

Substitute Environmental Documents for the Santa
Clara River and Santa Clara River Estuary Bacteria
Total Maximum Daily Load



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

April 21, 2010

California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	3
2. REGULATORY REQUIREMENTS FOR ENVIRONMENTAL IMPACT ANALYSIS OF THE TMDL	6
2.1 EXEMPTION FROM CERTAIN CEQA REQUIREMENTS	6
2.2 CALIFORNIA CODE OF REGULATIONS AND PUBLIC RESOURCES CODE REQUIREMENTS	6
2.3 PROGRAM- AND PROJECT-LEVEL ANALYSES	7
2.4 PURPOSE OF CEQA	7
3. TMDL OVERVIEW AND PROGRAM OBJECTIVES	8
3.1 INTRODUCTION – LEGAL BACKGROUND	8
3.2 PROJECT DESCRIPTION, TMDL GOALS, AND WATER QUALITY OBJECTIVES	9
4. DESCRIPTION OF ALTERNATIVES	11
4.1 PROGRAM ALTERNATIVES	11
4.1.1 ALTERNATIVE 1 – REGIONAL BOARD TMDL	11
4.1.2 ALTERNATIVE 2 – USEPA TMDL	12
4.1.3 ALTERNATIVE 3 – NO PROGRAM ALTERNATIVE	12
4.1.4 RECOMMENDED PROGRAM ALTERNATIVE	13
4.2 PROJECT-LEVEL ALTERNATIVES	13
5. DESCRIPTION OF IMPLEMENTATION ALTERNATIVES AND SITE SPECIFIC ANALYSES	14
5.1 STRUCTURAL BMPS	14
5.1.1 SUB-REGIONAL STRUCTURAL BMPS	14
5.3.1 NON-STRUCTURAL BMPS	23
6. SETTING, IMPACTS, AND MITIGATION	25
6.1 INTRODUCTION	25
6.1.1 APPROACH TO ENVIRONMENTAL SETTING AND IMPACT ANALYSIS	25
6.1.2 PROGRAM-LEVEL VERSUS PROJECT-LEVEL ANALYSIS	26
6.1.3 ENVIRONMENTAL SETTING	26
6.1.4 BENEFICIAL USES OF THE SANTA CLARA RIVER AND THE SANTA CLARA RIVER ESTUARY	27
6.2. CEQA CHECKLIST AND DETERMINATION	29
6.2.1 ENVIRONMENTAL CHECKLIST	29
6.2.2 DISCUSSION OF ENVIRONMENTAL EVALUATION	36
7. OTHER ENVIRONMENTAL CONSIDERATIONS	109
7.1 CUMULATIVE IMPACTS	109
7.2 GROWTH-INDUCING IMPACTS	111
7.3 UNAVOIDABLE SIGNIFICANT ADVERSE IMPACTS	113
8. STATEMENT OF OVERRIDING CONSIDERATIONS AND DETERMINATION	114
9. FINDINGS	116
10. REFERENCES	117

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 Total Maximum Daily Load (TMDL) for bacteria in the Santa Clara River and Santa Clara River Estuary. This Substitute Environmental Document (SED) analyzes environmental impacts that may occur from reasonably foreseeable methods of implementing a TMDL for bacteria in the Santa Clara River and Santa Clara River Estuary. This SED is based on a proposed bacteria TMDL that will be considered by the Regional Board and, if approved by the Regional Board, will be implemented through an amendment to the California Water Quality Control Plan, Los Angeles Region (Basin Plan). The proposed bacteria TMDL is described in the Staff Report, Tentative Board Resolution, and Tentative Basin Plan Amendment available on the Regional Board website. This SED analyzes foreseeable methods of compliance with the bacteria 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 bacteria 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 CEQA Guidelines Section 10590 and 15090 (Title 14 of CCR).

Water quality in the Santa Clara River Reaches 3, 5, 6, and 7, and the Santa Clara River Estuary is impaired by exceedances of coliform bacteria objectives as documented in the State of California 303(d) list of impaired waterbodies. Exceedances of objectives for bacterial indicator densities in water indicate significant water quality problems and the impairment of existing beneficial uses of the Santa Clara River and the Santa Clara River Estuary.

The objective of the bacteria TMDL is to restore the beneficial uses of the Santa Clara River and the Santa Clara River Estuary that are currently impaired by bacteria, in accordance with Clean Water Act section 303(d). Beneficial uses for the Santa Clara River and the Santa Clara River Estuary include Industrial Service Supply (IND), Navigation (NAV), Contact (REC-1) and Non-contact Recreation (REC-2), Commercial and Sport Fishing (COMM), Marine Habitat (MAR), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), Wildlife Habitat (WILD), Rare, Threatened or Endangered Species (RARE). REC-1 and REC-2 beneficial uses are principally compromised by coliform bacteria. Swimming in waters with elevated bacterial indicator densities has long been associated with adverse health effects. Specifically, local and national epidemiological studies compel the conclusion that there is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities.

Sources of bacterial contamination at the Santa Clara River and the Santa Clara River Estuary include both point sources and nonpoint sources. The strategy for attaining water quality standards focuses on assigning Waste Load Allocations (WLAs) for point sources and Load Allocations (LAs) for nonpoint sources to designated responsible parties in the Santa Clara River watershed. The WLAs will be implemented through National Pollutant Discharge Elimination (NPDES) permits, such as the municipal separate stormwater permit (MS4). The LAs will be implemented through regulatory mechanisms that implement the State Board's 2004 Nonpoint

Source Policy, such as the Conditional Waiver for Discharges from Irrigated Lands (Conditional Waiver). WLAs and LAs are equal to zero allowable days of exceedance of the rolling 30-day geometric mean bacteria objectives. The allowable days of exceedance of the single sample bacteria objectives vary depending on the source and differ for summer dry-weather, winter dry-weather, and wet-weather conditions.

This SED analyzes three Program Alternatives and both structural and non-structural 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 municipalities and agencies. A No Project Alternative is analyzed to compare the impacts of approving a proposed alternative and its components compared with the impacts of not approving the proposed alternative. The SED analyzes the potential environmental impacts in accordance with significance criteria. CEQA requires the Regional Board to conduct a program-level analysis of environmental impacts (Public Resources Code §21159(d)). This analysis is a program-level analysis. Public Resources Code Section 21159(c) requires that the Environmental Analysis take into account a reasonable range of:

- (1) Environmental, economic, and technical factors,
- (2) Population and geographic areas, and
- (3) Specific sites.

A “reasonable range” does not require an examination of every site, but a reasonably representative sample of them. The statute specifically states that the section shall not require the agency to conduct a “project-level analysis” (Public Resources Code § 21159(d)). Rather, a project-level analysis must be performed by the local agencies that are required to implement the requirements of the TMDL (Public Resources 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.

Municipalities and agencies that will implement specific projects and Best Management Practices (BMPs) may use this SED to help with the selection and approval of project alternatives. The implementing municipality or agency will be the lead agency and have responsibility for environmental review of the projects that they determine necessary to implement the TMDL.

Approval of projects (i.e., project alternatives or components of project alternatives) refers to the decision of either the implementing municipalities or 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 municipalities and agencies. The project-level components will be subject to additional environmental review, including review by cities and municipalities implementing bacteria TMDL projects.

Many of the specific projects and BMPs analyzed in this SED will involve small infrastructure maintenance and construction projects. Infrastructure maintenance and construction projects generate varying degrees of environmental impacts. The potential impacts can 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, and additional light and glare. Additionally, maintenance of constructed BMPs may result in additional traffic and air emissions. These foreseeable impacts are analyzed in detail in Section 6 of this SED.

To address the environmental impacts from routine and essential activities, responsible parties can employ a variety of techniques, BMPs, and other mitigation measures to minimize potential impacts on the environment. Mitigation measures for construction projects for maintenance projects include varying construction activities for certain times of the day to reduce the duration of traffic and noise impacts, developing detailed traffic plans in coordination with police or fire protection authorities, using less noisy equipment, using sound barriers, and using lower emission vehicles to reduce air pollutant emissions.

Many of the mitigation measures identified in the SED are common practices currently employed by agencies when planning and implementing stormwater BMPs. Agencies such as the California Stormwater Quality Association (CASQA), and the Water Environment Research Foundation (WERF) publish handbooks containing guidance on the selection, siting, design, installation, monitoring, and evaluation of stormwater BMPs (CASQA, 2003a, CASQA, 2003b, WERF, 2005). Manuals are also available, which describe engineering and administration policies and procedures for construction projects. These mitigation methods and BMPs are discussed in detail in Section 6 of this SED. Mitigation measures are suggested to minimize site specific impacts to less than significant levels. Mitigation of adverse environmental impacts is strictly within the discretion of the individual implementing agency. It is the obligation of responsible parties to mitigate adverse environmental impacts associated with reasonably foreseeable means of compliance when impacts are deemed significant (14CCR§15091(a)(2)).

This SED finds foreseeable methods to comply with the bacteria TMDL to include both non-structural and structural BMPs in the Santa Clara River and the Santa Clara River Estuary. Most of these BMPs do not cause significant impacts that cannot be mitigated through commonly used construction and maintenance practices. The SED identifies mitigation methods for impacts with potentially significant effects and finds that these methods can mitigate potentially significant impacts to levels that are less than significant. To the extent that there are significant adverse effects on the environment due to the implementation of this TMDL, there are feasible alternatives and/or feasible mitigation measures that would substantially lessen significant adverse impacts. The SED can be used by implementing municipalities and agencies to expedite any additional environmental analysis of specific projects required to comply with the TMDL.

The regulatory requirements and the program objectives for the Santa Clara River and the Santa Clara River Estuary bacteria TMDL are provided in Section 2 and Section 3 respectively. Section 4 discusses the program-level alternatives for the bacteria TMDL and presents implementation alternatives to achieve compliance with the waste load and load allocations. Section 5 provides a detailed description of implementation alternatives. Section 6 contains the CEQA Checklist and Determination with in-depth analysis of each resource area. Other environmental considerations are discussed in Section 7. A statement of overriding considerations and the CEQA findings are included in Sections 8 and 9, respectively. A list of references is included in Section 10.

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 prepared by the Regional Board. This TMDL for bacterial contamination in the Santa Clara River and the Santa Clara River Estuary in the counties of Ventura and Los Angeles is evaluated at a program-level of detail under a Certified Regulatory Program, and the information and analyses are presented in the 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 documents. 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 (Pub. Resources Code, §21159(a)).

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

- (4) Environmental, economic, and technical factors,
- (5) Population and geographic areas, and
- (6) 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 SED 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 documents do 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 a combination of structural and non-structural BMPs, 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 only be adequate, complete, and a good faith efforts at full disclosure" (Cal. Code Regs., tit. 14, §15151) (*City of Fremont v. San Francisco Bay Area Rapid Transit Dist.*, supra, 34 Cal.App.4th at p. 1786.). In *River Valley Preservation Project v. Metropolitan Transit Development Board* (1995) 37 Cal.App.4th 154, 178: "[a]s 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.

Nor does 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 bacteria TMDL.

3. TMDL OVERVIEW AND PROGRAM OBJECTIVES

3.1 INTRODUCTION – LEGAL BACKGROUND

The TMDL for bacteria in the Santa Clara River and the Santa Clara River Estuary sets forth an implementation plan to attain the water quality standards for bacteria in these waterbodies. The TMDL was prepared pursuant to state and federal requirements to preserve and enhance water quality in the Santa Clara River and the Santa Clara River Estuary of Ventura and Los Angeles counties. 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 waters 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 Santa Clara River, 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". CWA section 303(d)(1)(C) and (d)(1)(D) require that the state establish TMDLs for each listed water. Those TMDLs, and the 303(d) List itself, must be submitted to United States Environmental Protection Agency (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. The TMDL 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, 2002 and 2006 303(d) list submittals, the Regional Board identified the Santa Clara River and the Santa Clara River Estuary as being impaired due to elevated indicator bacteria densities.

The Santa Clara River and the Santa Clara River Estuary Bacteria TMDL is a Basin Plan amendment and is subject to the 2001 provision of Public Resources Code Section 21083.9 that requires a CEQA Scoping meeting 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 EIR or its functionally equivalent document. On March 2, 2010 a CEQA Scoping meeting was held to present and discuss the potential environmental impacts associated with reasonably foreseeable methods of compliance for the Santa Clara River and Santa Clara River Estuary Bacteria TMDL. A notice of the CEQA Scoping meeting was sent to interested parties including cities and counties with jurisdiction in the Santa Clara River watershed. Input from all stakeholders and interested parties were solicited for consideration in the development of the CEQA document.

This SED is being released for public comment 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. Regional Board staff will respond to public comments received on these documents and these comments and responses and the documents will all be considered by the Regional Board when considering whether to adopt the TMDL.

3.2 PROJECT DESCRIPTION, TMDL GOALS, AND WATER QUALITY OBJECTIVES

As further set forth herein, this project is to adopt a regulation that will guide Regional Board permitting, enforcement, and other actions that will require responsible parties to take appropriate measures to restore and maintain all applicable water quality standards in the Santa Clara River and the Santa Clara River Estuary, and to comply with the requirements of section 303(d) of the federal Clean Water Act.

The Basin Plan designates beneficial uses of water bodies, 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 bacteria in the Santa Clara River and the Santa Clara River Estuary.

The Basin Plan beneficial uses designations include the REC-1 and REC-2 designations for the Santa Clara River and the Santa Clara River Estuary. The Basin Plan also contains bacteria water quality objectives to protect the REC-1 and REC-2 beneficial uses.

Freshwater Objectives

The Basin Plan contains bacteria water quality objectives to protect the REC-1 and REC-2 beneficial uses. The objectives include geometric mean values and single sample values for fresh waters: including fecal coliform and E.coli.

1. Geometric Mean Objectives
 - a. E.coli density shall not exceed 126/100 mL.
 - b. Fecal coliform density shall not exceed 200/100 mL.
2. Single Sample Objectives
 - a. E.coli density shall not exceed 235/100 mL.
 - b. Fecal coliform density shall not exceed 400/100 mL.

