manmade and include culverts, underpasses, and drainage pipes to provide access across or under roads, highways, or other physical obstacles.

Construction activities associated with the implementation alternatives and may impact migratory avian species. These avian species may use portions of potential project sites, including ornamental vegetation, during breeding season and may be protected under the Migratory Bird Treaty Act (MBTA) while nesting. The MBTA includes provisions for protection of migratory birds under the authority of the CDFG and USFWS. The MBTA protects over 800 species including, geese, ducks, shorebirds, raptors, songbirds, and many other relatively common species.

If implementation alternatives are implemented at locations where they would cause foreseeable adverse impacts on species migration or movement patters, mitigation measures could be implemented to ensure that impacts which may result in a barrier to the migration or movement of animal is less than significant. Any site-specific wildlife crossings should be evaluated in consultation with CDFG. If a wildlife crossing would be significantly impacted in an adverse manner, then the design of the project should include a new wildlife crossing in the same general location. If construction occurs during the avian breeding season for special status species and/or MBTA-covered species, generally February through August, then prior (within 2 weeks) to the onset of construction activities, surveys for nesting migratory avian species would be conducted on the project site following CDFG and/or USFWS guidelines. If no active avian nests

are identified on or within 200 feet of construction areas, no further mitigation would be necessary.

Alternatively, to avoid impacts, the agencies implementing the TMDL may begin construction after the previous breeding season for covered avian species and before the next breeding season begins. If a protected avian species was to establish an active nest after construction was initiated and outside of the typical breeding season (February – August), the project sponsor, would be required to establish a buffer of 200 feet or as required by USFWS between the construction activities and the nest site.

If active nest for protected avian species are found within the construction footprint or within the 200-foot buffer zone, construction would be required to be delayed within the construction footprint and buffer zone until the young have fledged or appropriate mitigation measures responding to the specific situation are developed in consultation with CDFG or USFWS. These impacts are highly site specific, and assuming they are foreseeable, they would require a project-level analysis and mitigation plan.

Finally, to the extent feasible, responsible agencies should endeavor to avoid compliance measures that could result in significant barriers to the beneficial migration or movement of animals.

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals. No impact is anticipated.

Ultra-violet (UV) Disinfection Facility

Installation of a UV disinfection facility at the WRP would not result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals. No impact is anticipated.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Installation of a MF/RO facility at the WRP would not result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals. No impact is anticipated.

Brine Disposal via Deep Well Injection

Brine disposal via deep well injection would not result in introduction of new species of animals into an area. However, construction activities could potentially cause a minor barrier to the movement of animals in a short term. Therefore, the impact is less than significant.

Groundwater Extraction Wells

Construction of groundwater extraction wells would not result in introduction of new species of animals into an area. However, construction activities could potentially cause a minor barrier to the movement of animals in a short term. Therefore, the impact is less than significant.

RO Permeate Pipeline

Construction of a RO permeate pipeline would not result in introduction of new species of animals into an area. However, construction activities could potentially cause a minor barrier to the movement of animals, and a pipeline could potentially impact wildlife crossings. Proper project modeling, siting, and planning could help mitigate impacts to the migration or movement of animals.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction of a conveyance pipeline would not result in introduction of new species of animals into an area. However, construction activities could potentially cause a minor barrier to the movement of animals, and a pipeline could potentially impact wildlife crossings. Proper project modeling, siting, and planning could help mitigate impacts to the migration or movement of animals.

Supplemental Water Pipelines and Discharges to the River

Construction of conveyance pipelines would not result in introduction of new species of animals into an area. However, construction activities could potentially cause a minor barrier to the movement of animals, and pipelines could potentially impact wildlife crossings if they are located above ground. Proper project modeling, siting, and planning could help mitigate impacts to the migration or movement of animals.

Brine Disposal via Ocean Outfall

Brine disposal via ocean outfall would not result in introduction of new species of animals into an area. However, construction activities could potentially cause a minor barrier to the movement of animals, and a conveyance pipeline could potentially impact wildlife crossings. Proper project modeling, siting, and planning could help mitigate impacts to the migration or movement of animals.

Effluent Discharge via Ocean Outfall

Effluent discharge from WRPs via ocean outfall would not result in introduction of new species of animals into an area. However, construction activities could potentially cause a minor barrier to the movement of animals, and a conveyance pipeline could potentially impact wildlife crossings. Proper project modeling, siting, and planning could help mitigate impacts to the migration or movement of animals.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are

deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

5. Animal Life. d. Will the proposal result in deterioration to existing fish or wildlife habitat?

Answer: Potentially Significant Impact

As previously discussed (see 4. Plant Life and 5. Animal Life), some alternatives will require the removal of some vegetation. The removal of vegetation would reduce wildlife habitat primarily for birds. The impact could be potentially significant. Proper design, inspection, and maintenance may mitigate potentially adverse impacts to existing fish and wildlife habitat.

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in deterioration to existing fish or wildlife habitat. No impact is anticipated.

Ultra-violet (UV) Disinfection Facility

Construction activities could affect the southern cottonwood/willow riparian forest around the WRP. Because the riparian habitats provide great values for wildlife, the loss of riparian vegetation would result in deterioration to existing wildlife habitat. Proper project modeling, siting, and planning can help mitigate impacts to the wildlife habitat.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction activities would affect the southern cottonwood/willow riparian forest around the WRP. Because the riparian habitats provide great values for wildlife, the loss of riparian vegetation would result in deterioration to existing wildlife habitat. However, implementation of the proposed RO facility will considerably improve the fish habitat by providing high quality water to downstream reaches of the Santa Clara River. Proper project modeling, siting, and planning can help mitigate impacts to the wildlife habitat.

Brine Disposal via Deep Well Injection

Installation of brine disposal via deep well injection could potentially result in the deterioration of existing wildlife habitat. The brine concentrate will be injected into a deep zone that is not connected with the fresh water aquifers or surface water. The reduction in effluent flows to the USCR could have potential negative impacts on minimum flows required to support existing fish or wildlife habitat in the USCR. Potential impacts that result in change in the amount of surface water in the USCR should be considered at the project level. Mitigation measures to maintain minimal flow to support existing fish or wildlife habitat should be reviewed and approved by the CDFG and USFWS. Proper project modeling, siting, and planning could help mitigate impacts to wildlife habitat.

Groundwater Extraction Wells

Construction of reasonably foreseeable extraction wells would not likely result in deterioration to existing fish and wildlife habitat. Therefore, the impact is less than significant.

RO Permeate Pipeline

Installation of a RO permeate pipeline could temporarily disturb wildlife habitats, particularly if construction activities occur during the breeding season of birds between February 1 and August 31. The removal of vegetation could reduce wildlife habitats primarily for birds. The impact would be potentially significant.

Conveyance Pipeline for the Blended Groundwater and RO Water

Installation of a conveyance pipeline could temporarily disturb wildlife habitat, particularly if construction activities occur during the breeding season of birds between February 1 and August 31. The removal of vegetation could reduce wildlife habitat primarily for birds. The impact would be potentially significant.

Supplemental Water Pipelines and Discharges to the River

Installation of conveyance pipelines could temporarily disturb wildlife habitat, particularly if construction activities occur during the breeding season of birds between February 1 and August 31. The removal of vegetation could reduce wildlife habitat primarily for birds. The impact would be potentially significant.

Brine Disposal via Ocean Outfall

The RO brine waste will be discharged into the ocean, which could result in decrease of surface water in the Santa Clara River. The reduction in effluent flows to USCR could have potential negative impacts on minimum flows required to support existing fish and wildlife habit in the USCR. Potential impacts that result in change in the amount of surface water in the USCR should be considered at the project level. Mitigation measures to maintain minimal flow to support fish and wildlife habit should be reviewed and approved by the CDFG and USFWS. Proper project modeling, siting, and planning could help mitigate impacts to fish or wildlife habitat.

Effluent Discharge via Ocean Outfall

The effluent from WRPs will be discharged into the ocean, which could result in decrease of surface water in the Santa Clara River, especially the average dry weather flow volumes from the WRP discharged point. The reduction in effluent flows to USCR could have potential negative impacts on minimum flows required to support existing fish and wildlife habit in the USCR. Potential impacts that result in change in the amount of surface water in the USCR should be considered at the project level. Mitigation measures to maintain minimal flow to support existing fish and wildlife habit should be reviewed and approved by the CDFG and USFWS.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

6. Noise. a. Will the proposal result in increases in existing noise levels?

Answer: Potentially Significant Impact

Construction activities of implementation alternatives would potentially involve removal of asphalt and concrete from streets and sidewalks, excavation and shoring, installation of pipelines, installation of the pumps, and repaving of the streets and sidewalks. It is anticipated that installation activities would occur in limited, discrete, and discontinuous areas over a short duration. It is anticipated that excavation would result in the greatest increase in noise levels during the period of construction.

Contractors and equipment manufacturers have been addressing noise problems for many years, and through design improvements, technological advances, and a better understanding of how to minimize exposures to noise, noise effects can be minimized. An operations plan for the specific construction and/or maintenance activities could be developed to address the variety of available measures to limit the impacts from noise to adjacent homes and businesses.

To minimize noise and vibration impacts at nearby sensitive sites, installation activities should be conducted during daytime hours to the extent feasible. There are a number of measures that can be taken to reduce intrusion without placing unreasonable constraints on the installation process or substantially increasing costs. These include noise and vibration monitoring to ensure that contractors take all reasonable steps to minimize impacts when near sensitive areas; noise testing and inspections of equipment to ensure that all equipment on the site is in good condition and effectively muffled; and an active community liaison program.

A community liaison program should keep residents informed about installation plans so they can plan around noise or vibration impacts; it should also provide a conduit for residents to express any concerns or complaints.

Increases in ambient noise levels are expected to be less than significant once mitigation measures have been properly applied.

<u>Self-regenerating Water Softeners (SRWS)</u>

The removal of SRWS would not result in increases in existing noise levels. No impact would be anticipated.