Marine Objectives

The Basin Plan objectives for marine waters designated for Water Contact Recreation (REC-1) are as follows:

1. Rolling 30-day Geometric Mean Objectives
 - a. Total coliform density shall not exceed 1,000/100 mL.

- b. Fecal coliform density shall not exceed 200/100 mL.
- c. Enterococcus density shall not exceed 35/100 mL.

2. Single Sample Objectives

- a. Total coliform density shall not exceed 10,000/100 mL.
- b. Fecal coliform density shall not exceed 400/100 mL.
- c. Enterococcus density shall not exceed 104/100 mL.
- d. Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

Implementation provisions for the water contact recreation bacteria objectives, defined in the Basin Plan, are listed below.

The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period).

If any of the single sample limits are exceeded, the Regional Board may require repeat sampling on a daily basis until the sample falls below the single sample limit or for five days, which ever is less, in order to determine the persistence of the exceedance.

Protecting REC-1 beneficial uses will result in the protection of REC-2 beneficial uses because REC-1 bacterial objectives are more stringent than REC-2 bacterial objectives.

The reference system/antidegradation approach is the approach proposed in this TMDL. This approach allows for days where single sample standards are exceed bacterial water quality objectives, however the number of days that exceed bacterial water quality objectives must not be in excess of the observed exceedance days at the reference beach.

TMDLs and associated waste load allocations for point sources and load allocations for nonpoint sources are vehicles for implementation of standards. As proposed in this TMDL, waste load allocations will be incorporated into National Pollution Discharge Elimination System (NPDES) permits for Municipal Separate Storm Sewer System (MS4), non-storm water general NPDES permits, general industrial storm water permits, and general and individual permits. Load allocations for nonpoint sources will be implemented according to the "Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program" (SWRCB, 2004), the Conditional Waiver, and within the context of the TMDL.

4. DESCRIPTION OF ALTERNATIVES

These substitute environmental documents analyze three Program Alternatives that encompass actions within the jurisdiction of the Regional Board and implementing municipalities and agencies. The program alternatives include 1) the bacteria TMDL as it is proposed for Regional Board adoption; 2) a bacteria TMDL established by the USEPA, and 3) a No Program Alternative in which a bacteria TMDL is not implemented. Because a TMDL is required by Section 303(d) of the Clean Water Act, the no Program Alternative is only analyzed to allow decision makers to compare the impacts of approving a proposed alternative and its components compared with the impacts of not approving a proposed alternative. The specifics of the many projects which would make up a program alternative are discussed in detail in Section 5 and include structural and non-structural BMPs that are reasonably foreseeable to be implemented under the bacteria TMDL program alternatives.

This document does not analyze a "partial" TMDL; for example, a TMDL which would achieve only a 70% or only an 80% reduction of bacterial indicator densities based on geometric mean limits and single sample limits. This sort of alternative was considered and rejected. To the extent that significant adverse environmental impacts would be created by compliance with the proposed TMDL, a "partial" TMDL would have fewer environmental impacts associated with compliance (although, also, less environmental benefits of the TMDL), the specific legal requirements of section 303(d) of the Clean Water Act require a level necessary to achieve water quality standards. Thus a "partial" TMDL is unlawful because a partial reduction in bacteria would not meet water quality standards.

The components assessed at a program-level generally are program elements that would be implemented as part of the bacteria 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 municipalities and agencies. The project-level components will be subject to additional future environmental review, including review by cities and municipalities implementing bacteria TMDL projects.

4.1 PROGRAM ALTERNATIVES

4.1.1 ALTERNATIVE 1 - REGIONAL BOARD TMDL

This program alternative is based on the TMDL that is presently proposed for Regional Board consideration. The TMDL assigns both waste load allocations and load allocations. The TMDL WLAs will be implemented through National NPDES and Waste Discharge Requirements (WDRs). The WLAs focus on reductions in sources of bacteria from municipal storm drains and discharges associated with regional, state, and federal discharge permittees. The TMDL LAs focus on reductions of local sources and agricultural sources associated with runoff and drainage. The LAs will be implemented primarily through regulatory mechanisms that implement the State Board's 2004 Nonpoint Source Policy, including permits and waivers.

The Regional Board TMDL provides a plan for addressing the adverse impacts of bacteria through a progressive reduction in bacteria contamination in the Santa Clara River and the Santa Clara River Estuary. The plan distinguishes between dry- and wet-weather bacterial exceedances. The TMDL proposes an eight-year schedule for dry weather, which is reasonable and as short as practicable. The proposed implementation schedule for wet weather is 14 years. Once adopted into the Basin Plan, WLAs and LAs will be considered when developing permit limits and other regulatory mechanisms that are adopted in separate actions by the Regional Board.

Although the Regional Board cannot mandate the manner of compliance, foreseeable environmental impacts from methods of compliance are well known. During the development of

the TMDL, a CEQA scoping meeting was held during which the manner of compliance was discussed. At this meeting, reasonably foreseeable means of compliance were examined. Non-structural alternatives include administrative controls, outreach and education, street cleaning, and storm drain cleaning. Structural methods include diversion and/or treatment BMPs, vegetated treatment systems, local capture systems, local and regional infiltration systems, media filtration, on farm and regional agricultural BMPs, regional detention facilities, and regional natural treatment systems.

This TMDL program alternative anticipates compliance through installation of structural BMPs, and non-structural BMPs as discussed in Section 5. Potential adverse impacts to the environment stem principally from the installation, operation, and maintenance of these structural BMPs. 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 the bacteria TMDL area. It also concludes that significant impacts can be mitigated or there are alternative means of compliance available.

4.1.2 ALTERNATIVE 2 – USEPA TMDL

This program alternative is based on a TMDL to be established by the United States Environmental Protection Agency (USEPA), if the Regional Board fails to adopt a bacteria TMDL. The technical analysis will be similar to the Regional Board analysis and the same laws and regulations will be applied. It is assumed the technical portions and WLAs and LAs of this TMDL Program Alternative will be essentially the same as Program Alternative 1. However, such a TMDL is not implemented through a Basin Plan amendment. Therefore, the WLAs will be implemented through NPDES permit limits as the permits are renewed without consideration of a compliance schedule. Because NPDES permits are renewed every five years, all responsible parties and municipalities will be required to be in full compliance immediately following the TMDL adoption by USEPA, or within five years.

This TMDL program alternative also anticipates compliance through installation of structural BMPs, and non-structural BMPs as discussed in Section 5. Potential adverse impacts to the environment principally from the construction and operation of these structural BMPs. 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 the bacteria 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 ALTERNATIVE 3 – NO PROGRAM ALTERNATIVE

This program alternative assumes that neither the USEPA nor the Regional Board implements a bacteria TMDL. While cities and municipalities could implement BMPs on a discretionary basis, this CEQA analysis is based on the assumption that no additional bacterial reduction BMPs would be implemented in addition to those that are presently in place. However, the No Project TMDL is contrary to state and federal law. Therefore, the failure to implement a bacteria TMDL is unlawful.

In addition, while impact to the environment from construction or maintenance of structural BMPs would be avoided in this No Program alternative, No Program would not restore beneficial uses to the Santa Clara River and the Santa Clara River Estuary. Either TMDL Program Alternative will restore beneficial uses at the Santa Clara River and the Santa Clara River Estuary and attain water quality standards by attaining bacteria water quality objectives in the river. As such, either bacteria TMDL program alternative 1 or 2 represents a benefit to the environment

and the No TMDL Program Alternative represents a continued bacteria impairment of the environment.

4.1.4 RECOMMENDED PROGRAM ALTERNATIVE

This environmental analysis finds that Program Alternative 1 is the most environmentally advantageous alternative.

Alternative 3 is not a feasible alternative. While it avoids potential impacts due to discrete installation projects, bacterial impairment of the river will continue. Both program alternatives 1 and 2 will comply with the law and remove the bacterial impairment from the Santa Clara River and the Santa Clara River Estuary at the comparatively small environmental cost of small installation projects throughout the watershed.

The key difference between program alternatives 1 and 2 is the establishment of an implementation schedule. While the same WLAs and LAs will need to be met and the same technological choices will be available by both alternatives, alternative 1 will allow a measured implementation plan, resulting in full compliance with dry-weather bacterial objectives in eight years, and wet-weather bacterial objectives in 14 years. Alternative 2, in contrast, will require compliance at the time of permit renewal, in all permit cases, in less than five years. The environmental impacts due to alternative 2 may be of greater severity as the intensity of implementation actions will be greater to comply with the shorter time frame. The longer schedule of alternative 1 allows for prioritization and planning, more thoroughly mitigated impacts, more appropriately designed, sited and sized structural devices and, therefore, less environmental impact, in general. In addition, prioritization and planning will likely result in more efficient use of funds and lower overall costs.

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 was held during which the manner of compliance was discussed. At this meeting, the most reasonable means of compliance were discussed and included non-structural alternatives such as administrative controls, outreach and education, street cleaning, and storm drain cleaning as well as structural methods such as diversion and/or treatment BMPs, vegetated treatment systems, local capture systems, local and regional infiltration systems, media filtration, on-farm and regional agricultural BMPs, regional detention facilities, and regional natural treatment systems.

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

5. DESCRIPTION OF IMPLEMENTATION ALTERNATIVES AND SITE SPECIFIC ANALYSES

This Section of the SED gives a description of the structural devices or non-structural BMPs and the type of sites where they might be placed in compliance with the bacteria 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, but not limited to, include sub regional and regional BMPs such as local capture systems, local infiltration systems, vegetated treatment systems, media filtration, and on farm BMPs, as well as non-structural alternatives such as outreach and education, and administrative actions.

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 STRUCTURAL BMPS

Structural BMPs involve the use of structural methods to treat or divert water at either the point of generation or point of discharge to either the storm system or to receiving waters. These controls can require construction and operation activities that create potentially significant environmental impacts.

5.1.1 SUB-REGIONAL STRUCTURAL BMPS

Sub-regional structural BMPs consist of a single or a series of BMPs designed to treat flows for limited sub-regions within the watershed. Sub-regions can vary in size from small parking lots to several city blocks. These sub-regional implementation strategies typically have multiple pollutant treatment potential (Marina del Rey, 2007). Listed below are a few sub-regional structural BMPs and brief description of each:

Local Capture System

Local capture systems contribute to the control of bacteria in the watershed by reducing volume of runoff and reducing peak flows. BMPs within this category include rain barrels, cisterns, and other containers used to hold rainwater for reuse or recharge. These systems are usually designed to capture runoff from relatively clean surfaces such as roofs, such that the water may be reused without treatment. Tank capacities range from around 55 gallons to several thousand cubic feet and can be above or below ground.

Figure 5.1 Residential Cistern



Source: CDM, 2005

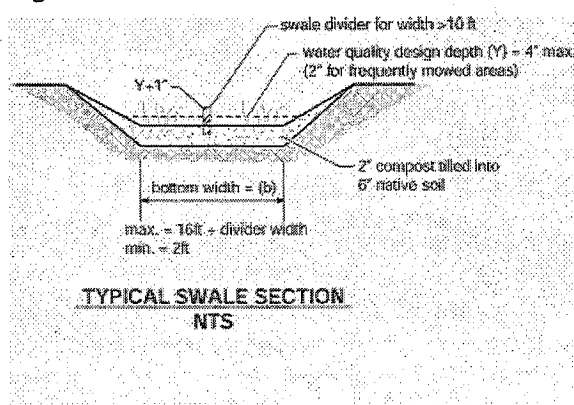
Vegetated Treatment Systems and Local Infiltration Systems

Through a combination of biofiltration, retention, infiltration, and evapotranspiration, BMPs within this category can provide a significant contribution to bacteria control for small areas and can be applied across the watershed. BMPs in this category include swales, filter strips, buffers, bioretention areas, and storm water planters (McCoy et al., 2006). These can be installed as on-site features of developments or in street medians, parking lot islands, or curb extensions. Vegetated systems involve the use of soils and vegetation to filter and treat storm water prior to discharge into surface or sub-surface water.

Infiltration, along with soil soaking and evapotranspiration, reduces the volume of storm water runoff, reducing required sizes of downstream facilities.

Biofiltration can remove some particulates and the associated bacterial loading from storm water runoff. Additional bioslopes, infiltration trenches, soil grading alterations, bioretention ponds, and the use of selective vegetation can further increase the efficiency of vegetative biofiltration systems. In areas where biofiltration is not practical, design of bioslopes and infiltration trenches can be modified with amended soil to promote subsurface flow.

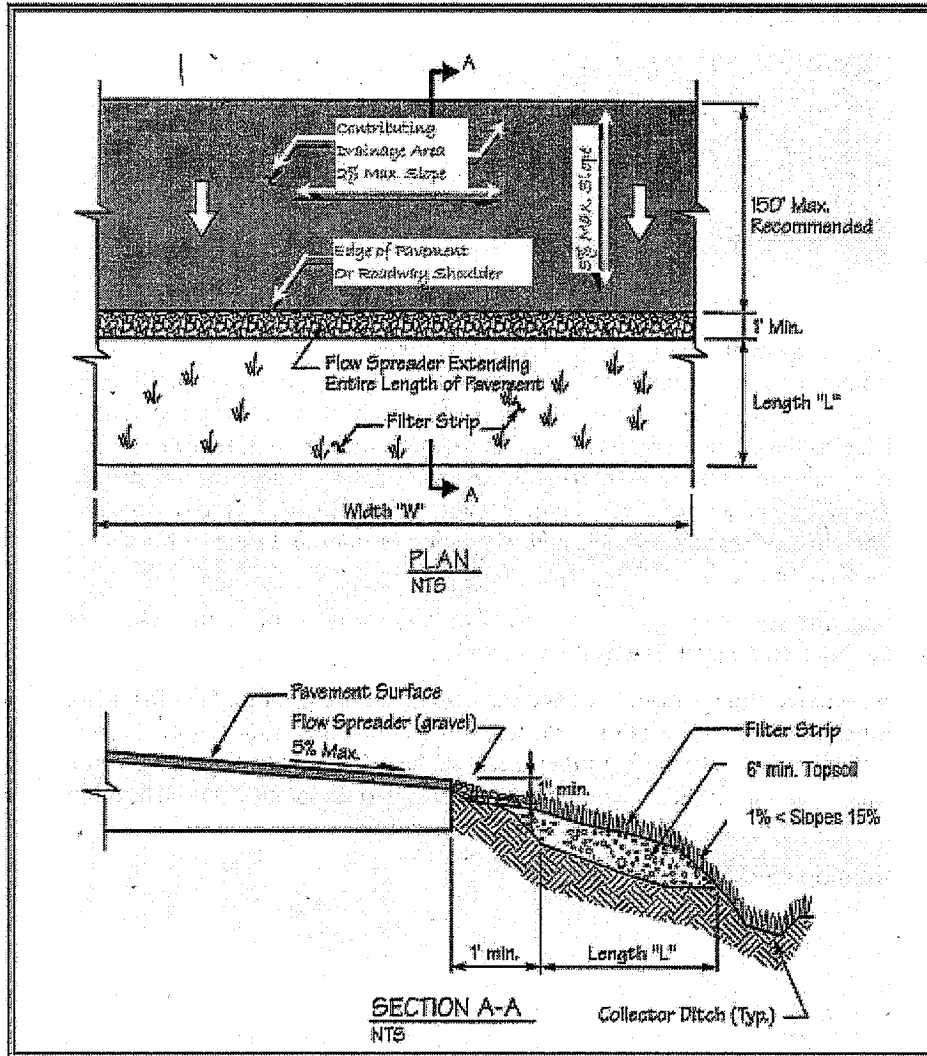
Figure 5.2 Biofiltration Swales



Source: Storm water Management Manuel , Washington State Department of Ecology Water Quality Program, 2005

Buffers and filter strips provide separation between pollution generating areas and water bodies and provide biofiltration for runoff from these areas, thereby controlling bacteria at their sources.

Figure 5.3 Basic Filter Strip



Source: Storm water Management Manuel, Washington State Department of Ecology Water Quality Program, 2005

Vegetated bioswales are constructed drainage ways used to convey storm water runoff. Vegetation in bioswales allows for the filtering of pollutants, and infiltration of runoff into groundwater. Broad swales on flat slopes with dense vegetation are the most effective at reducing the volume of runoff and pollutant removal. Bioswales planted with native vegetation offer higher resistance to flow and provide a better environment for filtering and trapping pollutants from storm water. Vegetated bioswales generally have a trapezoidal or parabolic shape with relatively flat side slopes. Individual vegetated bioswales generally treat small drainage areas

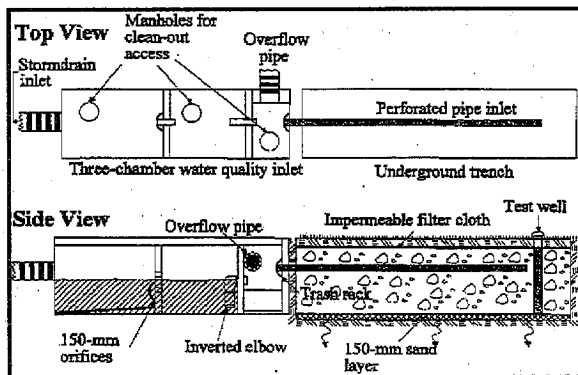
(five acres or less). A properly designed vegetated swale may achieve a 25 to 50 percent reduction in particulate pollutants conservatively (USEPA, 1999).

Figure 5.4. Infiltration Trenches



Source: CASQA Storm water BMP Handbook, 2003b, USEPA National Menu of BMPs

Figure 5.5 Infiltration Trench

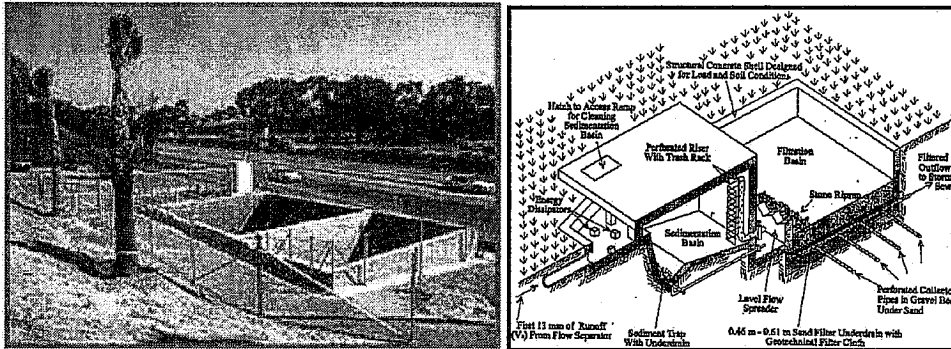


Source: FHWA: Storm water Best Management Practices in an Ultra-Urban Setting

Media Filtration

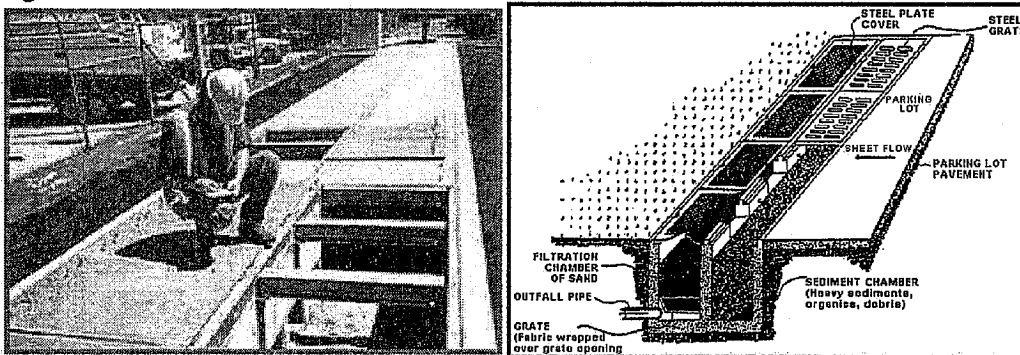
Media filtration in storm water is primarily used to separate fine particulates and associated pollutants, but might also be used for enhanced treatment to remove bacteria and nutrients. To maximize bacteria reduction benefits, these facilities should be strategically placed in locations with high observed or suspected bacterial loadings. In this process, storm water is captured and directed either under gravity or pumped pressure through media such as sand, anthracite, compost, zeolite and combustion of natural and engineered substrates. These systems do not provide volume reduction benefits, but may provide limited flow attenuation for small size storms depending on size and type of facility. Media filters could be integrated directly into existing storm drain systems, but are generally offline facilities requiring a diversion structure.

Figure 5.6. Austin Sand Filter



Source: Caltrans Storm Water Quality Handbooks: Project Planning and Design Guide, FHWA: Storm water Best Management Practices in an Ultra-Urban Setting

Figure 5.7 Delaware Sand Filter



Source: Caltrans Storm Water Quality Handbooks: Project Planning and Design Guide, FHWA: Storm water Best Management Practices in an Ultra-Urban Setting

On-farm BMPs

On-farm BMPs would focus on individual growers implementing BMPs on individual parcels throughout the watershed. Effective BMPs to reduce pollutant loading would focus on sediment and erosion management practices. Irrigation management practices are also important to reduce and/or eliminate dry weather runoff from fields. Listed below are some practices that may be implemented by individual growers.

- Avoid bare fields by planting cover crops or leaving plant debris in field
- Minimize road erosion by grading or using gravel on roads
- Capture and reuse irrigation/storm water runoff on site
- Use sediment traps at the end of fields to capture sediment from runoff
- Mitigate runoff before it leaves property with grassed swales and filter strips
- Conduct tests of irrigation systems to ensure efficiency and uniformity

- Inspect irrigation systems for breaks and leaks
- Divert water from non-cropped areas
- Use current weather information to determine irrigation requirements
- Stop irrigation if runoff occurs

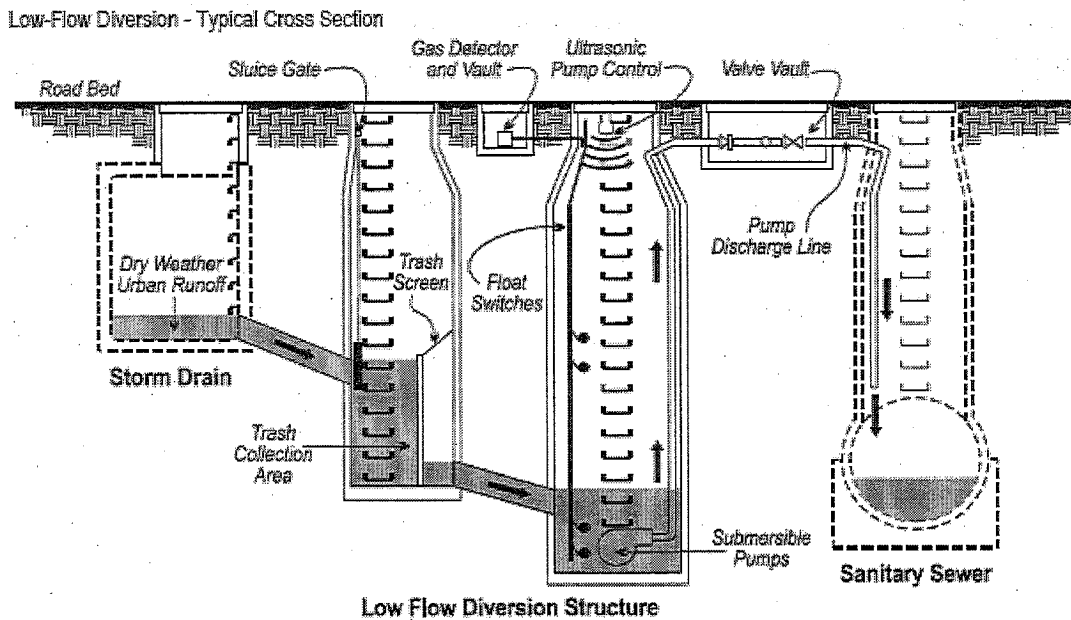
5.1.2 REGIONAL STRUCTURAL BMPs

Regional structural BMPs contain many similarities to sub-regional structural BMPs but differ in both the scope and scale of implementation strategies. Treatment areas can range from several sub-regions to the entire watershed. Regional structural BMPs retain the multiple treatment potential of sub-regional BMPs. Listed below are a few regional structural BMPs and a brief description of each:

Diversion and/or Treatment

A diversion and/or treatment BMP routes urban runoff from canyons, streets and small watersheds away from the storm drain system or waterway, and redirects it into the sanitary sewer system or other treatment system, where the contaminated runoff then receives treatment and filtration before being re-used or discharged. Diversions are usually designed to treat low flows and dry-weather urban runoff, but could also treat a portion of wet-weather flow. The unit collects street runoff and, through a series of tanks and pumps, diverts the liquid flow into the sanitary sewer system (City of Los Angeles Storm water Program Website, 2007). The diversion device may stop the flow of polluted urban runoff from a storm drain from reaching the river.

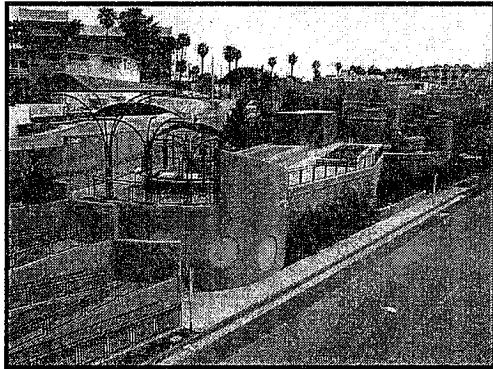
Figure 5.8 Typical Low Flow Diversion



Source: CDM, 2005

Rather than redirecting the diverted runoff to the sanitary sewer system, implementing agencies may construct a runoff treatment facility such as the Santa Monica Urban Runoff Recycling Facility (SMURRF), as shown in Figure 5.9.

Figure 5.9. Santa Monica Urban Runoff Recycling Facility (SMURRF)



Source: City of Santa Monica, 2010

Depending on the water quality of the flow, it might have to be passed through a wastewater treatment facility that uses ultraviolet (UV) irradiation, chlorination, ozonolysis or Biocides and Peracetic acids. Chlorination is one of the most used methods of disinfection, wherein chlorine being a strong oxidant breaks the cell membranes of bacteria and kills them. UV light with a wavelength of 220 to 320 nanometers can be used to inactivate pathogens. Ozone is generated onsite and the compound is an extremely reactive oxidant that inactivates pathogens through lysis. Peracetic acids deactivate outer cell membranes and can be applied for de-activation of bacteria and viruses; further, they are a more effective oxidant than chlorine and don't have harmful by-products.

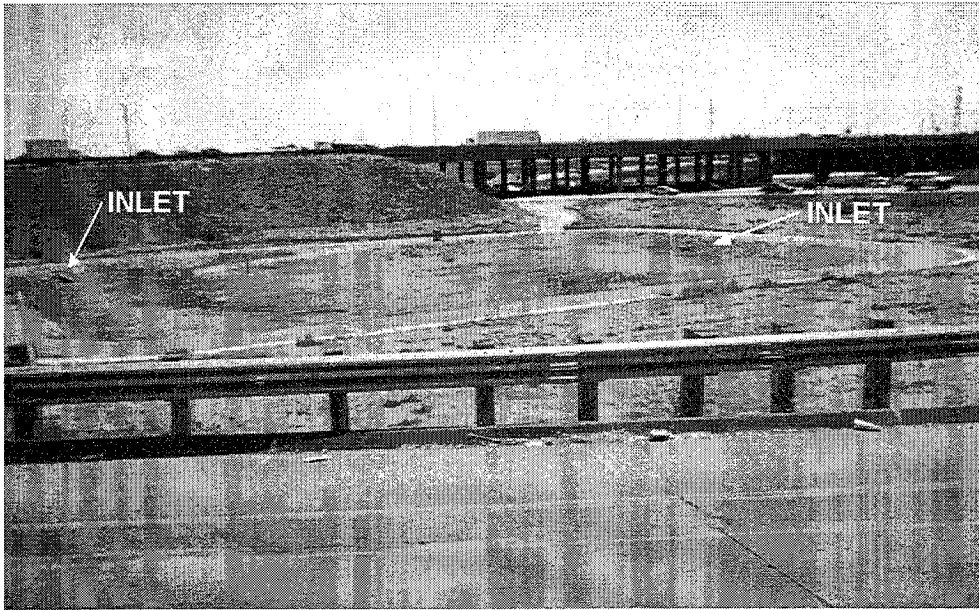
Regional Agricultural BMPs

Regional agricultural BMPs would be similar to on-farm BMPs, but they would be designed and implemented on a larger scale to address runoff from multiple parcels. For example, on-farm BMPs that could be applied on a larger scale include vegetated drainage ditches, sediment detention basins, grassed swales, and filter strips.