Ultra-violet (UV) Disinfection System

Installation of a UV disinfection facility could result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. The operation of this UV facility would increase noise levels in areas surrounding the facility. However, the noise from UV facility is not significant in comparison with the overall noise from other facilities in the WRP. Therefore, this noise impact would be less than significant.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Installation of a MF/RO facility could result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. The operation of this MF/RO facility would increase noise levels in areas surrounding the facility. However, the noise from MF/RO facility is not significant in comparison with the overall noise from other facilities in the WRP. Therefore, this noise impact would be less than significant.

Brine Disposal via Deep Well Injection

Construction and installation of brine disposal via deep well injection could result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. Therefore, this noise impact could be reduced to a less than significant level.

Groundwater Extraction Wells

Construction and installation of extraction wells could result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. Therefore, this noise impact would be reduced to a less than significant level.

RO Permeate Pipeline

Implementation of the proposed project would result in short-term noise impacts to sensitive noise receptors during construction. Once the pipeline is installed, there would be no long-term operational noise sources associated with the proposed project, except for minor routine maintenance activities. Therefore, this noise impact would be reduced to a less than significant level.

Conveyance Pipeline for the Blended Groundwater and RO Water

Implementation of the proposed project would result in short-term noise impacts to sensitive noise receptors during construction. Once the pipeline is installed, there would be no long-term operational noise sources associated with the proposed project, except for minor routine maintenance activities. Therefore, this noise impact would be reduced to a less than significant level.

Supplemental Water Pipelines and Discharges to the River

Implementation of the proposed project would result in short-term noise impacts to sensitive noise receptors during construction. Once the pipeline is installed, there would be no long-term operational noise sources associated with the proposed project, except for minor routine maintenance activities. Therefore, this noise impact would be reduced to a less than significant level.

Brine Disposal via Ocean Outfall

Implementation of the proposed project would result in short-term noise impacts to sensitive noise receptors during construction. Once the construction of pipeline and ocean outfall is completed, there would be no long-term operational noise sources associated with the proposed project, except for minor routine maintenance activities. Therefore, this noise impact could be reduced to a less than significant level.

Effluent Discharge via Ocean Outfall

Implementation of the proposed project would result in short-term noise impacts to sensitive noise receptors during construction. Once the construction of pipeline and ocean outfall is completed, there would be no long-term operational noise sources associated with the proposed project, except for minor routine maintenance activities. Therefore, this noise impact could be reduced to a less than significant level.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

6. Noise. b. Will the proposal result in exposure of people to severe noise levels?

Answer: Potentially Significant Impact

There will be noise associated with implementation alternatives (see 6 Noise a). Personnel conducting the operation and/or working in the general area may be exposed to severe noise levels. This would require that all personnel be required to wear ear protection in order to mitigate this exposure. The noise mitigation measures have been previously described in response to 6. Noise. a.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

7. Light and Glare. Will the proposal produce new light or glare?

Answer: No Impact

Implementation of the proposed implementation alternatives is not likely to produce new light or glare because none of the reasonably foreseeable means of compliance involve additional sources of light or glare.

8. Land Use. a. Will the proposal result in substantial alteration of the present or planned land use of an area?

Answer: No Impact

It is not anticipated that reasonably foreseeable methods of compliance of implementation alternatives will result in substantial alteration of the present or planned land use of an area, they will not physically divide an established community, nor will they conflict with any land use plan.

9. Natural Resources. a. Will the proposal result in increase in the rate of use of any natural resources,

Answer: No Impact

It is not reasonable foreseeable that construction and operation of implementation alternatives would significantly increase the rate of use of any natural resources or cause substantial depletion of any nonrenewable natural resource. Implementation of proposed alternatives would not require quarrying, mining, dredging, or extraction of locally important mineral resources. Some types of alternatives and treatment facilities may consume electricity to operate pumps, etc., but not at levels which would cause impacts. Furthermore, facilities can be designed to operate hydraulically without the need for pumps. Fuel and energy consumption are discussed in greater detail in item 15 Energy, listed below.

9. Natural Resources. b. Will the proposal result in substantial depletion of any non-renewable natural resource

Answer: No Impact

See response to 9. Natural Resources. a.

10. Risk of Upset. Will the proposal involve a risk of an explosion or the release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?

Answer: Potentially Significant Impact

There is the possibility that hazardous materials (e.g., oil and gasoline) may be present during construction and/or operation of the implementation alternatives. Potential risk of exposure and explosion can be mitigated with proper handling and storage procedures. Compliance with the requirement of California Occupational Health and Safety Administration (Cal/OSHA) and local safety regulations during installation, operations, and maintenance of these alternatives would help to prevent any worksite accidents or accidents involving the release of hazardous materials into the environment. Mitigation may include properly storing hazardous materials in protected areas with fencing and signs to prevent health hazards.

Self-regenerating Water Softeners (SRWS)

The removal of SRWS could involve a risk of the release of hazardous substances in the event of an accident or upset conditions, if the resin of SRWS is released during the removal process. In general resin is an eye and skin irritant, and all contact with eye, skin, and clothing should be avoided. Proper handling of the system would ensure its safe removal.

Ultra-violet (UV) Disinfection Facility

The UV lamps should be covered from view during normal operation to protect workers from the hazard known as welder's flash. When cleaning the system, the workers should wear rubber gloves to prevent direct contact with the cleaning solution, which may cause mild irritation of exposed skin. Proper operation, design, and maintenance of the system will ensure its safe use.

Microfiltration-Reverse Osmosis (MF/RO) Facility

It is possible that operation and maintenance of a MF/RO facility may include de-scaling compounds and other small amounts of cleaning materials that may be considered hazardous. They could be released in the event of an accidient or upset conditions. If so, these chemicals could cause human health effects to plant personnel and surrounding populations, and could cause adverse environmental effects if released to the environment. These hazardous materials should be properly labeled, used and stored according to State and Federal law.

Brine Disposal via Deep Well Injection

The release of hazardous materials (e.g., paint, oil, gasoline) due to accidents is possible during installation and operation. Potential risks of exposure can be mitigated with proper handling and storage procedures. Excavating and replacing the soil would eliminate the potential for worker exposure to the residual petroleum, chemicals, and metals that currently exist at the site.

Groundwater Extraction Wells

The release of hazardous materials such as oil, grease, or fuel due to accidents is possible during construction activities. The construction contractor(s) should prepare a spill prevention and response plan. The plan should list the hazardous materials (including petroleum products) proposed for use or generated at the job site and also describe measures for preventing spills, monitoring hazardous materials, and providing immediate response to spills.

RO Permeate Pipeline

The release of hazardous materials such as oil, grease, or fuel due to accidents is possible during construction activities. The construction contractor(s) should prepare a spill prevention and response plan. The plan should list the hazardous materials (including petroleum products) proposed for use or generated at the job site and also describe measures for preventing spills, monitoring hazardous materials, and providing immediate response to spills.

Conveyance Pipeline for the Blended Groundwater and RO Water

The release of hazardous materials such as oil, grease, or fuel due to accidents is possible during construction activities. The construction contractor(s) should prepare a spill prevention and response plan. The plan should list the hazardous materials (including petroleum products) proposed for use or generated at the job site and also describe measures for preventing spills, monitoring hazardous materials, and providing immediate response to spills.

Supplemental Water Pipelines and Discharges to the River

The release of hazardous materials such as oil, grease, or fuel due to accidents is possible during construction activities. The construction contractor(s) should prepare a spill prevention and response plan. The plan should list the hazardous materials (including petroleum products) proposed for use or generated at the job site and also describe measures for preventing spills, monitoring hazardous materials, and providing immediate response to spills.

Brine Disposal via Ocean Outfall

The project may include excavation in agricultural areas to install pipelines. It is possible that soil contaminated with hazardous materials such as petroleum hydrocarbons or residual concentrations of organo-chlorine pesticides may be released due to an accident, which could result in exposure of construction workers and the public. Contaminated soils should be handled by workers properly trained in accordance with

the requirements of the Cal/OSHA. A Health and Safety Plan should be developed and implemented by qualified individuals to minimize exposure of workers. Contaminated soils should be treated as hazardous materials and proper precautions taken to prevent inhalation (dust control) and skin contact by construction workers.

Effluent Discharge via Ocean Outfall

The project may include excavation in agricultural areas to install pipelines. It is possible that soil contaminated with hazardous materials such as petroleum hydrocarbons or residual concentrations of organo-chlorine pesticides may be released due to an accident, which may result in exposure of construction workers and the public. Contaminated soils should be handled by workers properly trained in accordance with the requirements of the Cal/OSHA. A Health and Safety Plan should be developed and implemented by qualified individuals to minimize exposure of workers. Contaminated soils should be treated as hazardous materials and proper precautions taken to prevent inhalation (dust control) and skin contact by construction workers.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?

Answer: No Impact

It is not anticipated that reasonably foreseeable implementation alternatives would result in an impact to population by altering the location, distribution, density, or growth rate of human population of an area.

12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?

Answer: Less Than Significant Impact

The proposed water quality objectives would not restrict the development of housing near the reaches of the Santa Clara River affected by the proposed SSOs because they do not result in discharge requirements that affect housing or housing development. The

proposed SSOs and AWRM Program were developed based on projected population and housing growth in the Santa Clarita Valley. The GWSI model considered increased effluent flow from the WRPs and the effects of this growth on the chloride levels in the Santa Clara River and underlying aquifers. The proposed SSOs will support water recycling and the use of the AWRM compliance option in the USCR. Both of these factors will provide water resources to support housing that may be lost with other compliance options. The impact would be less than significant.

13. Transportation/Circulation. a. Will the proposal result in generation of substantial additional vehicular movement?

Answer: Potentially Significant Impact

Implementation alternatives would not result in generation of substantial additional long-term vehicular movement. There may be additional vehicular movement during construction of implementation alternatives and during maintenance activities. However, vehicular movement during construction would be temporary, and vehicular movement during maintenance activities would be periodic and only as the vehicle passes through the area. This may generate additional vehicular movement.

In order to reduce the impact of construction traffic, implementation of a construction management plan for specified facilities could be developed to minimize traffic impacts upon the local circulation system. A construction traffic management plan in accordance with the Caltrans Traffic Manual (2004) could address traffic control for any street closure, detour, or other disruption to traffic circulation. The plan could identify the routes that construction vehicles will use to access the site, hours of construction traffic, and traffic controls and detours. The plan could also include plans for temporary traffic control, temporary signage and tripping, location points for ingestion and egress of construction vehicles, staging areas, and timing of construction activity which appropriately limits hours during which large construction equipment may be brought on or off site. Potential impacts could also be reduced by limiting or restricting hours of construction so as to avoid peak traffic times and by providing temporary traffic signals and flagging to facilitate traffic movement.