Regional Infiltration Systems:

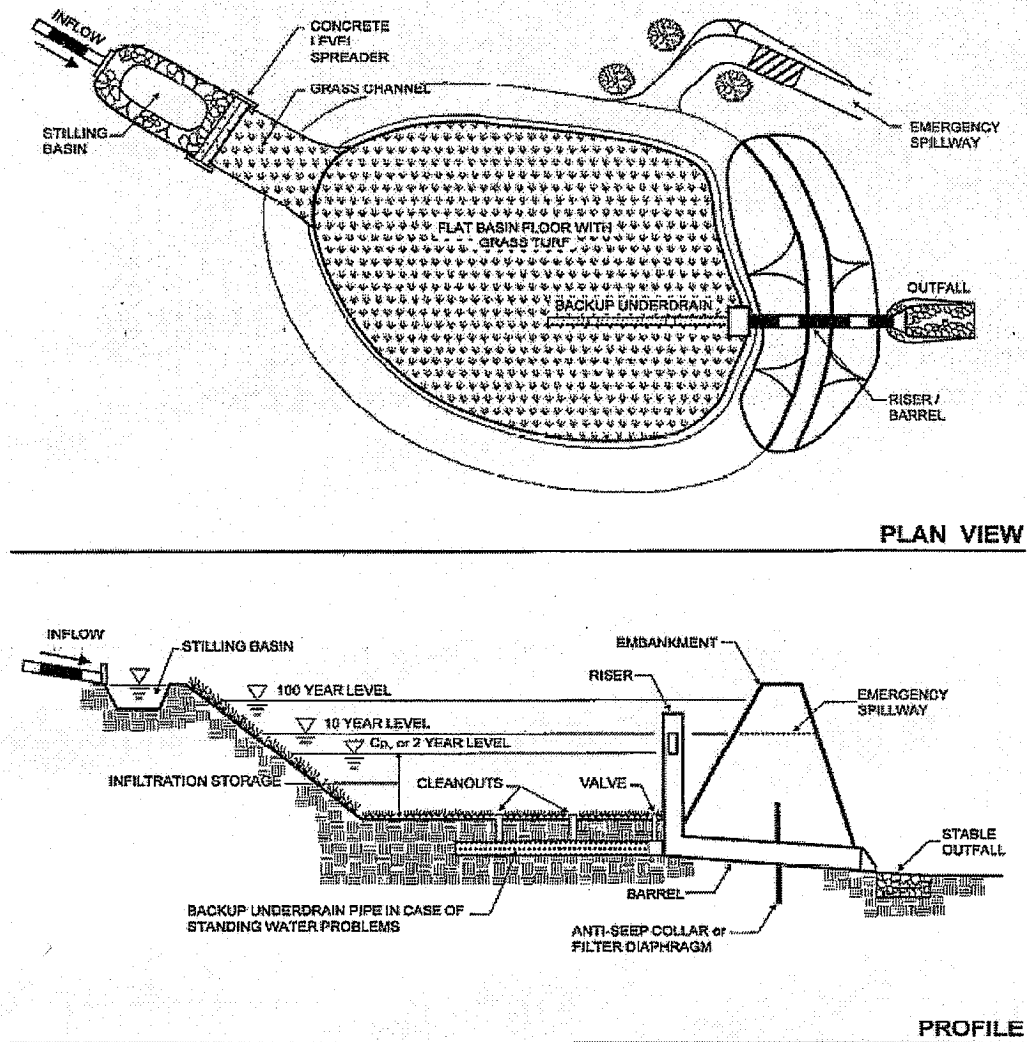
A regional infiltration facility is generally a large basin capable of detaining the entire volume of a design storm and infiltration volume over a specified period. This is primarily accomplished by volume reduction to receiving waters; by impounding water and allowing it to slowly percolate into surface soil and eventually to groundwater. These facilities can be applied as a stand-alone treatment features for bacterial control on a subwatershed scale. In the event of a large storm, some flow would bypass infiltration and discharge to the receiving water untreated. However, treatment of a large percentage of flow would still be achieved. Application of a regional facility depends on the suitability of soils for infiltration and appropriately- located open space.

Figure 5.10 Infiltration Basin



Source: CASQA Storm water BMP Handbook, 2003b, USEPA National Menu of BMPs

Figure 5.11 Diagram of Infiltration Basin



Source: CASQA Storm water BMP Handbook, 2003b, USEPA National Menu of BMPs

Regional Detention Facility:

This type of facility consists of large basins equipped with outlet structures that regulate rates of release. It can be used upstream of an infiltration facility, constructed wetlands or disinfection plants to equalize flows and reduce sediment loads. These basins can be shallow, lined with

vegetation and separated into multiple bays to improve their water quality functions; unlike infiltration systems, they do not require favorable soils. Detention facilities can also be deep, steep-wall basins, or underground vaults when space is a limiting factor. However, they are not effective as a stand-alone treatment option for bacteria.

Regional Natural Treatment Systems (NTS):

Regional NTS are vegetated treatment systems constructed, designed and maintained primarily for water quality treatment. Constructed wetlands imitate processes carried out by natural wetlands and waste water treatment plants. Constructed wetlands can be applied either as an inline or offline facility or can be integrated into other habitat enhancement projects. The two most common regional NTS are free surface flow (FSF) and sub-surface flow (SSF) wetlands. FSF wetlands are characterized by shallow ponded water at varying depths above the ground surface; solar irradiation is supposedly the process involved in bacterial removal in this type of wetland. For the SSF wetlands, water flows through the sub-surface soil matrix, rarely surfacing; the presence of anoxic zones contribute to the bacterial removal mechanism. This method requires comparatively large areas of relatively flat land to mimic natural function. Also these facilities are not intended to provide stand-alone treatment of storm water runoff. Often a detention facility can be integrated upstream to mitigate peak flows and provide a more steady inflow. Also, biofiltration facilities, media filters or sedimentation basins could be utilized to reduce sedimentation loads and further provide longevity and better performance of the facility.

5.3.1 NON-STRUCTURAL BMPS

Non-structural BMPs include prevention practices designed to improve water quality by reducing bacterial sources. Non-structural BMPs may require minimum construction. In addition, non-structural BMPs provide for the development of bacterial control programs that include, but are not limited to prevention, education, and regulation. Less significant adverse impacts on the environment are anticipated for these controls. These programs are described below:

Administrative Controls

Administrative controls require less initial investment of time compared to structural BMPs, due to less need for planning for capital. However, for continuous implementation, administrative actions may require greater time. These actions include better enforcement of existing pet disposal ordinances, better enforcement of existing litter ordinances, posting additional signage, equestrian related ordinances such as improved manure storage areas and designated horse-wash areas with connections to sanitary sewers., proposing stricter penalties, and other actions of an administrative nature.

Administrative controls tend to be more costly and have a far greater scope. New developments and redevelopments in Ventura and Los Angeles counties have to comply with the terms of the MS4 permit. This includes meeting the current Storm Water Quality Urban Impact Mitigation Plan (SQUIMP) standards for appropriate post-construction storm water BMPs and the use of Low Impact Development (LID). Sub-regional and region-wide plans for sheet-flow diversion may need to be developed. A green building program similar to one developed in the City of Santa Monica can help promote sustainability (McCoy and Hartwich, 2006).

Outreach and Education

Education and outreach to residents may minimize the potential for contamination of storm water runoff by encouraging residents to clean up after their pets, pick up litter, minimize runoff from agricultural, residential, and commercial facilities, and control excessive irrigation. The public is often unaware of the fact that excess water discharged on streets and lawns ends up in receiving waters, or of the contamination caused by the polluted runoff.

Local agencies can provide educational materials to the public via television, radio, and print media, distribute brochures, flyers, and community newsletters, create information hotlines to outreach to educators and schools, develop community events, support of volunteer monitoring and cleanup programs, as well as inform horse owners how to properly manage and store animal waste.

Storm Drain Stenciling

Storm drain inlet stenciling is another means of educating the public about the direct discharge of storm water to receiving waters and the effects of polluted runoff on receiving water quality. Stenciling can be conducted in partnership with other agencies and organizations to garner greater support for educational programs (USEPA, 2005).

Street Cleaning

Street and parking lot cleaning may minimize pollutant loading to urban storm drains. This management measure involves employing pavement cleaning practices such as street sweeping on a regular basis to minimize trash, sediment, debris and other pollutants that are potential sources of bacterial pollution which could otherwise end up in receiving waters.

Storm Drain Cleaning

Routine cleaning of the storm drain system reduces the amount of pollutants entering the river, prevents clogging, and ensures the flood control capacity of the system. Cleanings may occur manually or with eductors, vacuums, or bucket loaders. A successful storm drain cleaning program includes regular inspection and cleaning of catch basins and storm drain inlets, increased inspection and cleaning in areas with high bacteria loading, accurate recordkeeping, cleaning immediately prior to the rainy season to remove accumulated trash and associated pollutants, and proper storage and disposal of collected material (CASQA, 2003a).

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 SED. The implementation alternatives for achieving compliance with the Santa Clara River and the Santa Clara River Estuary bacteria TMDL are described in detail in Section 5 of this document and again in the TMDL Staff Report. Each of these implementation alternatives have been independently evaluated in this draft SED. The environmental setting for the Santa Clara River and the Santa Clara River Estuary bacteria TMDL is discussed in Section 6.1.3. 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 Santa Clara River and the Santa Clara River Estuary bacteria TMDL depend upon the specific compliance projects selected by the responsible parties, most of whom are public agencies subject to their own CEQA obligations. (See Pub. Res. 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 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.

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 Santa Clara River and the Santa Clara River Estuary and surrounding watershed area, totaling an estimated 1600 square miles. This is the geographic area for assessing impacts of the different implementation alternatives, because the high level of fecal indicator bacteria in the Santa Clara River and the Santa Clara River Estuary 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 and jurisdictions once their mode of achieving compliance with the bacteria 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 municipal agencies that provide guidance for the selection and implementation of BMPs (CASQA, 2003a, CASQA, 2003b, WERF, 2005).

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 (Figure 6-1) 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, Fillmore, Santa Paula, and Ventura. The watershed is approximately 1600 square miles.

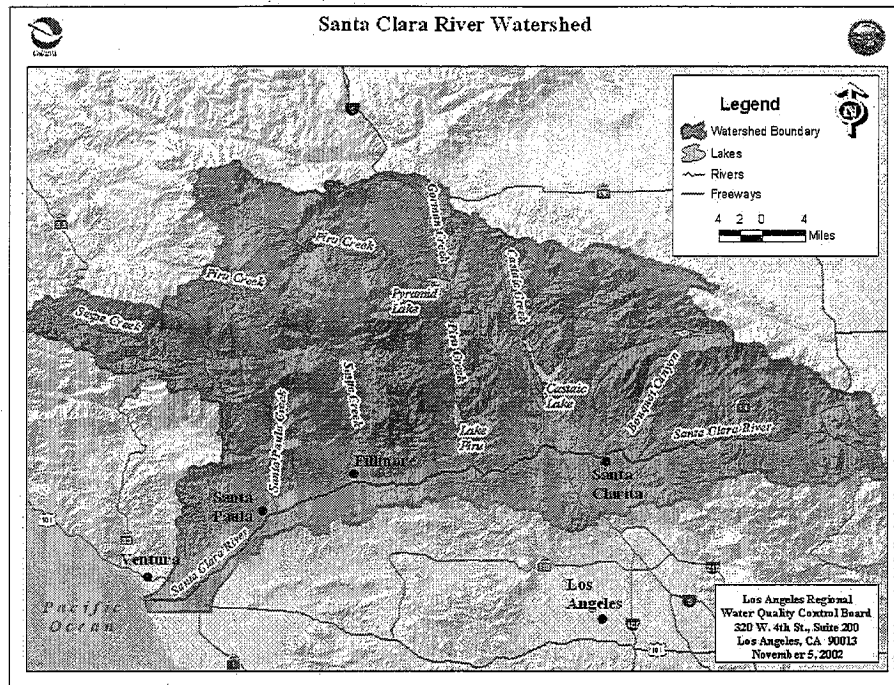
The Santa Clara River occupies a comparatively narrow, sinuous channel, and the river and its tributaries are underlain by an unconfined alluvial aquifer. The sandy channel is highly permeable over much of its length, and in places large quantities of water infiltrate through the streambed to the alluvial aquifer (DWR, 1993).

The groundwater is discharged to the surface where the water table intersects the river bed at Highway 99 (bottom of Reach 6), Blue Cut (bottom of Reach 5), the Fish Hatchery (Reach 4), and Willard Road (bottom of Reach 3). The surface flow percolates into groundwater in the upper Piru Basin and in the upper Fillmore Basin (Reach 4). United Water Conservation District (UWCD) releases imported water from Lake Piru to maintain elevated groundwater levels, which are released to the Oxnard Plain to manage seawater intrusion.

The Santa Clara River watershed is approximately 1600 square miles. Land uses in the watershed are 90.5% open space, 3.2% agriculture, 1.5% high density residential, 1.2% low density residential, 1.1% public facilities, 0.7% industrial, 0.4% recreation, and 0.2% commercial. Other land uses range from 0.0003% to 0.6%, including water, mixed urban, transportation, military, and education.