<u>Self-regenerating Water Softeners (SRWS)</u>

The removal of SRWS would not result in generation of substantial additional vehicular movement. It would require a worker to travel to each work site by regular vehicular trip. Therefore, the impact is considered less than significant.

<u>Ultra-violet (UV) Disinfection Facility</u>

The proposed alternative could result in temporary additional vehicular movement during construction and installation of a UV disinfection facility. Proper construction traffic management as described above could be developed to minimize additional traffic impacts.

<u>Microfiltration-Reverse Osmosis (MF/RO) Facility</u>

The proposed alternative could result in temporary additional vehicular movement during construction and installation of a MF/RO facility. Proper construction traffic management as described above could be developed to minimize additional traffic impacts. If deep well injection of brine was not feasible, it is possible that brine could be trucked from WRPs to other disposal sites. However, in the event that trucking was required, it would not result in generation of substantial additional movement above existing truck and other vehicle traffic in the area of the WRPs.

Brine Disposal via Deep Well Injection

The proposed alternative could result in temporary additional vehicular movement during installation and maintenance of brine disposal system. Proper construction traffic management as described above could be developed to minimize additional traffic impacts.

Groundwater Extraction Wells

The proposed alternative could result in temporary additional vehicular movement during construction and maintenance of groundwater extraction wells. Proper construction traffic management as described above could be developed to minimize additional traffic impacts.

RO Permeate Pipeline

Installation of a RO permeate pipeline could result in additional vehicular movement by working crew. The traffic control plan shall be developed and implemented in accordance with the Caltrans Traffic Manual (2004) or other similar procedures. The plans shall detail the location, schedule, signage, and safety procedures for lane and road closures based on final pipeline engineering design. Proper traffic management as described above could be developed to minimize additional traffic impacts.

Conveyance Pipeline for the Blended Groundwater and RO Water

The proposed alternative could result in temporary additional vehicular movement during installation and maintenance of a conveyance pipeline. Proper construction management as described above could be developed to minimize additional traffic impacts.

Supplemental Water Pipelines and Discharges to the River

The proposed alternative could result in temporary additional vehicular movement during installation and maintenance of conveyance pipelines. Proper construction management as described above could be developed to minimize additional traffic impacts.

Brine Disposal via Ocean Outfall

The proposed alternative could result in temporary additional vehicular movement during installation and maintenance of brine disposal system. Proper construction management as described above could be developed to minimize additional traffic impacts.

Effluent Discharge via Ocean Outfall

The proposed alternative could result in temporary additional vehicular movement during installation and maintenance of effluent discharge through ocean outfall. Proper construction management as described above could be developed to minimize additional traffic impacts.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

13. Transportation/Circulation. b. Effects on existing parking facilities, or demand for new parking?

Answer: Less Than Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not have effects on existing parking facilities, or demand for new parking. It would require one or few workers to each work site by one vehicle. Therefore, the impact would be less than significant.

Ultra-violet (UV) Disinfection Facility

Installation of a UV disinfection facility could result in temporary impacts to parking facilities at WRPs. The construction site would require parking and staging for construction workers and equipment. All parking effects from the installation of a UV disinfection system could be limited to the WRP sites and temporary only. The impact would be less than significant.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Installation of a MF/RO facility could result in temporary impacts to parking facilities at WRPs. The construction site would require parking and staging for construction workers and equipment. All parking effects from the installation could be limited to the WRP sites and temporary only. The impact would be less than significant.

Brine Disposal via Deep Well Injection

Installation of brine disposal via deep well injection could result in short-term impacts to existing parking facilities. Temporary lane closures due to the installation could restrict residential on-street parking access for short periods of time. The construction site would require parking and staging for construction workers and equipment. All parking effects from the installation itself should be limited and temporary only, equipment and materials are to be removed at the completion of a project. The impact would be less than significant.

Groundwater Extraction Wells

Installation of the extraction wells would occur in areas where there is little parking demand; therefore, no impact would be anticipated.

RO Permeate Pipeline

Installation of the RO permeate pipeline would occur in areas where there is little parking demand; therefore, no impact would be anticipated.

Conveyance Pipeline for the Blended Groundwater and RO Water

Installation of the conveyance pipeline would occur in areas where there is little parking demand; therefore, no impact would be anticipated.

Brine Disposal via Ocean Outfall

Installation of brine disposal via ocean outfall could result in short-term impacts to existing parking facilities depending on the land uses over which the pipeline was constructed. Temporary lane closures due to the installation could restrict residential on-street parking access for short periods of time. The construction site would require parking and staging for construction workers and equipment. All parking effects from the construction itself should be limited and temporary only, equipment and materials are to be removed at the completion of a project. The impact would be less than significant.

Effluent Discharge via Ocean Outfall

Installation of brine disposal via ocean outfall could result in short-term impacts to existing parking facilities depending on the land uses over which the pipeline was constructed. Temporary lane closures due to the installation could restrict residential on-street parking access for short periods of time. The construction site would require parking and staging for construction workers and equipment. All parking effects from the construction itself should be limited and temporary only, equipment and materials are to be removed at the completion of a project. The impact would be less than significant.

13. Transportation/Circulation. c. Will the proposal result in substantial impacts upon existing transportation systems?

Answer: Less Than Significant Impact

Depending on the implementation alternatives selected, temporary alterations to existing transportation systems may be required during construction and installation activities. The potential impacts would be limited and short-term. Potential impacts could be reduced by limiting or restricting hours of construction so as to avoid peak traffic times and by providing temporary traffic signals and flagging to facilitate traffic movement.

13. Transportation/Circulation. d. Will the proposal result in alterations to present patterns of circulation or movement of people and/or goods?

Answer: Less Than Significant Impact

See response to "Transportation/Circulation." 13.b., and 13.c.

13. Transportation/Circulation. e. Will the proposal result in alterations to waterborne, rail or air traffic?

Answer: No Impact

It is not reasonably foreseeable that implementation alternatives would result in alterations to waterborne, rail or air traffic.

13. Transportation/Circulation. f. Will the proposal result in increase in traffic hazards to motor vehicles, bicyclists or pedestrians?

Answer: Less Than Significant Impact

The foreseeable implementation alternatives may entail short-term disturbances during the construction of alternatives. Heavy equipment operating adjacent to or within a road could increase the risk of accidents. Construction-generated trucks on project area roadways would interact with other vehicles. Potential conflicts also could occur between construction traffic and motor vehicles, bicyclists and pedestrians. It is not foreseeable that this proposal would result in significant increases in traffic hazards to motor vehicles, bicyclists or pedestrians.

The specific project impacts can be mitigated by appropriate mitigation methods during construction. To the extent that site-specific projects entail excavation in roadways, such excavations should be marked, barricaded, and traffic flow controlled with signals or traffic control personnel in compliance with authorized local police or California Highway Patrol requirements. These methods would be selected and implemented by responsible agencies considering project level concerns. Standard safety measures should be employed including fencing, other physical safety structures, signage, and other physical impediments designed to promote safety and minimize vehicles, pedestrians or bicyclists accidents.

14. Public Service. a. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Fire protection?

Answer: Less Than Significant Impact

It is not reasonably foreseeable that the proposed alternative would have an effect upon or result in a need for new or altered governmental facilities for fire protection services, the construction of which could cause significant environmental impacts. In addition, an Emergency Preparedness Plan could be developed for the construction of proposed new facilities in consultation with local emergency providers to ensure that the proposed project's contribution to cumulative demand on emergency response services is less than significant and would not result in a need for new or altered fire protection services. Any potential impact to fire protection due to diversion of resources is not an "environmental" impact that involves changes in the physical environment.

There is potential for temporary delays in response time of fire vehicles due to road closure/traffic congestion during construction activities. The responsible agencies could notify local emergency service providers of construction activities and road closures and could coordinate with local providers to establish alternative routes and appropriate signage. Most jurisdictions have in place established procedures to ensure safe passage of emergency vehicles during periods of road maintenance, construction, or other attention to physical infrastructure.

14. Public Service. b. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Police protection?

Answer: Less Than Significant Impact

It is not reasonably foreseeable that the proposed alternative would have an effect upon or result in a need for new or altered governmental facilities for police protection services, the construction of which could cause significant environmental impacts. This is because compliance with the revised TMDL would not result in development of land uses for residential, commercial, and/or industrial uses nor would it result in increased growth. In addition, an Emergency Preparedness Plan could be developed for the construction of proposed new facilities in consultation with local emergency providers to ensure that the proposed project's contribution to cumulative demand on emergency response services is less than significant and would not result in a need for new or altered police protection services.

Any potential impact to police protection due to diversion of resources is not an "environmental" impact that involves changes in the physical environment. There is potential for temporary delays in response time of police vehicles due to road closure/traffic congestion during construction activities. The responsible agencies could notify local emergency service providers of construction activities and road closures and could coordinate with local providers to establish alternative routes and appropriate signage. Most jurisdictions have in place established procedures to ensure safe passage of emergency vehicles during periods of road maintenance, construction, or other attention to physical infrastructure.

14. Public Service. c. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Schools?

Answer: Less Than Significant Impact

The proposed implementation alternatives do not include new residential development and are not expected to increase the need for school services. Impacts related to governmental services, including schools are expected to be less than significant.

14. Public Service. d. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: Parks or other recreational facilities?

Answer: Less Than Significant Impact

The proposed implementation alternatives would not result in temporary impacts to Parks or other recreational facilities. Impacts related to governmental services, including Parks or other recreational facilities are expected to be less than significant.

14. Public Service. e. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: maintenance of public facilities, including roads?

Answer: Potentially Significant Impact

Implementation alternatives could potentially impact public service requiring additional maintenance to ensure proper operation. The UV disinfection and MF/RO facilities, brine disposal, and water supply systems require some degree of maintenance, though the frequency and intensity of maintenance vary per the alternatives. These devices can be further designed and engineered to lessen the amount of maintenance and servicing required. While these requirements may result in increases in maintenance costs, any increase will be outweighed by the resulting overall improvement in water quality and protection of aquatic life and water supply beneficial uses.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

14. Public Service. f. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: other government services?

Answer: Potentially Significant Impact

As discussed above, implementation alternatives may include additional maintenance to ensure proper operation of newly installed UV disinfection and MF/RO facilities, brine disposal systems, conveyance pipelines, and water supply systems. Maintenance events could be scheduled to be performed at the same time as other maintenance activities performed by the responsible agencies, or at times when these activities have lower impact, such as periods of low traffic activity and parking demand.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

15. Energy. a. Will the proposal result in use of substantial amounts of fuel or energy?

Answer: Potentially Significant Impact

Installation and operation of implementation alternatives will require energy and fuel for heavy equipment, machinery, pumps, and vehicles. Energy demand during construction and implementation are temporary. Responsible parties can mitigate fuel and energy consumption during construction through the use of more energy efficient vehicles and equipment. Required maintenance is unlikely to use substantial amounts of fuel or energy, substantially increase demand upon existing sources of energy, or require the development of new sources of energy.

<u>Remove Self-regenerating Water Softeners (SRWS)</u>

The removal of SRWS would not result in use of substantial amounts of fuel or energy. The impact would be less than significant.

<u>Ultra-violet (UV) Disinfection Facility</u>

Construction and operation of a UV disinfection facility would not result in use of substantial amounts of fuel or energy. However, a new electrical transmission line could

be added along the existing utility corridor to provide energy for construction and operation of the UV disinfection system.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction and operation of a MF/RO facility could result in use of substantial amounts of electricity. Demineralization using RO is an energy intensive process, requiring high pressure to drive water across the semi-permeable membrane against an osmotic gradient generated by retained salts. New electrical transmission lines could be added to provide energy for construction and operation of the MF/RO system.

Brine Disposal via Deep Well Injection

Construction and operation of a brine disposal deep injection wells would not result in use of substantial amounts of fuel or energy. However, new electrical transmission lines could be added to provide energy for construction and operation of the brine disposal system. Pumps may be required to transport brine for disposal. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures to allow for sufficient hydraulic head in order to take advantage of gravity flow.

Groundwater Extraction Wells

Construction and operation of extraction wells would not result in use of substantial amounts of fuel or energy. However, new electrical transmission lines could be added to provide energy for construction and operation of extraction wells. Pumps would be required to extract ground water. Operation of pumps could result in use of substantial amounts of electricity.

RO Permeate Pipeline

Construction and operation of a RO permeate pipeline would not result in use of substantial amounts of fuel or energy. However, new electrical transmission lines could be added to provide energy for construction and operation of the pipeline. Pumps may be required to transport supplemental water. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures to allow for sufficient hydraulic head in order to take advantage of gravity flow.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction and operation of a conveyance pipeline would not result in use of substantial amounts of fuel or energy. However, new electrical transmission lines could be added to provide energy for construction and operation of the pipeline. Pumps may be required to transport supplemental water. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures to allow for sufficient hydraulic head in order to take advantage of gravity flow.

Supplemental Water Pipelines and Discharges to the River

Construction and operation of conveyance pipelines would not result in use of substantial amounts of fuel or energy. However, new electrical transmission lines could be added to provide energy for construction and operation of the pipeline. Pumps may be required to transport supplemental water. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures to allow for sufficient hydraulic head in order to take advantage of gravity flow.

Brine Disposal via Ocean Outfall

Construction and operation of a brine disposal system via ocean outfall would not result in use of substantial amounts of fuel or energy. However, new electrical transmission lines could be added to provide energy for construction and operation of the brine disposal system. Pumps may be required to transport brine. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures to allow for sufficient hydraulic head in order to take advantage of gravity flow.

Effluent Discharge via Ocean Outfall

Construction and operation of an effluent discharge system via ocean outfall would not result in use of substantial amounts of fuel or energy. However, new electrical transmission lines could be added to provide energy for construction and operation of the brine disposal system. Pumps may be required to transport brine. Downstream groundwater level may be lowered due to decreased flow in the river. Lowering the ground water would also increase pumping costs, possibly require the modification of domestic water wells and increased electrical usage. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures to allow for sufficient hydraulic head in order to take advantage of gravity flow.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

15. Energy. b. Will the proposal result in a substantial increase in demand upon existing sources of energy, or require the development of new sources of energy.

Answer: Less Than Significant Impact

See response to "15. Energy. a." Compliance with the TMDL will not require the development of new sources of energy.

16. Utilities and Service Systems. a. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: power or natural gas?

Answer: Less Than Significant Impact

Installation of implementation alternatives may require alterations or installation of new power (electricity) or natural gas lines. Power (electricity) and natural gas lines might need to be rerouted to accommodate the addition of implementation alternatives. The degree of alteration depends upon local system layouts which careful placement and design can minimize. Many of the implementation projects would occur at existing WRP facilities and would not require new electrical systems. The installation of implementation alternatives would result in a substantial increased need for new systems, or substantial alterations to power or natural gas utilities, is not reasonably foreseeable, because these alternatives are not large enough to substantially tax current power or natural gas sources.

Self-regenerating Water Softeners (SRWS)

The removal of SRWS is not expected to require new or substantial alterations to the power or gas system. The impact would be less significant.

Ultra-violet (UV) Disinfection Facility

Construction and operation of a UV disinfection facility is not expected to require new or substantial alterations to the power or gas system. However, new electrical transmission lines could be added along the existing utility corridor to provide energy for construction and operation of the UV disinfection system. The impact would be less significant.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Demineralization using RO is an energy intensive process, requiring a high pressure to drive water across the semi-permeable membrane against an osmotic gradient generated by retained salts. New electrical transmission lines could be added to provide energy for construction and operation of the MF/RO system. However, the implementation of the proposed alternative would not require or result in the construction of new energy production or transmission facilities, nor will these actions require substantial alterations to power or natural gas utilities. The impact would be less significant.

Brine Disposal via Deep Well Injection

Construction and operation of a brine disposal would not result in use of substantial amounts of power or natural gas. However, new electrical transmission lines could be added to provide energy for construction and operation of the brine disposal system. Pumps may be required to transport brine for disposal. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures to allow for sufficient hydraulic head in order to take advantage of gravity flow. The impact would be less significant.

Groundwater Extraction Wells

Construction and operation of extraction wells would not result in use of substantial amounts of power or natural gas. However, new electrical transmission lines could be added to provide electricity for construction and operation of extraction wells. Pumps would be required to extract groundwater. Operation of pumps could result in use of substantial amounts of electricity.

RO Permeate Pipeline

Construction and operation of a RO permeate pipeline would not result in use of substantial amounts of power or natural gas. However, new electrical transmission lines could be added to provide electricity for construction and operation of the pipeline. Pumps may be required to transport supplemental water. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures to allow for sufficient hydraulic head in order to take advantage of gravity flow.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction and operation of a conveyance pipeline would not result in use of substantial amounts of fuel or energy. However, new electrical transmission lines could be added to provide energy for construction and operation of the pipeline. Pumps may be required to transport supplemental water. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures to allow for sufficient hydraulic head in order to take advantage of gravity flow.

Supplemental Water Pipelines and Discharges to the River

Construction and operation of conveyance pipelines would not result in use of substantial amounts of fuel or energy. However, new electrical transmission lines could be added to provide energy for construction and operation of the pipeline. Pumps may be required to transport supplemental water. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures to allow for sufficient hydraulic head in order to take advantage of gravity flow.

Brine Disposal via Ocean Outfall

Construction and operation of a brine disposal via ocean outfall would not result in use of substantial amounts of power or natural gas. However, new electrical transmission lines could be added to provide electricity for construction and operation of the brine disposal system. Pumps may be required to transport brine. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures or pipelines to allow for sufficient hydraulic head in order to take advantage of gravity flow.

Effluent Discharge via Ocean Outfall

Construction and operation of an effluent discharge system via ocean outfall would not result in use of substantial amounts of power or natural gas. However, new electrical transmission lines could be added to provide electricity for construction and operation of the brine disposal system. Pumps may be required to transport brine. Operation of pumps is not expected to place substantial increases on existing energy supply. Responsible agencies may reduce or avoid the use of pumps by siting and designing structures or pipelines to allow for sufficient hydraulic head in order to take advantage of gravity flow.

16. Utilities and Service Systems. b. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: communications systems?

Answer: Less Than Significant Impact

New systems or alterations to communications systems are not necessarily required for implementation alternatives. It is anticipated that construction and maintenance crews will use various communication systems such as, telephones, cell phones, and radios. These types of communication devices and systems are used daily by the construction and maintenance personnel as part of regular business activities. It is not expected that the implementation of this revised TMDL would create undue stress on the established communication systems and would not require substantial alterations to the current communication system or a new communication system. However, responsible parties could install a remote monitoring system, which could include a new communications system, is possible. A telephone line or wireless communications system could be installed, which would not be a substantial alteration.

16. Utilities and Service Systems. c. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: water?

Answer: Potentially Significant Impact

The implementation alternatives would not result in the development of any large residential, retail, industrial or any other development projects that would significantly increase the demand on the current water supply facilities. However, in order to reduce the chloride loading to the USCR, the proposed implementation alternatives require new

wastewater treatment facilities, such as a UV disinfection facility and a MF/RO facility, and supplemental water supply to meet conditional site specific objectives when chloride levels in source water exceed 80 mg/L.

Self-regenerating Water Softeners (SRWS)

The removal of SRWS is not expected to require new or substantial alterations to the water supply system. The impact would be less significant.

Ultra-violet (UV) Disinfection Facility

Construction activities could require temporary disconnecting and reconnecting or relocating existing utility lines such as water and sewer lines, and underground cables. Although the relocations would be short term and temporary, the impact could be significant. Any necessary disruption or relocation of utility lines will be coordinated with the local agencies or service districts responsible for managing the affected utilities prior to project construction.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction activities could require temporary disconnecting and reconnecting or relocating existing utility lines such as water and sewer lines, and underground cables. Although the relocations would be short term and temporary, the impact could be significant. Any necessary disruption or relocation of utility lines will be coordinated with the local agencies or service districts responsible for managing the affected utilities prior to project construction. The MF/RO would produce up to 3 million gallons of reclaimed water per day, which would be discharged to the USCR for a number of beneficial uses, including agricultural water supply. The impact would be beneficial.