The Santa Clara River Estuary and Santa Clara River Bacteria TMDL applies to reaches on the 303(d) list of impaired waters, including the Estuary and Reaches 3, 5, 6, and 7. However, during high flows, flows from the entire watershed may impact the impaired reaches and are subject to this TMDL. Therefore, the Environmental Setting includes a discussion of the entire watershed. Nonetheless, the reasonably foreseeable impacts of implementing the TMDL would only occur in the portion of the watershed assigned WLAs and LAs. This would include the urbanized portions of the watershed served by the storm drain system, as well as agricultural lands and low density residential areas. The remaining portion of the watershed, which comprises 91% of the watershed, is open space.

Figure 6-1: The Santa Clara River Watershed



6.1.4 Beneficial Uses of the Santa Clara River and the Santa Clara River Estuary

The Basin Plan designates beneficial uses for water bodies in the Los Angeles Region. These are recognized as existing (E), potential (P), or intermittent (I) uses. The Santa Clara River has a variety of beneficial use designations including Contact and Non-contact Recreation for the Estuary and Reaches 3, 5, 6, and 7 (See Table 6-1).

The REC-1 beneficial use is defined in the Basin Plan as “[Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs” (Basin Plan, p. 2-2).

The REC-2 beneficial use is defined as “Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to picnicking, sunbathing, hiking, beachcombing, camping, boating, tide-pool and marine life study, hunting, sightseeing, or aesthetics enjoyment in conjunction with the above activities” (Basin Plan, p. 2-2).

Table 6-1: Beneficial Uses of Santa Clara River Estuary and Reaches 3, 5, 6 and 7

SCR Watershed	Hydro Unit #	MUN	IND	PROC	AGR	GWR	FRSH	NAV	REC1	REC2	COMM	WARM	EST	MAR	WILD	BIOL	RARE	MIGR	SPWN	SHELL	WET ^a
Estuary	403.11							E	E	E	E		E	E	E		E ^b	E ^c	E ^c		E
Reach 3	403.21 & 403.31	P*	E	E	E	E	E		E ^d	E		E	E		E		E				E
Reaches 5, 6, and 7	403.51	P*	E	E	E	E	E		E	E		E	E		E		E				E

Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

E: Existing beneficial use

P: Potential beneficial use

E and P shall be protected as required

*: Asterixed MUN designations are designated under SB 88-63 and RB 89-03. Some designations may be considered for exemptions at a later date.

a: Water bodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action may require a detailed analysis of the area.

b: One or more rare species utilize all oceans, bays, estuaries, and wetlands for foraging and/or nesting.

c: Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas that are heavily influenced by freshwater inputs.

d. Limited public access precludes full utilization.

Exceedance of bacteria objectives in these water bodies may result in impairments of beneficial uses associated with recreational uses (REC1 and REC2).

6.2. CEQA CHECKLIST AND DETERMINATION

6.2.1 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:				
	a. Changes in currents, or the course of direction or water movements, in either marine or fresh waters?	X			

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	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			
5.	Animal Life. Will the proposal result in:				

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	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			
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:				

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	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:				
	a. Creation of any health hazard or potential health hazard (excluding mental health)?	X			
	b. Exposure of people to potential health hazards?	X			

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
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			
	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

	ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant	No Impact
	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 bacteria in the Santa Clara River and the Santa Clara River Estuary in response to the proposed Basin Plan amendment. These include structural BMPs such as sub-regional structural BMPs (i.e., local capture systems, vegetated treatment systems, local infiltration systems and media filtration, and on-farm BMPs), and regional structural BMPs (i.e. diversion and treatment, regional infiltration, regional detention, and regional NTS), as well as non-structural BMPs such as outreach and education and administrative actions. Potential impacts are discussed below and it is found that any significant impacts can be mitigated at a project level or there are alternative means of compliance available. Many of the mitigation measures identified are common practices currently employed by agencies when planning and implementing storm water BMPs. Agencies such as CASQA and WERF publish handbooks containing guidance on the selection, siting, design, installation, monitoring, and evaluation of storm water BMPs (CASQA, 2003a, CASQA, 2003b, WERF, 2005). 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.

Pursuant to section 13360 of the 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 bacteria 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).)

Potential reasonably foreseeable impacts were evaluated with respect to earth, air, water, plant life, animal life, noise, light, land use, natural resources, risk of upset, population, housing, transportation, public services, energy, utilities and services systems, human health, aesthetics, recreation, and archeological/historical concerns. Additionally, mandatory findings of significance regarding short-term, long-term, cumulative and substantial impacts were evaluated. The evaluation considered whether the construction or implementation of the BMPs would cause a substantial, adverse change in any of the physical conditions within the area affected by the BMP. In addition, the evaluation considered environmental effects in proportion to their severity and probability of occurrence.

The following analysis considers a range of non-structural and structural BMPs that might be used, but is by no means an exhaustive list of available BMPs. When BMPs 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

Sub Regional BMPs

Local Capture Systems

Installation of local capture systems would not be of the size or scale to result in unstable earth conditions or in changes in geologic substructures (tank capacities range from around 55 gallons to several thousand cubic feet.)

Vegetated Treatment Systems and Local Infiltration Systems

For vegetated treatment systems and local infiltration systems, infiltration of collected storm water could potentially result in unstable earth conditions if loose or compressible soils are present, or if such BMPs were to be located where infiltrated storm water flowing as groundwater could destabilize existing slopes. There are areas within the SCR watershed with significant rising groundwater. Proper sizing and siting is necessary to ensure that BMPs 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 installation to aid in siting the devices.

Media Filtration

Media filters would not be of the size or scale to result in unstable earth conditions or in changes in geologic substructures (see section 5.1.3). Media filters, including those with underground storage vaults, require relatively shallow earthwork, as they are typically less than 10 feet deep and have a footprint of approximately 700 square feet (to treat 2 acres).

On-Farm BMPs

On-farm BMPs would not be of the size or scale to result in unstable earth conditions or in changes in geologic substructures.

Regional BMPs

Diversion and/or Treatment

Construction of diversion and treatment facilities requires relatively shallow earthwork, as they are surface structures and would not cause changes in geologic substructures. However, the installation of diversion and/or treatment devices may potentially result in unstable earth conditions, if loose or compressible soils are present. These impacts can be avoided by proper studying, monitoring, and siting measures of compliance away from areas with loose or compressible sands.

Regional Infiltration System and Detention Facility

For regional infiltration systems, infiltration of collected storm water could potentially result in unstable earth conditions if loose or compressible soils are present, or if such BMPs were located

where infiltrated storm water flowing as groundwater could destabilize existing slopes. Detention facilities also involve some infiltration of stormwater. These impacts can be avoided by siting infiltration type BMPs away from areas with loose or compressible soils, and away from slopes that could become destabilized by an increase in groundwater flow. There are areas within the SCR watershed with significant rising groundwater. Infiltration type BMPs can also be built on a small enough scale to avoid these types of impacts. If responsible parties install infiltration facilities on a scale that could result in unstable earth conditions or in changes in geologic substructures, potential impacts could be avoided through proper geotechnical investigations, siting, design, and ground and groundwater level monitoring to ensure that infiltration BMPs are not employed in areas subject to unstable soil conditions.

Regional Agricultural BMPs

Regional agricultural BMPs, such as vegetated ditches, would not be of the size or scale to result in unstable earth conditions or in changes in geologic substructures.

Regional Natural Treatment System

Construction of regional natural treatment systems, such as constructed wetlands, would not be of the size or scale to result in unstable earth conditions or in changes in geologic substructures. Construction of natural treatment facilities requires relatively shallow earthwork and NTS do not result in infiltration of storm water.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact on earth conditions or geologic substructures.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Sub Regional BMPs

Local Capture Systems

Local capture system BMPs would not be of the size or scale to result in soil disruptions, displacements, compaction, or overcoming of the soil.

Vegetated Treatment Systems, Local Infiltration Systems, and Media Filtration

Construction of vegetated treatment systems, local infiltration systems, and media filtration systems may involve surface soil excavation or grading during construction, resulting in increased disturbance of the soil. Notably, waste load allocations are only assigned in the urbanized portions of the watershed, which have already suffered soil compaction and hardscaping. Impacts would be similar to those caused by typical temporary capital improvement construction and maintenance activities currently performed by municipalities, and no long-term impacts to the soil are expected. However, to the extent that any soil is disturbed during construction, the impacts can be minimized by proper siting, design, and construction practices. Systems can be situated in highly developed areas to avoid areas with more susceptible soil. Standard construction techniques, including but not limited to, shoring, piling and soil stabilization can also mitigate potential short-term impacts.

On-Farm BMPs

On-farm BMPs involve source control measures and sediment retention and would not be of the size or scale to result in disruptions, displacements, compaction, or overcoming of the soil.

Regional BMPs

Diversion and/or Treatment

Diversion and/or treatment facilities would be sited in the urbanized portions of the watershed, which have already suffered soil compaction and hardscaping. However, to the extent that any soil is disturbed during construction, the impacts can be minimized by proper siting, design, and standard construction techniques, including but not limited to, shoring, piling and soil stabilization.

Regional Infiltration System, Detention Facility, and Natural Treatment System

Installation of regional infiltration systems, detention facilities, and natural treatment systems may result in surface soil excavation or grading during construction resulting in increased disturbance of the soil. The impacts on soil disruptions, displacements, compaction, or overcoming during construction activities can be minimized by proper siting and design to avoid areas with more susceptible soil and standard construction techniques.

Regional Agricultural BMPs

While some regional agricultural BMPs would involve construction of detention basins, these basins would be designed to treat flows from agricultural areas, which have lower peak flows than urbanized areas, and would not be of the size or scale to result in disruptions, displacements, compaction, or overcoming of the soil.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no potential to cause disruptions, displacements, compaction or overcoming of the soil.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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: No impact

Sub Regional BMPs

Sub Regional BMPs would not be of the size or scale to result in changes in topography or ground surface relief features.

Regional BMPs

Regional BMPs would not be of the size or scale to result in changes in topography or ground surface relief features.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact on topography or ground surface relief features.

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

Answer: Potentially significant impact

Sub Regional BMPs

Local Capture Systems

Local capture systems would not be of the size or scale to result in destruction, covering or modification of any unique geologic or physical features.

Vegetated Treatment Systems, Local Infiltration Systems, and Media Filtration

Vegetated treatment systems, local infiltration systems, and media filters would not be of the size or scale to result in destruction, covering or modification of any unique geologic or physical features. In the unlikely event that responsible parties discover any unique geologic or physical features which requires protection, potential impacts could be mitigated by avoiding siting facilities in these areas.

On-Farm BMPs

On-farm BMPs are not of the size or scale to result in the destruction, covering or modification of any unique geologic or physical feature.

Regional BMPs

Diversion and/or Treatment

BMPs associated with diverting and or treating runoff would not be of the size or scale to result in destruction, covering or modification of any unique geologic or physical features

Regional Infiltration System and Detention Facility

Regional Infiltration systems and detention facilities would not be of the size or scale to result in destruction, covering or modification of any unique geologic or physical features. In the unlikely event that responsible parties discover any unique geologic or physical features which require protection, potential impacts could be mitigated by avoiding siting facilities in these areas.

Regional Agricultural BMPs

Regional agricultural BMPs would not be of the size or scale to result in the destruction, covering or modification of any unique geologic or physical feature.

Regional Natural Treatment System

Construction of regional treatment systems, such as constructed wetlands, would not be of the size or scale to result in the destruction, covering or modification of any unique geologic or physical feature.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no potential to result in the destruction, covering or modification of any unique geologic or physical features.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. 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

Sub Regional BMPs

Local Capture Systems

There is no potential to result in any increase in wind or water erosion of soils, either on or off the site from this alternative means of compliance.

Vegetated Treatment Systems, Local Infiltration Systems, and Media Filtration

Vegetated treatment systems, local infiltration systems, and media filters may result in minor soil excavation during construction, which could introduce the potential for soil to be eroded. Erosion of soils may occur as a short-term impact during construction. Construction BMPs should be used to minimize sediment runoff. Responsible agencies may plant cover crops or buffer strips to increase soil infiltration and reduce runoff in order to reduce soil erosion. Construction plans should also minimize clearing and grading activities and phase construction to limit soil exposure, stabilize exposed soils immediately, protect steep slopes and cuts, and install sediment controls. Greater utilization of low impact development (LID) can further mitigate the potential for erosion. Construction sites are required to retain sediment on site, both under general construction storm water permits and through the construction program of the applicable MS4, both of which are designed to minimize or eliminate erosion impacts on receiving water.

On-Farm BMPs

On-farm BMPs would not result in any increase in wind or water erosion of soils, either on or off the site. Furthermore, on-farm BMPs generally decrease wind or water erosion of soils, which is considered a positive impact.

Regional BMPs

Diversion and/or Treatment

Diversion and/or treatment BMPs may result in minor soil excavation during construction which could introduce the potential for soil to be eroded. Wind or water erosion of 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 the municipalities. Typical established construction BMPs should be used during implementation to minimize offsite sediment runoff. Construction sites are required to retain sediment on site, both under general construction storm water permits and through the construction program of the applicable MS4 permits, both of which are designed to minimize or eliminate erosion impacts on receiving water. Over the long term, off-site erosion of natural channels could potentially be reduced if the structural BMPs divert storm water from entering the canyons and channels, or reduce the runoff flow velocity, which may be considered a beneficial impact.

Regional Infiltration Systems and Detention Facilities

Regional infiltration systems and detention facilities may result in minor soil excavation during construction which could introduce the potential for that soil to be eroded. Erosion of soils may occur as a short-term impact during construction. Construction BMPs should be used during implementation to minimize offsite sediment runoff or deposition. Greater utilization of LID can further mitigate the potential for erosion. Construction sites are required to retain sediment on site, both under general construction storm water permits and through the construction program of the applicable MS4 permits, both of which are designed to minimize or eliminate erosion impacts on receiving water.

Regional Agricultural BMPs

Regional agricultural BMPs would not result in any increase in wind or water erosion of soils, either on or off the site. Furthermore, regional BMPs generally decrease wind or water erosion of soils, which is considered a positive impact.