Brine Disposal via Deep Well Injection

Construction and operation of a brine disposal would not result in a need for new water supply systems, or substantial alterations to water supply utilities. The impact would be less significant.

Groundwater Extraction Wells

Construction and operation of extraction wells would not result in a need for new water supply systems, or substantial alterations to water supply utilities. The impact would be less significant.

RO Permeate Pipeline

Construction and operation of a RO permeate pipeline would not result in a need for new water supply systems, or substantial alterations to water supply utilities. The impact would be less significant.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction and operation of a conveyance pipeline would not result in a need for new water supply systems, or substantial alterations to water supply utilities. The impact would be less significant.

Supplemental Water Pipelines and Discharges to the River

The infrastructure for water supply already exists and would not need to be constructed. These supplemental waters would be delivered through contractual arrangements between the Districts and the Upper Basin Water Purveyors and would be discharged directly to the USCR. Any potential impacts to supply which would otherwise be available for other uses could be disclosed in urban water management plans and water supply assessments. Impacts of any transfers that will be relied upon to supply water for blending should disclose impacts to areas of origin of those transfers.

Brine Disposal via Ocean Outfall

Construction and operation of a brine disposal via ocean outfall would not result in a need for new water supply systems, or substantial alterations to water supply utilities. The impact would be less significant.

Effluent Discharge via Ocean Outfall

Construction and operation of the effluent discharge from WRPs via ocean outfall would not result in a need for new water supply systems, or substantial alterations to water supply utilities. The impact would be less significant.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

16. Utilities and Service Systems. d. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: Sewer or septic tanks?

Answer: Potentially Significant Impact

The sewer system throughout the USCR Watershed includes two publicly owned treatment works (POTWs). They include the Saugus Water Reclamation Plant and Valencia Water Reclamation Plant. In general these plants receive wastewater from

commercial, industrial and residential sources. All incoming wastewater receives primary, secondary and tertiary treatment, and then the effluent is disinfected and discharged to Santa Clara River.

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in a need for new systems, or substantial alterations to the sewer or septic tanks. The impact would be less than significant.

Ultra-violet (UV) Disinfection Facility

Construction activities could require temporary disconnecting and reconnecting or relocating existing utility lines such as water and sewer lines, and underground cables. Although the relocations would be short term and temporary, the impact could be significant. Any necessary disruption or relocation of utility lines will be coordinated with the local agencies or service districts responsible for managing the affected utilities prior to project construction.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction activities could require temporary disconnecting and reconnecting or relocating existing utility lines such as water and sewer lines, and underground cables. Although the relocations would be short term and temporary, the impact could be significant. Any necessary disruption or relocation of utility lines will be coordinated with the local agencies or service districts responsible for managing the affected utilities prior to project construction.

Brine Disposal via Deep Well Injection

Construction and operation of a brine disposal would not result in a need for new systems, or substantial alterations to the sewer or septic tanks. The impact would be less than significant.

Groundwater Extraction Wells

Construction and operation of extraction wells would not result in a need for new systems, or substantial alterations to the sewer or septic tanks. The impact would be less than significant.

RO Permeate Pipeline

Construction and operation of a RO permeate pipeline would not result in a need for new systems, or substantial alterations to the sewer or septic tanks. The impact would be less than significant.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction and operation of a conveyance pipeline would not result in a need for new systems, or substantial alterations to the sewer or septic tanks. The impact would be less than significant.

Supplemental Water Pipelines and Discharges to the River

Construction and operation of supplemental water pipelines would not result in a need for new systems, or substantial alterations to the sewer or septic tanks. The impact would be less than significant.

Brine Disposal via Ocean Outfall

Construction and operation of a brine disposal via ocean outfall would not result in a need for new systems, or substantial alterations to the sewer or septic tanks. The impact would be less than significant.

Effluent Discharge via Ocean Outfall

Construction and operation of the effluent discharge via ocean outfall would not result in a need for new systems, or substantial alterations to the sewer or septic tanks. The impact would be less than significant.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

16. Utilities and Service Systems. e. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: storm water drainage?

Answer: Less Than Significant Impact

Self-regenerating Water Softeners (SRWS)

The removal of SRWS would not result in a need for new systems, or substantial alterations to storm water drainage. No impact would be anticipated.

Ultra-violet (UV) Disinfection Facility

It is anticipated that the UV facility site would be composed of impervious surfaces. Therefore, the potential amount of surface runoff could increase. An on-site local storm water drainage system could be implemented to provide adequate drainage. Proper design such as catch basins and conveyance lines by gravity during construction of facility would prevent any potential impacts. The impact would be less than significant.

Microfiltration-Reverse Osmosis (MF/RO) Facility

It is anticipated that the MF/RO facility site would be composed of impervious surfaces. Therefore, the potential amount of surface runoff could increase. An on-site local storm water drainage system could be implemented to provide adequate drainage. Proper design such as catch basins and conveyance lines by gravity during construction of facility would prevent any potential impacts. The impact would be less than significant.

Brine Disposal via Deep Well Injection

Construction and operation of brine disposal via deep well injection would not result in a need for new systems, or substantial alterations to storm water drainage. The impact would be less than significant.

Groundwater Extraction Wells

Construction and operation of groundwater extraction wells would not result in a need for new systems, or substantial alterations to storm water drainage. The impact would be less than significant.

RO Permeate Pipeline

Construction and operation of a RO pipeline would not result in a need for new systems, or substantial alterations to storm water drainage. The impact would be less than significant.

Conveyance Pipeline for the Blended Groundwater and RO Water

Construction and operation of a conveyance pipeline would not result in a need for new systems, or substantial alterations to storm water drainage. The impact would be less than significant.

Supplemental Water Pipelines and Discharges to the River

Construction and operation of supplemental water pipelines would not result in a need for new systems, or substantial alterations to storm water drainage. The impact would be less than significant.

Brine Disposal via Ocean Outfall

Construction and operation of a brine disposal via ocean outfall would not result in a need for new systems, or substantial alterations to storm water drainage. The impact would be less than significant.

Effluent Discharge via Ocean Outfall

Construction and operation of the effluent discharge from WRPs via ocean outfall would not result in a need for new systems, or substantial alterations to storm water drainage. The impact would be less than significant.

16. Utilities and Service Systems. f. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: solid waste and disposal?

Answer: Less Than Significant Impact

Site preparation (such as vegetation removal and grading activities) and construction activities would generate construction wastes. These wastes would require disposal at landfills or other waste disposal facilities within Los Angeles and Ventura Counties. Construction wastes can be recycled at aggregate recycling centers or disposed of at landfills. Improved sorting and recycling methods can reduce the total amount of disposable wastes.

Based on the capacity of landfill within Los Angeles and Ventura Counties, it is not anticipated that the collected construction wastes will cause and exceedance of permitted landfill capacity. In addition, the Los Angeles and Ventura Counties and many municipalities have construction and demolition debris recycling and reuse programs. Recycling and reuse of construction and demolition material can considerably reduce the amount of debris sent to landfills. Impacts on the disposal of solid waste would be less than significant.

17. Human Health. a. Will the proposal result in creation of any health hazard or potential health hazard (excluding mental health)?

Answer: Potentially Significant Impact

To the extent that the construction, operation, and maintenance of implementation alternatives may potentially result in the creation of potential health hazards, a health and safety plan should be prepared and implemented for any project to address potential health hazards. Compliance with the requirements of California Occupational Health and Safety Administration (Cal/OSHA) and local safety regulations during installation, operation, and maintenance of these alternatives would prevent any worksite accidents or accidents involving the release of hazardous materials into the environment, which could harm the public, nearby residents and sensitive receptors such as schools.

The project includes excavation in agricultural areas to install pipelines and construct blending facilities. It is possible that soil contaminated with hazardous materials such as petroleum hydrocarbons or residual concentrations of organo-chlorine pesticides may be encountered along the pipeline alignments, which may result in exposure of construction workers and the public. Public or worker exposure of pesticides or other hazardous materials in soils during project excavation is considered a potentially significant impact.

Excavated materials may also further contaminate the water supply. Samples shall be analyzed for organo-chlorine pesticides, lead, arsenic and total petroleum hydrocarbons according to EPA methods acceptable to the California Department of Toxic Substances Control. Soils with contaminant concentrations above the applicable Preliminary Remediation Goals established by U.S. EPA for residential soil shall be considered contaminated and segregated in a stockpile. Contaminated soil shall be covered with impervious materials to prevent wind erosion and exposure to rainfall and storm run-off.

These materials may be used as backfill, provided they are covered with at least one foot of non-contaminated soil or asphalt concrete.

Remove Self-regenerating Water Softeners (SRWS)

The removal of SRWS could result in creation of health hazard, if the resin of SRWS is released during the removal process. In general resin is an eye and skin irritant, and all contact with eye, skin, and clothing should be avoided. Proper handling of the system will ensure its safe removal.

Ultra-violet (UV) Disinfection Facility

The UV lamps should be covered from view during normal operation to protect workers from the hazard known as welder's flash. When cleaning the system, the workers should wear rubber gloves to prevent direct contact with the cleaning solution, which may cause mild irritation of exposed skin. Proper operation, design, and maintenance of the system will ensure its safe use.

Microfiltration-Reverse Osmosis (MF/RO) Facility

It is possible that operation and maintenance of a MF/RO facility may include de-scaling compounds and other small amounts of cleaning materials that may be considered hazardous. If so, these materials should be properly labeled, used and stored according to State and Federal law.

Brine Disposal via Deep Well Injection

It is reasonably foreseeable that hazards or hazardous materials could be encountered during the installation of deep well injection for brine disposal. Contamination could exist depending on the current and historical land uses of the area. Depending on its location, this implementation alternative could be proposed in areas of existing oil fields and/or methane zones or in areas with contaminated soils or groundwater. The use of hazardous materials (e.g., paint, oil, gasoline) and potential for accidents is also likely during installation. Potential risks of exposure can be mitigated with proper handling and storage procedures. Excavating and replacing the soil would eliminate the potential for worker exposure to the residual petroleum, chemicals, and metals that currently exist at the site.

Groundwater Extraction Wells

Exposure to dust and fine particulates associated with all phases of construction activities (e.g., shoveling, ripping, drilling, blasting, flame-jet cutting, transport, crushing, grinding, screening, and stockpiling operations) could become hazardous to the public or to maintenance workers. Cal/OSHA-required Health and Safety Training along and proper application safety equipment (e.g., gloves, inhalers, and protective eye wear) may mitigate potential impacts to human health during construction activities.

RO Permeate Pipeline

Exposure to dust and fine particulates associated with all phases of construction activities (e.g., shoveling, ripping, drilling, blasting, flame-jet cutting, transport, crushing,

grinding, screening, and stockpiling operations) could become hazardous to the public or to maintenance workers. Cal/OSHA-required Health and Safety Training along and proper application safety equipment (e.g., gloves, inhalers, and protective eye wear) may mitigate potential impacts to human health during construction activities.

Conveyance Pipeline for the Blended Groundwater and RO Water

Exposure to dust and fine particulates associated with all phases of construction activities (e.g., shoveling, ripping, drilling, blasting, flame-jet cutting, transport, crushing, grinding, screening, and stockpiling operations) could become hazardous to the public or to maintenance workers. The project includes excavation in agricultural areas to install pipelines and construct blending facilities. It is possible that soil contaminated with hazardous materials such as petroleum hydrocarbons or residual concentrations of organo-chlorine pesticides may be encountered, which may result in exposure of construction workers and the public. Cal/OSHA-required Health and Safety Training along and proper application safety equipment (e.g., gloves, inhalers, and protective eye wear) may mitigate potential impacts to human health during construction activities.

Supplemental Water Pipelines and Discharges to the River

Exposure to dust and fine particulates associated with all phases of construction activities (e.g., shoveling, ripping, drilling, blasting, flame-jet cutting, transport, crushing, grinding, screening, and stockpiling operations) could become hazardous to the public or to maintenance workers. The project includes excavation in agricultural areas to install pipelines or pumps. It is possible that soil contaminated with hazardous materials such as petroleum hydrocarbons or residual concentrations of organo-chlorine pesticides may be encountered, which may result in exposure of construction workers and the public. Cal/OSHA-required Health and Safety Training along and proper application safety equipment (e.g., gloves, inhalers, and protective eye wear) may mitigate potential impacts to human health during construction activities.

Brine Disposal via Ocean Outfall

Exposure to dust and fine particulates associated with all phases of construction activities (e.g., shoveling, ripping, drilling, blasting, flame-jet cutting, transport, crushing, grinding, screening, and stockpiling operations) could become hazardous to the public or to maintenance workers. The project includes excavation in agricultural areas to install pipelines. It is possible that soil contaminated with hazardous materials such as petroleum hydrocarbons or residual concentrations of organo-chlorine pesticides may be encountered along the pipeline alignments, which may result in exposure of construction workers and the public. Cal/OSHA-required Health and Safety Training along and proper application safety equipment (e.g., gloves, inhalers, and protective eye wear) may mitigate potential impacts to human health during construction activities.

Effluent Discharge via Ocean Outfall

Exposure to dust and fine particulates associated with all phases of construction activities (e.g., shoveling, ripping, drilling, blasting, flame-jet cutting, transport, crushing, grinding, screening, and stockpiling operations) could become hazardous to the public or to maintenance workers. The project includes excavation in agricultural areas to install pipelines. It is possible that soil contaminated with hazardous materials such as

petroleum hydrocarbons or residual concentrations of organo-chlorine pesticides may be encountered along the pipeline alignments, which may result in exposure of construction workers and the public. Cal/OSHA-required Health and Safety Training along and proper application safety equipment (e.g., gloves, inhalers, and protective eye wear) may mitigate potential impacts to human health during construction activities.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

17. Human Health. b. Will the proposal result in exposure of people to potential health hazards?

Answer: Potentially Significant Impact

See response to 17 Human Health a.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

18. Aesthetics. a. Will the proposal result in the obstruction of any scenic vista or view open to the public?

Answer: Potentially Significant Impact

<u>Self-regenerating Water Softeners (SRWS)</u>

Implementation of this alternative would not result in the obstruction of any scenic vista or view open to the public.

<u>Ultra-violet (UV) Disinfection Facility</u>

Construction of a UV facility will occur at an existing WRP and would not alter result in an impairment of scenic vista or view open to the public. No impact would be anticipated.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction of a MF/RO facility will occur at an existing WRP and would not alter result in an impairment of scenic vista or view open to the public. No impact would be anticipated.

Brine Disposal via Deep Well Injection

Construction of brine disposal could potentially result in a temporary impairment of scenic vista or view open to the public and create aesthetically offensive site open to the public view. Project construction would require site grading, construction materials stockpiling and storage, and the use of construction equipment. This construction impact would be localized and short-term, lasting during the normal working hours at specific locations. Construction BMPs such as screening and landscaping can help mitigate aesthetic impacts. Construction materials and equipment shall be removed from the site as soon as they are no longer necessary.

Groundwater Extraction Wells

Construction of groundwater extraction wells could potentially result in a temporary impairment of scenic vista or view open to the public and create aesthetically offensive site open to the public view. This construction impact would be localized and short-term, lasting during the normal working hours at specific locations. Construction BMPs such as screening and landscaping can help mitigate aesthetic impacts. Construction materials and equipment should not be stored on public streets. Excess excavated material should be removed from the site immediately. Once constructed, densely vegetated systems may actually improve the aesthetic appeal of the surrounding areas of extraction wells.

RO Permeate Pipeline

A RO permeate pipeline is above ground structure and therefore installing it at a particular location could result in an impairment of scenic and opens views to the public. Construction materials and equipment should not be stored on public streets. Excess excavated material should be removed from the site immediately. Construction BMPs such as screening and landscaping can be used to reduce temporary impacts from aesthetically offensive installation activities. Once constructed, densely vegetated systems may actually improve the aesthetic appeal of the surrounding areas of the pipeline.

Conveyance Pipeline for the Blended Groundwater and RO Water

A conveyance pipeline is above ground structure and therefore installing it at a particular location could result in an impairment of scenic and opens views to the public. Construction materials and equipment should not be stored on public streets. Excess excavated material should be removed from the site immediately. Construction BMPs such as screening and landscaping can be used to reduce temporary impacts from

aesthetically offensive installation activities. Once constructed, densely vegetated systems may actually improve the aesthetic appeal of the surrounding areas of the pipeline.

Supplemental Water Pipelines and Discharges to the River

If a supplemental water pipeline is above ground structure and therefore installing it at a particular location could result in an impairment of scenic and opens views to the public. Construction materials and equipment should not be stored on public streets. Excess excavated material should be removed from the site immediately. Construction BMPs such as screening and landscaping can be used to reduce temporary impacts from aesthetically offensive installation activities. Once constructed, densely vegetated systems may actually improve the aesthetic appeal of the surrounding areas of the pipeline.

Brine Disposal via Ocean Outfall

Trenching techniques will be used for pipeline installation. Views of equipment, materials, exposed soils, trenches, and stockpiled soil could cause a short-term deterioration of visual quality during the construction at specific locations. The pipeline alignment is visible to the public and exhibits distinctive scenic variety and visual sensitivity. The pipeline installation could also involve the removal of native vegetation. Construction BMPs such as screening and landscaping can help mitigate aesthetic impacts. Construction materials and equipment shall be removed from the site as soon as they are no longer necessary.

Effluent Discharge via Ocean Outfall

Trenching techniques will be used for pipeline installation. Views of equipment, materials, exposed soils, trenches, and stockpiled soil could cause a short-term deterioration of visual quality during the construction at specific locations. The pipeline alignment is visible to the public and exhibits distinctive scenic variety and visual sensitivity. The pipeline installation could also involve the removal of native vegetation. Construction BMPs such as screening and landscaping can help mitigate aesthetic impacts. Construction materials and equipment shall be removed from the site as soon as they are no longer necessary.

18. Aesthetics. b. Will the proposal result in the creation of an aesthetically offensive site open to public view?

Answer: Potentially Significant Impact

See response to 18. Aesthetics. a.

19. Recreation. a. Will the proposal result in impact on the quality or quantity of existing recreational opportunities?

Answer: Less Than Significant Impact

During construction and installation of implementation alternatives, recreational areas could be temporarily affected. Construction activities could potentially be performed near or within a recreational area. Potential impacts would be limited and short-term, and could be avoided through proper planning, and scheduling of construction activities.

In the event that the responsible agencies might install facilities on a scale that could alter a recreational area, the implementation alternatives could be designed in such a way as to be incorporated into the recreational area. Mitigation to replace lost areas may include the creation of new open space recreation areas and/or improved access to existing open space recreation areas.

20. Archeological/Historical. Will the proposal result in the alteration of a significant archeological or historical site structure, object or building?

Answer: Potentially Significant Impact

Self-regenerating Water Softeners (SRWS)

Implementation of this alternative would not result in the alteration of a significant archeological or historical site structure, object or building.

Ultra-violet (UV) Disinfection Facility

Construction of a UV disinfection facility at WRP would occur at a previously developed area. Therefore, the impact would be less significant.

Microfiltration-Reverse Osmosis (MF/RO) Facility

Construction of a MF/RO facility at WRP would occur at a previously developed area. Therefore, the impact would be less significant.

Brine Disposal via Deep Well Injection

Construction of the brine disposal via deep well injection would not result in the alteration of a significant archeological or historical site structure, object or building. Because these areas are already fully urbanized and used as oil field, it is unlikely that implementation of this alternative would cause a substantial adverse change to historical or archeological resources, destroy paleontological resources, or disturb human remains.

Groundwater Extraction Wells

Construction of groundwater extraction wells could adversely affect buried archeological resources. It is recommended that the construction of extraction wells would be monitored by a qualified archaeologist. Likewise, in the event that cultural resources are discovered all work should be halted until a qualified archaeologist can visit the site and assess the significance. Site treatment may be required including recordation, evaluation, and data recovery. Proper project modeling, siting, and planning can help

mitigate adverse impacts to the alteration of a significant archeological or historical resource.