Regional Natural Treatment System

Constructed wetlands consist of coarser grade sediment that is less likely to be susceptible to erosion than finer grained material or uncovered soils. Construction of regional natural treatment systems, such as constructed wetlands, could result in erosion of soils onsite. Construction plans should minimize clearing and grading activities and phase construction to limit soil exposure, stabilize exposed soils immediately, protect steep slopes and cuts, and install sediment controls.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in increase in wind or water erosion of soils, either on or off the site.

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 jurisdiction of the responsible parties

listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Sub Regional BMPs

Local Capture Systems

Local Capture Systems are small on-site systems used to capture rainwater and on-site runoff and would not result in changes in siltation, deposition or erosion.

Vegetated Treatment Systems and Local Infiltration Systems

Deposition of significant volumes of sediment to rivers occurs mostly during wet-weather flows. Therefore vegetated treatment and local infiltration systems that remove sediment load could impact deposition of sand in the river and downstream beaches. Vegetative swales and bioretention areas that capture sediment, resulting in possible changes in deposition or erosion, can be mitigated if it becomes necessary through sand replacement and importation.

Media Filtration

Media filters may impact siltation or deposition of sand in the river. Reduction in siltation in the river may be considered a positive impact as fine sediments may contain pollutants. However, sediment release is important for river and beach replenishment. Impacts to deposition of river bed and beach sand may be mitigated by further study at the project level and by on-going monitoring to determine the amount and quality of sediment retained by filters that would otherwise enter the river.

On-Farm BMPs

On farm BMPs would result in changes siltation, deposition or erosion from agricultural lands, which may modify the bed of the river, but this would be considered a positive change that reduces bacteria and other pollutant loading to the river.

Regional BMPs

Diversion and/or Treatment

BMPs that divert and or treat are designed to divert low-flows from urbanized areas to treatment facilities rather than directly discharging into surface waters. Low-flows do not carry much sediment or silt; therefore, these BMPs would not result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion.

Regional Infiltration Systems, Detention Facilities, Regional Natural Treatment Systems, and Regional Agricultural BMPs

Deposition of significant volumes of sediment to rivers occurs mostly during wet-weather flows. Therefore, facilities that remove sediment could impact deposition of sand in the river and downstream beaches. This sediment can be contaminated with pollutants and preventing its discharge to the river is a positive change that improves water quality. However, sediment release is important for river and beach replenishment. Facilities that capture sediment, resulting in possible changes in deposition or erosion, can be mitigated if it becomes necessary through sand replacement and importation.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in changes in siltation, deposition or erosion .

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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: No impact

It is not anticipated that reasonably foreseeable methods of compliance with structural and non-structural BMPs will result in an exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards.

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

Answer: Potentially significant impact

Sub Regional BMPs

Local Capture Systems

Local capture systems would be installed on small parcels, such as on individual residences, schools, and public facilities to capture rainwater and on-site runoff. Their installation and operation would not have the potential to cause any impacts to air.

Vegetated Treatment Systems, Local Infiltration Systems, and Media Filters

Adverse impacts to ambient air quality may result from short term increases in traffic during the construction and installation of vegetated treatment systems, local infiltration systems, and media filters. These activities can also generate greenhouse gas emissions. Construction BMPs can be implemented to mitigate air impacts along with the use of low emission vehicles as well as other SCAQMD recommended mitigation measures.

On-Farm BMPs

On-Farm BMPs involve irrigation efficiency and sediment retention and would not result in an increase in air emissions. Short term and increases in traffic during the construction and installation of on-farm BMPs and long-term intermittent increases in traffic caused by ongoing maintenance of these devices (e.g., delivery of materials and maintenance activities) are potential sources of increased air pollutant emissions, including greenhouse gas emissions. Construction activities could also potentially cause re-suspension of dry sediments. Construction BMPs can be implemented to mitigate air impacts along with the use of low emission vehicles as well as other SCAQMD recommended mitigation measures. The reduction of particulate emissions due to decreased road erosion as a result of paving or graveling roads would be a positive impact.

Regional BMPs

Diversion and/or Treatment

Short term increases in traffic during the construction and installation of diversion and/or treatment BMPs, and long-term increases in traffic caused by ongoing maintenance of these devices (e.g., delivery of materials) are potential sources of increased air pollutant emissions, including greenhouse gas emissions. Mitigation measures for increased air emissions due to increased vehicle trips or for construction equipment due to the installation of divert and or treat BMPs 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 so they operate cleanly and efficiently.

Regional Infiltration Systems, Regional Detention Facilities, and Regional Natural Treatment Systems

The adverse impacts to ambient air quality may result from short term increases in traffic during the construction and installation of these systems. These activities can also generate greenhouse

gas emissions. Construction BMPs can be implemented to mitigate air impacts along with the use of low emission vehicles as well as other SCAQMD recommended mitigation measures.

Regional Agricultural BMPs

Regional agricultural BMPs involve sediment retention and would not result in an increase in air emissions. Short term and increases in traffic during the construction and installation of regional sub-watershed BMPs and long-term intermittent increases in traffic caused by ongoing maintenance of these devices (e.g., delivery of materials and maintenance activities) are potential sources of increased air pollutant emissions, including greenhouse gas emissions. Construction activities could also potentially cause re-suspension of dry sediments. Construction BMPs can be implemented to mitigate air impacts along with the use of low emission vehicles as well as other SCAQMD recommended mitigation measures. Because only a few facilities would be needed to treat discharges from multiple farms on a regional scale, the impacts would be less than significant.

Non-structural BMPs

It is possible that additional vehicle trips may be required to implement non-structural BMPs. However, non-structural BMPs are not expected to have noticeable impact on ambient air quality or substantial increased emissions for the level of effort that would be required for the TMDL implementation area.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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: Potentially significant impact

Sub Regional BMPs

Local Capture Systems

Local capture systems may be a source of objectionable odors if they allow for water stagnation or collection of water with sulfur-containing compounds. Storm water runoff is not likely to contain sulfur containing compounds, but stagnant water could create objectionable odors. Capture systems should be designed to eliminate standing water with covers and inspected regularly to ensure that capture systems are not clogged, pooling water, or odorous. During maintenance, odorous sources should be uncovered for as short of a time period as possible.

Vegetated Treatment Systems, Local Infiltration Systems, and Media Filtration

Construction and installation of vegetated treatment, local infiltration systems, and media filters may result in objectionable odors in the short-term due to exhaust from construction equipment and vehicles. BMPs may also be a source of objectionable odors if they allow for water stagnation or collection of water with sulfur-containing compounds. Storm water runoff is not likely to contain sulfur containing compounds, but stagnant water could create objectionable odors.

Mitigation measures to eliminate odors caused by stagnation could include proper BMP design to eliminate standing water with covers, aeration, filters, barriers, and/or odor suppressing chemical additives. BMPs should be inspected regularly to ensure that systems are not clogged, pooling water, or odorous. During maintenance, odorous sources should be uncovered for as short of a time period as possible. Systems should be designed to minimize stagnation of water and installed in such a way so as to increase the distance to sensitive receptors in the event of any stagnation. To the extent possible, BMPs could be designed to minimize stagnation of water (e.g., allow for complete drainage within 48 hours) and installed to increase the distance to sensitive receptors in the event of any stagnation.

On-Farm BMPs

On-farm BMPs may be a source of objectionable odors if design allows for water stagnation. Improper design or maintenance of on-farm BMPs may lead to clogging and stagnation of water creating objectionable odors. Vegetated systems require inspection and maintenance, replacing diseased and dead or dying plants to prevent build-up of detritus, and replacement of existing plants to increase efficiency (WERF, 2005).

Mitigation measures to eliminate odors caused by stagnation could include covers, aeration, filters, barriers, and/or odor suppressing chemical additives. Devices could be inspected to ensure that they are not clogged or pooling water. During maintenance, odorous sources could be uncovered for as short of a time period as possible. To the extent possible, BMPs could be designed to minimize stagnation of water (e.g., allow for complete filtration within 48 hours) and installed to increase the distance to sensitive receptors in the event of any stagnation.

Regional BMPs

Diversion and/or Treatment

Construction and installation of diversion and/or treatment systems may result in objectionable odors in the short-term due to exhaust from operation equipment and vehicles, but these impacts are temporary and localized to construction activities alone. Construction BMPs can be implemented to mitigate air quality impacts along with the use low emission vehicles as well as other SCAQMD recommended mitigation measures.

If diverted water is treated with ozonation, there is a potential for leaking of ozone to the air. This potential impact can be mitigated by design and maintenance of facilities to minimize emissions.

Regional Infiltration Systems, Detention Facilities, and Natural Treatment Systems

Construction and installation regional infiltration systems, detention facilities, and natural treatment systems may result in objectionable odors in the short-term due to exhaust from construction equipment and vehicles. BMPs may also be a source of objectionable odors if they

allow for water stagnation or collection of water with sulfur-containing compounds. Storm water runoff is not likely to contain sulfur containing compounds, but stagnant water could create objectionable odors.

Mitigation measures to eliminate odors caused by stagnation could include proper BMP design to eliminate standing water with covers, aeration, filters, barriers, and/or odor suppressing chemical additives. Structural BMPs should be inspected regularly to ensure that systems are not clogged, pooling water, or odorous. During maintenance, odorous sources should be uncovered for as short of a time period as possible. Wet-weather structural BMPs should be designed to minimize stagnation of water and installed in such a way so as to increase the distance to sensitive receptors in the event of any stagnation.

Regional Agricultural BMPs

See "On-Farm BMPs".

Non-Structural BMPs

Non-structural BMPs could result in the creation of objectionable odors in urbanized areas caused by exhaust from maintenance vehicles. Objectionable odors due to engine exhaust would be temporary and dissipate once the vehicle has passed through the area. Objectionable odors from exhaust could be reduced if gasoline or propane engines were used instead of diesel engines.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. 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

It is not anticipated that reasonably foreseeable methods of compliance with non-structural and structural BMPs will result in an impact to air in the alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally. Installation, construction, and maintenance of various structural and non-structural BMPs could cause an increase in air pollutant emissions, including greenhouse gas emissions, but these activities would be the same as typical construction and maintenance activities in urbanized areas, such as ordinary road and infrastructure maintenance and building activities, and would not be significant to cause climate change.

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

Sub Regional BMPs

Local Capture Systems

Local capture systems are designed to reduce runoff thereby decreasing storm water flow; however, the affects are not significant enough to result in changes in currents, or the course of direction or water movements, in either marine or fresh waters. No impact is anticipated. No mitigation measures are required.

Vegetated Treatment Systems, Local Infiltration Systems and Media Filtration

Vegetated treatment systems, local infiltration systems, and media filters may impede or slow overland flow to storm drains if not properly designed and maintained. Devices should be designed to allow adequate drainage of water and maintained to remove clogged material to mitigate this impact.

On-Farm BMPs

On-farm BMPs may result in changes in currents, or the course of direction or water movements in freshwaters by mitigating runoff, and diverting water from non-cropped areas. However, this would be a positive impact as it would increase water use efficiency and reduce the contaminated water currently being discharged to the river. Most on-farm BMPs would focus on sediment removal and improved irrigation and would not result in significantly decreased flows to the river. If necessary, mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the California Department of Fish and Game (CDFG) and United States Fish and Wild Life Service (USFWS).

Regional BMPs

Diversion and/or Treatment

Diversion and/or treatment BMPs treat flows may impact water movement. The diversions are used to reduce dry-weather flows in storm drains and, ultimately, to the river. Southern California streams naturally have little or no flow during periods without rain, so loss of this flow will not negatively affect the river. A change in fresh water movement may occur if compliance with the TMDL is achieved in part through diversion of storm water to wastewater or urban runoff treatment facilities. This is likely to have a positive effect during wet weather, as it will reduce the potential for flooding during storm events. Reductions in dry-weather flow could have potential negative impacts on minimum flows required to support aquatic life. Potential impacts to dry-weather flow 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.

Regional Infiltration Systems Regional Detention Facilities

Regional infiltration systems and detention facilities may change the currents in the watersheds by diverting flow away from the river. The roughness coefficient may be reduced as sediment is

kept out of the river, which could increase the flow rate but would not change the direction of flow. The increase in flow rate could be offset by the reduction of peak flow, as a result of the installation detention basins or infiltration basins. Overland flow in the urbanized portion of the watershed is directed primarily to storm drains. This overland flow may change depending on the structural BMPs installed. If storm water runoff flow is reduced, or is diverted to infiltration or detention basins and not returned to the creeks, these changes would reduce the potential for erosion, which is beneficial to the environment.

Regional Agricultural BMPs

Regional agricultural BMPs may result in changes in currents, or the course of direction or water movements in freshwaters by mitigating runoff, and diverting water from non-cropped areas. However, this would be a positive impact as it would reduce the contaminated water currently being discharged to the river. Regional agricultural BMPs would focus on sediment removal and filtration and would not result in significantly decreased flows to the river. If necessary, mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional Natural Treatment Systems

Regional natural treatment system, such as constructed wetlands, may impede or slow overland flow if not properly designed and maintained. Devices should be designed to allow adequate drainage of water and maintained to remove clogged material to mitigate this impact. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support aquatic life in the river. If necessary, mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in changes in currents, or the course of direction or water movements, in marine or fresh waters. No impact is anticipated. No mitigation measures are required.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Sub Regional BMPs

Local Capture Systems

Local capture systems collect and/or inhibit storm water flow, which would likely alter drainage patterns, and also decrease the rate and amount of surface water runoff. For example, capture systems such as rain barrels would change drainage patterns by collecting storm water, which would reduce the amount of surface runoff to creeks.

Vegetated Treatment Systems and Local Infiltration Systems

Vegetated treatment and local infiltration systems collect and/or inhibit storm water flow, which would likely alter drainage patterns, and also decrease the rate and amount of surface water runoff. For example, vegetated treatment and local infiltration systems such as vegetated bioswales would change drainage patterns by increasing absorption rates, which would reduce the amount of surface runoff to the river. However, increased imperviousness in the watersheds has increased storm water flows, so a partial reduction in storm water flow would not be a negative environmental effect.

Media Filtration

Media filters are flow-through devices that may cause a change in the rate of surface water runoff. These units may impede or slow overland flow to the storm drain system. Any device installed on-line, especially an older, under-capacity storm drain could have a negative effect on the drain's ability to convey surface waters, including flood waters. This negative impact can be mitigated through design of media filters with overflow/bypass structures and by performing regular maintenance of these devices and if necessary enlargement of the storm drain upstream of the device.

On-Farm BMPs

Changes in drainage patterns and the rate and amount of surface water runoff will occur if a portion of storm water/irrigation runoff is diverted or captured and reused to achieve compliance with the TMDL. However, this would be a positive impact as it would increase water use efficiency and reduce the contaminated water currently being discharged to the river. In addition, most on-farm BMPs would focus on sediment removal and improved irrigation and would not result in significantly decreased flows to the river. Potential negative impacts to dry and wet-weather flow could be considered at the project level. If necessary, mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and the USFWS.

Regional BMPs

Diversion and/or Treatment

BMPs designed to divert and or treat flow have the potential to impact the amount of surface water runoff. These diversions are designed primarily for dry-weather flows. The numbers of low-flow diversions that can be installed are small and the flow rate during this period is minor.

Southern California streams naturally have little or no flow during periods without rain, so loss of this flow will not negatively affect the river.

Regional Infiltration Systems and Detention Facilities

Regional infiltration systems and detention facilities collect and/or inhibit storm water flow, which would likely alter drainage patterns, and also decrease the rate and amount of surface water runoff. For example, structural BMPs such as spreading basins would change drainage patterns by increasing absorption rates, which would reduce the amount of surface runoff to creeks. However, increased imperviousness in the watersheds has increased storm water flows, so a partial reduction in storm water flow would not be a negative environmental effect.

Regional Agricultural BMPs

Changes in drainage patterns and the rate and amount of surface water runoff will occur if a portion of storm water/irrigation runoff is diverted or captured and reused to achieve compliance with the TMDL. However, this would be a positive impact as it would reduce the contaminated water currently being discharged to the river. Regional agricultural BMPs would focus on sediment removal and filtration and would not result in significantly decreased flows to the river. Potential negative impacts to dry and wet-weather flow could be considered at the project level. If necessary, mitigation measures to maintain minimal flow to support habitat related beneficial uses should be reviewed and approved by the CDFG and the USFWS.

Regional Natural Treatment Systems

Constructed wetlands may cause a change in the rate of surface water runoff. These systems may impede or slow overland flow and cause flooding. This negative impact can be mitigated through design of constructed wetlands with overflow/bypass structures and by performing regular maintenance of these devices.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in change in the drainage patterns, rate and amount of surface water runoff. No impact is anticipated. No mitigation measures are required.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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: Potentially significant impact

Sub Regional BMPs

Local Capture Systems

Local capture systems would not result in altering the course of flow of flood waters because installation of these BMPs would not introduce any physical change to the river channel that could impact the flow of flood waters. No mitigation measures are required.

Vegetated Treatment Systems and Local Infiltration Systems

Vegetated treatment and local infiltration systems such as vegetated swales, permeable paving, bioretention areas, and storm water planters could alter the volume of flood waters by diverting a portion of the flood waters, but this is unlikely to alter the course of flood waters. Potential effects can be mitigated through proper design (including flood water bypass systems), sizing, and maintenance of these types of vegetated treatment and local infiltration systems. Installation of vegetated treatment and local infiltration systems could result in positive environmental benefits like flood mitigation and upstream flow volume reduction.

Media Filtration

Alterations to the course of flow of flood waters will occur if a portion of storm water is treated with media filters. Any device into a storm drain, especially an older, under-capacity drain could have a negative effect on the drain's ability to convey waters, including flood waters. This negative impact can be mitigated through proper design and maintenance of these devices. The size of the contributing drainage area should not exceed standard specifications (e.g., surface sand filters should treat no more than 25 acres and underground sand filters should treat no more than 2 acres (CASQA, 2003b). Devices should be designed to allow bypass of flows that exceed the design capacity. Enlargement of the drain upstream of the device may be required.

On-Farm BMPs

The use of on-farm BMPs could alter the current course of water flow into the river by mitigating runoff and diverting water from non-cropped areas. However, this would be a positive impact as it would increase water use efficiency and reduce the contaminated water currently being discharged to the river. Most on-farm BMPs would focus on sediment removal and improved irrigation and would not result in significantly decreased flows to the river. To mitigate any potential impacts, on-farm BMPs should be designed to treat only runoff from the farm.

Regional BMPs

Diversion and/or Treatment

BMPs designed to divert and/or treat have the potential to impact the course of flow of flood waters. These structural BMPs are designed to divert low-flow water to treatment systems. Impacts to the flow of flood waters can be mitigated with proper design and siting. Diversions

should be designed with high flow bypasses. During high flow events, usually during storms, waters entering the storm drain can bypass the diversion to prevent flooding and over taxing treatment facility capacity.

Regional Infiltration Systems and Detention Facilities

Regional infiltration systems and detention facilities could alter the volume of flood waters by diverting a portion of the flood waters, but this is unlikely to alter the course of flood waters. Potential effects can be mitigated through proper design (including flood water bypass systems), sizing, and maintenance of these types of structural BMPs. Installation of regional infiltration systems and detention facilities could result in positive environmental benefits like flood mitigation and upstream flow volume reduction.

Regional Agricultural BMPs

The use of regional agricultural BMPs could alter the current course of water flow into the river by mitigating runoff, and diverting water from non-cropped areas. However, this would be a positive impact as it would reduce the contaminated water currently being discharged to the river. Regional agricultural BMPs would focus on sediment removal and filtration and would not result in significantly decreased flows to the river. To mitigate any potential impacts, regional agricultural BMPs should be designed to treat only small water runoff from the farms. Potential impacts to the course of flow of flood waters may be considered a positive impact, as regional agricultural BMPs are likely to reduce the flow rate need for additional storm water conveyance infrastructure.

Regional Natural Treatment Facilities

Regional natural treatment systems, such as constructed wetlands, could alter its current course of flow into the river if the design capacity is exceeded. This negative impact can be mitigated through proper design and maintenance of regional natural treatment system. The size of the contributing drainage area should not exceed standard specifications. Devices should be designed to allow bypass of flows that exceed the design capacity. Bypass should be installed for flows that exceed treatment capacities.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in alterations to the course of flow of flood waters. No impact is anticipated. No mitigation measures are required.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. d. Will the proposal result in change in the amount of surface water in any water body?

Answer: Potentially significant impact

Sub Regional BMPs

Local Capture Systems

Local capture systems are designed to collect storm water runoff. Because the reduction of nuisance flows would return the watersheds to a more natural, predevelopment condition, this impact is not significant.

Vegetated Treatment Systems and Local Infiltration Systems

Storm water runoff may be retained and/or diverted for groundwater infiltration and/or to vegetated swales or bioretention areas. Water that is retained or diverted would not flow into the river. Reduction in the amount of water in the stream channels may affect the ecology of the streams; these affects can be mitigated as discussed below in the answers to questions 4 and 5 on Plant Life and Animal Life.

Media Filtration

Media filters may impede or slow overland flow to storm drains if not properly designed and maintained and could change the amount of surface water. Devices should be designed to allow adequate drainage of water and maintained to remove clogged material to mitigate this impact.

On-Farm BMPs

A change in the amount of surface water may occur if compliance with the TMDL is achieved through on-farm BMPs. The Santa Clara River supports sensitive freshwater wetland habitat. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the wetland habitat. However, this would be a positive impact as it would increase water use efficiency and reduce the contaminated water currently being discharged to the river. Most on-farm BMPs would focus on sediment removal and improved irrigation and would not result in significantly decreased flows to the river. Potential impacts to dry-weather flow should be considered at the project level. If necessary, mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and the USFWS.

Regional BMPs

Diversion and/or Treatment

Diverted and/or treated flows are transported in storm drains to treatment facilities during dry-weather. Because the reduction of nuisance flows would return the watersheds to a more natural, predevelopment condition, this impact is not significant.

Regional Infiltration Systems and Detention Facilities

Storm water runoff may be retained and/or diverted for groundwater infiltration and/or to detention basins. Water that is retained or diverted would not flow into the river. Reduction in

the amount of water in the stream channels may affect the ecology of the streams; mitigation measures for these effects are discussed below under Plant Life and Animal Life.

Regional Agricultural BMPs

A change in the amount of surface water may occur if compliance with the TMDL is achieved through regional agricultural BMPs. The Santa Clara supports sensitive freshwater wetland habitat. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the wetland habitat. However, this would be a positive impact as it would reduce the contaminated water currently being discharged to the river. Regional agricultural BMPs would focus on sediment removal and filtration and would not result in significantly decreased flows to the river. If necessary, mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and the USFWS.

Regional Natural Treatment Systems

A change in the amount of surface water may occur if compliance with the TMDL is achieved through regional natural treatment systems. Constructed wetlands may impede or slow overland flow if not properly designed and maintained and could change the amount of surface water. Devices should be designed to allow adequate drainage of water and maintained to remove clogged material to mitigate this impact. Flow bypasses should be installed to divert storm water in excess of treatment capacity.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would not result in change in the amount of surface water in any water body.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

The TMDL will improve surface water quality in terms of indicator bacteria. In addition, the BMPs which reduce storm water runoff may contribute to reductions in other types of pollutants which are also carried by storm water.

Sub Regional BMPs

Local Capture Systems

Local capture systems would not result in discharge to surface waters, or in any negative change to surface water quality. No mitigation measures are required.

Vegetated Treatment Systems and Local Infiltration Systems

During wet-weather discharges, certain infiltration BMPs (including vegetated swales, bioretention areas, and permeable paving) would reduce turbidity and increase dissolved oxygen, because these BMPs would remove sediment and bioavailable oxygen demanding substances from the surface water. Reduced turbidity and increased dissolved oxygen are beneficial to the environment. No mitigation measures are required.

Media Filtration

The use of media filtration to treat dry weather and storm water runoff will result in a change in the quality of surface water. This will positively impact water quality and associated aquatic life and water supply beneficial uses of surface waters.

On-Farm BMPs

The use of on-farm BMPs will result in a change in the quality of surface water. Some BMPs have multiple pollutant treatment potential. This will positively impact water quality and associated aquatic life and water supply beneficial uses of surface waters.

Regional BMPs

Diversion and/or Treatment

Diversion and/or treatment BMPs would not result in discharge to surface waters, or in any negative change to surface water quality. No mitigation measures are required.

Regional Infiltration Systems and Regional Detention Facilities

During wet-weather discharges, certain structural BMPs (including infiltration basins and detention basins) would reduce turbidity and increase dissolved oxygen, because these BMPs would remove sediment and bio-available oxygen demanding substances from the surface water. Reduced turbidity and increased dissolved oxygen are beneficial to the environment. No mitigation measures are required.

Regional Agricultural BMPs

The use of regional agricultural BMPs will result in a change in the quality of surface water. Some BMPs have multiple pollutant treatment potential. This will positively impact water quality and associated aquatic life and water supply beneficial uses of surface waters.

Regional Natural Treatment Systems

The use of regional natural treatment systems will result in a change in the quality of surface water. This will positively impact water quality and associated aquatic life and water supply

beneficial uses of surface waters. Regional natural treatment systems have multiple pollutant treatment potential. Constructed wetlands have been effective at removing metals as well as bacteria and other pollutants (WERF, 2005).

Non-Structural BMPs

Non-structural BMPs would not result in discharge to surface waters, or in any negative change to surface water quality. No mitigation measures are required.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Sub Regional BMPs

Local Capture Systems

Local capture systems would not result in alteration of the direction or rate of flow of ground waters. No mitigation measures are required.

Vegetated Treatment Systems and Local Infiltration Systems

Over the long term, infiltration of storm water runoff via vegetated treatment and local infiltration systems such as permeable paving and vegetated swales could alter the direction or rate of flow of groundwater. This could result in unstable earth conditions if such BMPs were to be located where infiltrated storm water flowing as groundwater could destabilize existing slopes. There are areas of significant rising of groundwater in the SCR watershed. Also, infiltration could alter groundwater movement and cause a change of hydrology by redistributing areas of recharge, which could impact water rights. However, it is noted that only the urbanized portion of the watershed (less than 6% of the watershed area) could potentially be treated with infiltration, and this is unlikely to have a significant impact on areas of recharge or the water balance in the system.

Media Filtration

Media filters are flow through devices to treat storm water and will have no impact on the direction or rate of flow of ground waters. They would be installed in areas that are already developed and installation activities would occur at depths that would not impact ground water.

On-Farm BMPs

Most on-farm BMPs would focus on sediment removal and improved irrigation and would not result in significantly increased groundwater flows.

Regional BMPs

Diversion and/or Treatment

BMPs associated with diversion and/or treatment would not result in alteration of the direction or rate of flow of ground waters. No mitigation measures are required.

Regional Infiltration Systems and Regional Detention Facilities

Over the long term, infiltration of storm water runoff via regional infiltration systems such as spreading grounds could alter the direction or rate of flow of groundwater. Detention basins also involve a certain amount of infiltration. This could result in unstable earth conditions if such BMPs were to be located where infiltrated storm water flowing as groundwater could destabilize existing slopes. There are areas of significant rising of groundwater in the SCR watershed. Also, infiltration could alter groundwater movement and cause a change of hydrology by redistributing areas of recharge, which could impact water rights. However, it is noted that only the urbanized portion of the watershed (less than 6% of the watershed area) could potentially be treated with infiltration, and this is unlikely to have a significant impact on areas of recharge or the water balance in the system.

Regional Agricultural BMPs

Most regional agricultural BMPs would focus on sediment removal and filtration and would not result alteration of the direction or rate of flow of groundwater.

Regional Natural Treatment Systems

The use of a regional natural treatment systems is not expected to result in alteration of the direction or rate of flow of groundwater as they do not involve infiltration.