RO Permeate Pipeline

Installation of a RO permeate pipeline requires soil excavation or ground disturbance that could result in the alteration of a significant archeological structures or resources. It is recommended that the installation of a pipeline would be monitored by a qualified archaeologist. Likewise, in the event that cultural resources are discovered all work should be halted until a qualified archaeologist can visit the site and assess the significance. Proper project modeling, siting, and planning can help mitigate adverse impacts to the alteration of a significant archeological or historical resource.

Conveyance Pipeline for the Blended Groundwater and RO Water

Installation of a conveyance pipeline requires soil excavation or ground disturbance that could result in the alteration of a significant archeological structures or resources. It is recommended that the installation of a pipeline would be monitored by a qualified archaeologist. Likewise, in the event that cultural resources are discovered all work should be halted until a qualified archaeologist can visit the site and assess the significance. Proper project modeling, siting, and planning can help mitigate adverse impacts to the alteration of a significant archeological or historical resource.

Supplemental Water Pipelines and Discharges to the River

Installation of a supplemental water pipeline requires soil excavation or ground disturbance that could result in the alteration of a significant archeological structures or resources. It is recommended that the installation of a pipeline would be monitored by a qualified archaeologist. Likewise, in the event that cultural resources are discovered all work should be halted until a qualified archaeologist can visit the site and assess the significance. Proper project modeling, siting, and planning can help mitigate adverse impacts to the alteration of a significant archeological or historical resource.

Brine Disposal via Ocean Outfall

There is a potential that unknown buried archeological deposits may exist within or adjacent to the brine disposal pipeline alignment. Trenching or other pipeline installation activities could result in the alteration of a significant archeological structures or resources. It is recommended that the installation of a pipeline would be monitored by a qualified archaeologist. Likewise, in the event that cultural resources are discovered all work should be halted until a qualified archaeologist can visit the site and assess the significance. Proper project modeling, siting, and planning can help mitigate adverse impacts to the alteration of a significant archeological or historical resource.

Effluent Discharge via Ocean Outfall

There is a potential that unknown buried archeological deposits may exist within or adjacent to the effluent discharge pipeline alignment. Trenching or other pipeline installation activities could result in the alteration of a significant archeological structures or resources. It is recommended that the installation of a pipeline would be monitored by a qualified archaeologist. Likewise, in the event that cultural resources are discovered

all work should be halted until a qualified archaeologist can visit the site and assess the significance. Proper project modeling, siting, and planning can help mitigate adverse impacts to the alteration of a significant archeological or historical resource.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

21. Mandatory Findings of Significance.

21. a. Potential to degrade: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Answer: Potentially Significant Impact

Taken all together, the potential impacts of the project will not cause a significant degradation to the environment with appropriate implementation of available mitigation measures. The implementation of this revised TMDL will result in improved water quality in the waters of the Region and will have significant beneficial impacts to the environment over the long term.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the revised TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

21. b. Short-term: Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?

Answer: No Impact

This revised TMDL is directed to long-term environmental goals, and does not sacrifice long-term for short-term benefit. There are no short-term beneficial effects on the environment from the implementation alternatives that would be at the expense of long-term beneficial effects on the environment. The implementation and compliance with this revised TMDL will result in improved water quality in the waters of the Region and will have significant beneficial impacts to the environment over the long term.

21. c. Cumulative: Does the project have impacts which are individually limited, but cumulatively considerable?

Answer: Potentially Significant Impact

Each compliance measure is expected to have nominal environmental impacts if performed properly. Mitigation measures are available for most of these impacts. It is not expected that implementation of the revised TMDL will cause cumulatively considerable impacts if available mitigation measures are properly implemented.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

21. d. Substantial adverse: Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Answer: Potentially Significant Impact

Without implementation of recommended mitigation measures, potentially significant environmental impacts, such as impacts to air, noise, and transportation, can result from implementation projects. In some cases, mitigation measures even if performed may not reduce the impacts to less than significant levels. The significance of these impacts is discussed in detail above, as well as elsewhere in this document. The project will not cause substantial adverse effects on human beings.

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are

required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

7. OTHER ENVIRONMENTAL CONSIDERATIONS

This section evaluates several other environmental considerations of reasonably foreseeable methods of complying with the Chloride TMDL, specifically:

7.1. Cumulative Impacts of the Program Alternatives (as required by CEQA Guidelines Section 15130);

7.2. Potential Growth-Inducing Effects of the Program Alternatives (as required by CEQA Guidelines Section 15126); and

7.3. Unavoidable Significant Impacts (as required by CEQA Guidelines Section 15126.2).

7.1 CUMULATIVE IMPACTS

Cumulative impacts, defined in Section 15355 of the CEQA Guidelines, refer to two or more individual effects, that when considered together, are considerable or that increase other environmental impacts. Cumulative impact assessment must consider not only the impacts of the proposed TMDL, but also the impacts from other municipal and private projects, which would occur in the watershed during the period of implementation.

The areas of cumulative impacts analyzed in this section include: 1) the program level cumulative impacts and 2) the project level cumulative impacts. On the program level, the impacts from multiple TMDLs, if exist, are analyzed. On the project level, while the full environmental analysis of individual projects are the purview of the implementing municipalities of agencies, the cumulative impact analysis included here entails consideration of construction activities occurring in the vicinity of one another as a result of other projects being built in the same general time frame and location. The Chloride TMDL projects, if occurring with other construction projects, could contribute to temporary cumulative noise and vibration effects that would not occur with only one project.

7.1.1 PROGRAM CUMULATIVE IMPACTS

Currently there is a Nitrogen TMDL adopted for the Santa Clara River, which required WRPs to improve treatment processes at the plants. Nearby 303(d) list impairments for which TMDLs will likely be developed in the future include: coliform and pesticides. When other TMDLs are developed in the future, the programmatic cumulative impacts will be analyzed in the SED documents for those TMDLs. None of the implementation approaches for other TMDLs should disrupt any implementation alternatives as applied for Chloride TMDL.

7.1.2 PROJECT CUMULATIVE IMPACTS

Specific TMDL projects must be environmentally evaluated and cumulative impacts considered as the implementing agency designs and sites the project. However, as examples, TMDL projects and other construction activities may result in cumulative effects of the following nature:

Noise and Vibration - Local residents in the near vicinity of installation and maintenance activities may be exposed to noise and possible vibration. The cumulative effects, both in terms of added noise and vibration at multiple Chloride TMDL alternative installation sites, and in the context of other related projects, are not considered cumulatively significant due to the temporary nature of noise increases. Noise mitigation methods including scheduling of construction or implementation device installation are available as discussed in the checklist. In addition, the fact that installation activities of implementation alternatives are being conducted in the same vicinity as other projects will not make mitigation methods less implementable.

Air Quality - Implementation of the Chloride TMDL Program may cause additional emissions of criteria pollutants and slightly elevated levels of carbon monoxide during construction or installation activities. The TMDL, in conjunction with all other construction activity, may contribute to the region's non-attainment status during the installation period. Because these installations, related emissions are temporary, compliance with the TMDL would not result in long-term significant cumulative air quality impacts. In the short term, cumulative impacts could be significant if the combined emissions from the individual TMDL projects exceed the threshold criteria for the individual pollutants.

Transportation and Circulation - Compliance with the Chloride TMDL involves installation activities occurring simultaneously at a number of surface sites in this TMDL area. Installation of implementation alternatives may be occurring in the same general time and space as other related or unrelated projects. In these instances, surface construction activities from all projects could produce cumulative traffic effects which may be significant, depending upon a range of factors including the specific location involved and the precise nature of the conditions created by the dual construction activity. Special coordination efforts may be necessary to reduce the combined effects to an acceptable level. Overall, significant cumulative impacts are not anticipated because coordination can occur and because transportation mitigation methods including are available as discussed in the checklist. In addition, the fact that installation activities are being conducted in the same vicinity as other projects will not make mitigation methods less implementable.

Public Services - The cumulative effects on public services in the Chloride TMDL study area would be limited to traffic inconveniences discussed above. These effects are not considered cumulatively significant as discussed above.

Aesthetics - Construction activities associated with other related projects may be ongoing in the vicinity of one or more Chloride TMDL construction sites. To the extent that combined construction activities do occur, there would be temporary adverse visual effects of less than cumulatively significant proportions as discussed in the checklist.

7.2 GROWTH-INDUCING IMPACTS

This section presents the following:

7.2.1) an overview of the CEQA Guidelines relevant to evaluating growth inducement,

7.2.2) a discussion of the types of growth that can occur in the Upper Santa Clara River (USCR),

7.2.3) a discussion of obstacles to growth in the USCR, and

7.2.4) an evaluation of the potential for the TMDL Program Alternatives to induce growth.

7.2.1 CEQA GROWTH-INDUCING GUIDELINES

Growth-inducing impacts are defined by the State CEQA Guidelines as (CEQA Guidelines, Section 15126.2(d)):

> The ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are impacts which would remove obstacles to population growth. Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects... [In addition,] the characteristics of some projects… may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It is not assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Growth inducement indirectly could result in adverse environmental effects if the induced growth is not consistent with or accommodated by the land use plans and growth management plans and policies. Local land use plans provide for land use development patterns and growth policies that encourage orderly urban development supported by adequate public services, such as water supply, roadway infrastructure, sewer services, and solid waste disposal services.

Public works projects that are developed to address future unplanned needs (i.e., that would not accommodate planned growth) could result in removing obstacles to population growth. Direct growth inducement would result if, for example, a project involved the construction of new wastewater treatment facilities to accommodate populations in excess of those projected by local or regional planning agencies. Indirect growth inducement would result if a project accommodated unplanned growth and indirectly established substantial new permanent employment opportunities (for example, new commercial, industrial, or governmental enterprises) or if a project involved a construction effort with substantial short-term employment opportunities that indirectly would stimulate the need for additional housing and services. Growth inducement also could occur if the project would affect the timing or location of either population or land use growth, or create a surplus in infrastructure capacity.

7.2.2 TYPES OF GROWTH

The primary types of growth that occur within the Chloride TMDL area are:

1) development of land and

2) population growth (Economic growth, such as the creation of additional job opportunities, also could occur; however, such growth generally would lead to population growth and, therefore, is included indirectly in population growth.)

Growth in land development

Growth in land development is the physical development of residential, commercial, and industrial structures in the Chloride TMDL area. Land use growth is subject to general plans, community plans, parcel zoning, and applicable entitlements and is dependent on adequate infrastructure to support development.

Population Growth

Population growth is growth in the number of persons that live and work in the Chloride TMDL area and other jurisdictions within the boundaries of the area. Population growth occurs from natural causes (births minus deaths) and net emigration to or immigration from other geographical areas. Emigration or immigration can occur in response to economic opportunities, life style choices, or for personal reasons.

Although land use growth and population growth are interrelated, land use and population growth could occur independently from each other. This has occurred in the past where the housing growth is minimal, but population within the area continues to increase. Such a situation results in increasing population densities with a corresponding demand for services, despite minimal land use growth.

Overall development in the Chloride TMDL area is governed by General Plans, which are intended to direct land use development in an orderly manner. The General Plan is the framework under which development occurs, and, within this framework, other land use entitlements (such as variances and conditional use permits) can be obtained. Because the General Plan guides land use development and allows for entitlements, it does not represent an obstacle to land use growth. The cities with in the Chloride TMDL area also have plans which direct land use development.

7.2.3 EXISTING OBSTACLES TO GROWTH

Obstacles to growth could include such things as inadequate infrastructure, such as an inadequate water supply that results in rationing, or inadequate wastewater treatment capacity that results in restrictions in land use development. Policies that discourage either natural population growth or immigration also are considered to be obstacles to growth.

The proposed SSOs and AWRM Program were developed based on projected population and housing growth in the Santa Clarita Valley. The GWSI model considered increased effluent flow from the WRPs and the effects of this growth on the chloride levels in the Santa Clara River and underlying aquifers. The proposed SSOs will support water recycling and the use of the AWRM compliance option in the USCR.

7.2.4 POTENTIAL FOR COMPLIANCE WITH THE PROPOSED TMDL TO INDUCE GROWTH.

Direct Growth Inducement

The reasonably foreseeable methods of compliance with the proposed Chloride TMDL would not result in the construction of new housing and, therefore, would not directly induce growth.

Indirect Growth Inducement

Two areas of potential indirect growth inducement are relevant to a discussion of the proposed TMDL: (1) the potential for compliance with the TMDL to generate economic opportunities that could lead to additional immigration, and (2) the potential for the proposed TMDL to remove an obstacle to land use or population growth.

Installation and/or construction of implementation alternatives to comply with the proposed TMDL would occur over a 10-year time period. Although the construction activities associated with the Chloride TMDL would increase the economic opportunities in the area and region, this construction is not expected to result in or induce substantial or significant population or land use development growth because the majority of the construction is expected to be performed by persons already residing in the area or region.

The second area of potential indirect growth inducement is through the removal of obstacles to growth. As discussed above, the proposed SSOs and AWRM Program would accommodate an increase in wastewater treatment capacity; they were developed based on projected population and housing growth in the Santa Clarita Valley.

7.3 UNAVOIDABLE SIGNIFICANT ADVERSE IMPACTS

Section 15126.2(c) of the CEQA Guidelines requires a discussion of potential significant, irreversible environmental changes that could result from a proposed project. Examples of such changes include commitment of future generations to similar uses, irreversible damage that may result from accidents associated with a project, or irretrievable commitments of resources. Although the proposed TMDL would require resources (materials, labor, and energy) they do not represent a substantial irreversible commitment of resources.

In addition, implementation of the TMDL will have substantial benefits to water quality and will enhance beneficial uses. Enhancement of the agricultural water supply beneficial uses will have positive social and economic effects by decreasing potential chloride impairments. In addition, habitat carries a significant non-market economic value. Enhancement of habitat beneficial uses will also have positive indirect economic and social benefits. Section 6 of this SED identifies the anticipated environmental effects for each resource area, identifies mitigation measures for potentially significant impacts, and determines that impacts after implementation of mitigation are insignificant.

8. STATEMENT OF OVERRIDING CONSIDERATIONS AND DETERMINATION

The Regional Board staff has balanced the economic, legal, social, technological, and other benefits of this proposed Chloride TMDL against the unavoidable environmental risks in determining whether to recommend that the Regional Board approve this project. Upon review of the environmental information generated for this project and in view of the entire record supporting the TMDL, staff has determined that the specific economic, legal, social, technological, and other benefits of this proposed Chloride TMDL outweigh the unavoidable adverse environmental effects, and that such adverse environmental effects are acceptable under the circumstances.

The implementation of this Basin Plan amendment will result in improved water quality in the waters of the Region and will have significant positive impacts to the environment (including restoration and enhancement of beneficial uses) and the economy over the long term. Specific projects employed to implement the Basin Plan amendment may have adverse significant impacts to the environment, but these impacts are generally expected to be limited, short-term or may be mitigated through design and scheduling.

The Staff Report, Basin Plan Amendment, and this SED provide the necessary information pursuant to Public Resources Code section 21159 to conclude that properly designed implementation alternatives generally should not foreseeably have a significant adverse effect on the environment. Any potential impacts can be mitigated at the subsequent project level when specific sites and methods have been identified, and responsible agencies can and should implement the recommended mitigation measures.

For this TMDL, mitigation measures are available to reduce environmental impacts to less than significant levels and in most cases are routine measures that are typically used in construction projects and infrastructure maintenance. Routine construction and maintenance of power lines and storm sewer systems are regular and expected activities carried out by responsible agencies throughout Los Angeles and Ventura Counties. Sewer and power line maintenance, traffic alterations, and environmental impacts from them already occur and are expected. This project will foreseeably require these types of projects and their individual impacts are not expected to be extraordinary in the magnitude or severity of impacts.

Specific projects to comply with this TMDL that may have a significant impact will be implemented by responsible agencies and would therefore be subject to a separate environmental review. The lead agency for the TMDL Implementation projects have the ability to mitigate project impacts, can and should mitigate project impacts, and are required under CEQA to mitigate any environmental impacts they identify, unless they have reason not to do so. Notably, in almost all circumstances, where unavoidable or unmitigable impacts would present unacceptable hardship upon nearby receptors or venues, the local agencies have a variety of alternative implementation measures available instead. Cumulatively, the many, small individual projects may have a significant effect upon life and the environment throughout the region.

This TMDL is required by law under section 303(d) of the federal Clean Water Act (CWA), and if this Regional Board does not establish this TMDL, the USEPA will be required to develop a TMDL. The CWA requires states to establish a priority ranking for waters on the 303(d) list of impaired waters and to develop and implement TMDLs for these waters (40 CFR §130.7). The impacts associated with USEPA's establishment of

the TMDL would be significantly more severe, as discussed herein, because USEPA will not provide a compliance schedule, and the final waste load allocations, pursuant to federal regulations, would need to be complied with upon incorporation into the relevant stormwater permits. (40 CFR 122.44(d)(1)(vii)(B).) Since compliance would not be authorized over a period of years, all of the impacts associated with complying would be truncated into a short time frame, thus exacerbating the magnitude of the cumulative effect of performing all projects relatively simultaneously throughout the region.

The implementation of this TMDL will result in improved water quality in the Upper Santa Clara River (USCR), but it may result in short-term localized significant adverse impacts to the environment as a variety of small construction projects may be undertaken in the vicinity of the waterbodies of concern in the USCR. Individually, these impacts are generally expected to be limited, short-term or may be mitigated through careful design and scheduling. The Staff Report for the Upper Santa Clara River Chloride TMDL Reconsideration and Conditional Site Specific Objectives, and this checklist provide the necessary information pursuant to Public Resources Code section 21159 to conclude that properly designed and implementation alternatives of compliance should mitigate and generally avoid significant adverse effects on the environment, and all agencies responsible for implementing the TMDL should ensure that their projects are properly designed and implemented.

All of the potential impacts must, however, be mitigated at the subsequent, project level because they involve specific sites and designs not specified or specifically required by the Basin Plan Amendment to implement the TMDL. At this stage, any more particularized conclusions would be speculative. The Regional Board does not have legal authority to specify the manner of compliance with its orders or regulations (Wat. C. § 13360), and thus cannot dictate that an appropriate location be selected for any particular project, that it be designed consistent with standard industry practices, or that routine and ordinary mitigation measures be employed. These measures are all within the jurisdiction and authority of the agencies that will be responsible for implementing this TMDL, and those agencies can and should employ those alternatives and mitigation measures to reduce any impacts as much as feasible. (14 Cal. Code Regs., § 15091(a)(2).)

Implementation of the TMDL is both necessary and beneficial. To the extent that the alternatives, mitigation measures, or both, that are examined in this analysis are not deemed feasible by implementing agencies, the necessity of implementing the federally required TMDL and removing the chloride impairment from the Upper Santa Clara River (an action required to achieve the express, national policy of the Clean Water Act) remains.

DISCUSSION OF ENVIRONMENTAL EVALUATION (Based on information in the Upper Santa Clara River Chloride TMDL Reconsideration Staff Report and Substitute Environmental Document for the Upper Santa Clara River Chloride TMDL Reconsideration)

This SED impact analysis concludes that there are potentially significant impacts from implementation of the TMDL, but notes that there are mitigation measures available to reduce potentially significant environmental impacts to less than significant levels. However, implementation of these mitigation measures are within the responsible and jurisdiction of the responsible agencies listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These agencies have the ability to implement these mitigation measures, can and should implement these mitigation measures, and are required under CEQA to implement mitigation measures unless mitigation measures are deemed infeasible through specific considerations (Title 14, California Code of Regulations, Section 15091(a)(3)).

PRELIMINARY STAFF DETERMINATION

☐ The proposed project COULD NOT have a significant effect on the environment, and, therefore, no alternatives or mitigation measures are proposed.

☑ The proposed project MAY have a significant or potentially significant effect on the environment, and therefore alternatives and mitigation measures have been evaluated.

Signature	Date
Printed Name	For

Note: Authority cited: Sections 21083 and 21087, Public Resources Code. Reference: Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151, Public Resources Code; Sundstrom v. County of Mendocino, 202 Cal.App.3d 296 (1988); Leonoff v. Monterey Board of Supervisors, 222 Cal.App.3d 1337 (1990).

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