Non-Structural BMPs

Non-structural BMPs would not result in alteration of the direction or rate of flow of ground waters. No mitigation measures are required.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Sub Regional BMPs

Local Capture Systems

Local capture systems would not result in a change in the quantity or quality of ground waters. No mitigation measures are required.

Vegetated Treatment Systems and Local Infiltration Systems

Vegetated treatment systems and local infiltration systems involve the infiltration of stormwater runoff into the ground. If infiltration stormwater BMPs are improperly designed, sited, and constructed, ground water quality could be adversely impacted. For instance, flow above designed capacity of biofiltration devices may lead to groundwater contamination from untreated stormwater. Also, there are areas of significant rising of groundwater in the SCR watershed and areas with existing groundwater contamination. Infiltration of stormwater could mobilize groundwater contaminants.

The potential for adverse impacts may be mitigated through proper design and siting of infiltration devices, pretreatment prior to infiltration, and groundwater monitoring. Proper design and siting includes providing adequate groundwater separation with soils suitable for infiltration, and complying with any applicable groundwater permitting requirements. It is recommended that media filters or other treatment devices be used instead of infiltration where soils or groundwater contamination are a concern (CASQA, 2003b). However, where separation to groundwater is adequate, there is a low probability of groundwater contamination by infiltrated runoff because the soils attenuate pollutants and soil amendments can increase metals removal (CASQA, 2003b).

When properly managed, increased groundwater recharge would be considered a positive impact, as it would contribute to replenishing local water supplies and reducing reliance on imported water.

Media Filtration

Media filters are flow through devices to treat storm water and will have no impact on the quantity or quality of ground waters. They would be installed in areas that are already developed and installation activities would occur at depths that would not impact ground water.

On-Farm BMPs

Most on-farm BMPs would focus on sediment removal and improved irrigation and would not result in significantly increased groundwater flows.

Regional BMPs

Diversion and/or Treatment

BMPs associated with diversion and/or treatment would not result in alteration of the direction or rate of flow of ground waters. No mitigation measures are required.

Regional Infiltration Systems and Regional Detention Facilities

Potential impacts associated with regional infiltration facilities would be similar to potential impacts from local infiltration, but on a larger scale. Regional detention facilities can also involve infiltration of stormwater, which could impact groundwater. The potential for adverse impacts may be mitigated through proper design and siting of devices, pretreatment prior to infiltration, and groundwater monitoring. Proper design and siting includes providing adequate groundwater separation with soils suitable for infiltration, and complying with any applicable groundwater permitting requirements. It is not recommended that infiltration be used where soils or groundwater contamination are a concern (CASQA, 2003b). However, where separation to groundwater is adequate, there is a low probability of groundwater contamination by infiltrated runoff because the soils attenuate pollutants and soil amendments can increase metals removal (CASQA, 2003b). When properly managed, increased groundwater recharge would be considered a positive impact, as it would contribute to replenishing local water supplies and reducing reliance on imported water.

Regional Agricultural BMPs

Most regional agricultural BMPs would focus on sediment removal and filtration and would not result in significant changes to groundwater quality or quantity.

Regional Natural Treatment Systems

The use of a regional natural treatment systems is not expected to result in changes to groundwater quality or quantity.

Non-Structural BMPs

Non-structural BMPs would not result in changes to groundwater quality or quantity. No mitigation measures are required.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

The structural and non-structural BMPs will not reduce public water supplies. Implementation of the TMDL would result in an increase in the amount of water available for public water supplies if compliance with the TMDL is achieved through significant infiltration of stormwater or treatment and reuse of stormwater.

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

Sub Regional BMPs

Local Capture Systems

If local capture systems are not properly designed and constructed, maintained, and regularly emptied to allow for bypass of storm water during storms that exceed design capacity, local capture systems such as rain barrels can potentially contribute to minor small scale flooding. However, this potential impact can be mitigated through proper maintenance procedures.

Vegetated Treatment Systems and Local Infiltration Systems

Installation of vegetated treatment and local infiltration systems such as bioretention areas and vegetated swales that are not properly designed and constructed to allow for bypass of excess storm water during storms that exceed design capacity can cause flooding. However, this potential impact can be mitigated through proper design and maintenance of vegetated treatment and local infiltration systems. Any modifications to the watershed hydrology should be modeled and accounted for in the design of BMPs.

Media Filtration

Implementation may result in flooding hazards if media filters are not properly designed and constructed to allow for bypass of storm water during storms that exceed design capacity. This potential impact can be mitigated through proper design. Potential risks of flooding due to clogging of devices with debris can be avoided by regular maintenance and inspection prior to storms.

On-Farm BMPs

Implementation may result in flooding hazards if on-farm BMPs keep water on site so that the soil on site reaches water holding capacity during storm events. This potential impact can be mitigated by proper irrigation practices during the storm season.

Regional BMPs

Diversion and/or Treatment

If Diversion and/or treatment methods are not properly designed and constructed to allow for bypass of storm water during storms that exceed design capacity, wet and dry weather diversions can potentially contribute to flooding. However, this potential impact can be mitigated through proper design features such as high-flow bypass and maintenance procedures such as cleaning out diversions at an appropriate frequency.

Regional Infiltration Systems and Detention Facilities

Installation of regional infiltration systems and detention facilities that are not properly designed and constructed to allow for bypass of excess storm water during storms that exceed design

capacity can cause flooding. However, this potential impact can be mitigated through proper design and maintenance of regional infiltration systems. Any modifications to the watershed hydrology should be modeled and accounted for in the design of BMP.

Regional Agricultural BMPs

Implementation may result in flooding hazards if regional agricultural BMPs keep water on site so that the soil on site reaches water holding capacity during storm events. This potential impact can be mitigated by proper irrigation practices during the storm season.

Regional Natural Treatment Systems

Implementation may result in flooding hazards if a regional natural treatment system is not properly designed and constructed to allow for bypass of storm water during storms that exceed design capacity. This potential impact can be mitigated through proper design. Potential risks of flooding due to clogging of devices with debris can be avoided by regular maintenance and inspection prior to storms.

Non-Structural BMPs

Non-structural BMPs 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.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Sub Regional BMPs

Local Capture Systems

Local capture systems would not result in change in the diversity of species, or number of any species of plants. No mitigation measures are required.

Vegetated Treatment Systems and Local Infiltration Systems

During the storm events, the installation of vegetated treatment and local infiltration systems such as vegetated swales, permeable paving, bioretention areas, or retention ponds could increase the diversity or number of plant species, which is beneficial to the environment by increasing available habitat. However, during storm events, vegetated treatment and local infiltration systems could also divert, reduce, and/or eliminate surface water runoff discharge, which may reduce the number and/or diversity of plant species within the streams, by modifying the hydrology of the creeks, which could be adverse. This can be mitigated through proper project modeling, siting, and planning so that the resulting creek hydrology mimics natural conditions.

Media Filtration

Media filters would not result in change in the diversity of species, or number of any species of plants. No mitigation measures are required.

On-Farm BMPs

If on-farm BMPs are used, impacts to plant life in terms of diversity of species or number of species could occur if facilities are located in critical habitat. On-farm BMPs may be sited away from critical habitat. In general, on-farm BMPs would be sited on existing agriculture land. It is not reasonably foreseeable for responsible parties to construct and site devices in such a manner as to adversely impact species diversity.

Most on-farm BMPs would focus on sediment removal and improved irrigation and would not result in significantly decreased flows to the river that could impact riparian plant species. Mitigation measures to maintain minimal flow to support downstream plant life-related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional BMPs

Diversion and/or Treatment

Diversion and/or treatment of the surface water runoff, may result in a change of the diversity of species, or number of any species of plants, especially in the dry-weather season. A decrease in flow may decrease plant diversity downstream of the diversion by reducing the number of species of plants that require a more constant water supply. No adverse impacts are expected because the elimination of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's plant community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive plant species. Impeding the propagation of invasive species is not a negative impact.

Regional Infiltration Systems

The installation of regional infiltration systems such as detention basins and spreading grounds could increase the diversity or number of plant species, which is beneficial to the environment by increasing available habitat. However, during storm events, regional infiltration systems could also divert, reduce, and/or eliminate surface water runoff discharge, which may reduce the number and/or diversity of plant species within the streams, by modifying the hydrology of the creeks, which could be adverse. This can be mitigated through proper project modeling, siting, and planning so that the resulting creek hydrology mimics natural conditions.

Regional Agricultural BMPs

If regional agricultural BMPs are used, impact to plant life in terms of diversity of species or number of species could occur if facilities are located in critical habitat. Regional agricultural BMPs may be sited away from critical habitat. In general, regional agricultural BMPs would be sited on existing agriculture land. It is not reasonably foreseeable for responsible parties to construct and site devices in such a manner as to adversely impact species diversity.

To the extent that regional agricultural BMPs could impact the number or diversity of species, proper timing may need to be exercised to avoid construction during critical periods of plant and animal development. Consultation with agencies including the CDFG and USFWS, having jurisdiction over identified resources would occur to identify specific mitigation measures such as restoration efforts designed to re-vegetate unique, rare or endangered species of plants. When the specific projects are developed and sites identified, a search of the California Natural Diversity Database could be employed to confirm that any potentially sensitive plant species 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 and animal species occur on the project site, mitigation measures can be developed in consultation with the CDFG and the USFWS. Responsible parties should endeavor to avoid compliance measures that could result in reduction of the numbers of any unique, rare or endangered species of plants. Plant number and species diversity could be maintained by either preserving them prior to, during, and after installation of BMPs or by re-establishing and maintaining the plant communities post construction.

Most regional agricultural BMPs would focus on sediment removal and filtration and would not result in significantly decreased flows to the river that could impact riparian plant species. Mitigation measures to maintain minimal flow to support downstream plant life-related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional Detention Facilities

During the wet-weather season, the installation of regional detention facilities such as detention basins and spreading grounds could increase the diversity or number of plant species, which is beneficial to the environment by increasing available habitat. However, during storm events, regional detention systems could also divert, reduce, and/or eliminate surface water runoff discharge, which may reduce the number and/or diversity of plant species within the streams, by modifying the hydrology of the creeks, which could be adverse. This can be mitigated through proper project modeling, siting, and planning so that the resulting creek hydrology mimics natural conditions.

Regional Natural Treatment Systems

Regional natural treatment systems, such as constructed wetlands, involve the creation of new habitat and would not adversely impact the diversity of species or number of any species of plant. Regional natural treatment systems could result in reduced flows, particularly during dry weather, and may adversely impact downstream plant life. Mitigation measures to maintain minimal flow to support downstream plant life-related beneficial uses should be reviewed and approved by the CDFG and USFWS.

Non-Structural BMPs

Non-structural BMPs would not result in change in the diversity of species, or number of any species of plants because these BMPs would not introduce any physical effects that could impact 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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Sub Regional BMPs

Local Capture Systems

Local capture systems would involve no change to the physical environment either directly or indirectly and would have no impact to unique, rare or endangered species of plants.

Vegetated Treatment Systems and Local Infiltration Systems

It is unlikely that activities during and after construction of vegetated treatment and local infiltration systems in urbanized areas would result in a reduction of the numbers of any unique, rare or endangered species of plants. Mitigation measures, discussed in Plant Life 4.a., could be implemented to ensure that potential impacts on unique, rare or endangered plant species are less than significant.

Media Filtration

Most media filters are expected to have a relatively small footprint and would not be likely to have a significant impact on critical habitat for endangered species. Potential impacts to unique, rare or endangered species and/or critical habitat should be evaluated at the project level. If facilities were sited on undeveloped areas, alternative site locations, or design modifications that would avoid impacts to plant life could be implemented. If avoidance could not be implemented, consultation with resource agencies including the CDFG and USFWS, having jurisdiction over identified resources would occur to identify specific mitigation measures such as restoration efforts designed to re-vegetate unique, rare or endangered species of plants. When the specific projects are developed and sites identified, a search of the California Natural Diversity Database could be employed to confirm that any potentially sensitive plant species 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 shall be required in accordance with the Endangered Species Act. Mitigation measures shall be developed in consultation with the CDFG and 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 non-structural BMPs in sensitive habitat areas.

On-Farm BMPs

If on-farm BMPs are used, impacts to unique, rare or endangered species could occur if facilities are located in critical habitat. On-farm BMPs may be sited away from critical habitat. In general, on-farm BMPs would be sited on existing agriculture land. It is not reasonably foreseeable for responsible parties to construct and site devices in such a manner as to adversely impact unique, rare or endangered species of plants.

Most on-farm BMPs would focus on sediment removal and improved irrigation and would not result in significantly decreased flows to the river that could impact riparian plant species. Mitigation measures to maintain minimal flow to support downstream plant life-related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional BMPs

Diversion and/or Treatment

Diversion and/or treatment strategies could reduce dry-weather flows and may impact downstream plant life. Potential impacts to dry-weather flow should be considered at the project level. Mitigation measures to maintain minimal flow to support downstream plant life-related beneficial uses should be reviewed and approved by the California Department of Fish and Game and National Marine Fisheries Service.

Regional Infiltration Systems and Detention Facilities

It is unlikely that during and after construction of regional infiltration systems and detention facilities in urbanized areas would result in a reduction of the numbers of any unique, rare or endangered species of plants. Infiltration and detention facilities could result in reduced flows, and may adversely impact downstream plant life. Mitigation measures, discussed above, could be implemented to ensure that potential impacts on unique, rare or endangered plant species are less than significant.

Regional Agricultural BMPs

If regional agricultural BMPs are used, impact to plant life in terms of diversity of species, number of species, or reduce the number unique, rare or endangered species could occur if facilities are located in critical habitat. Regional agricultural BMPs may be sited away from this critical habitat. In general, regional BMPs would be sited on existing agriculture land and it is not reasonably foreseeable for responsible parties to construct and site devices in such a manner as to adversely impact species diversity.

To the extent that regional BMPs could impact the number or diversity of species, proper timing may need to be exercised to avoid construction during critical periods of plant and animal development. Consultation with agencies including the CDFG and USFWS, having jurisdiction over identified resources would occur to identify specific mitigation measures such as restoration

efforts designed to re-vegetate unique, rare or endangered species of plants. When the specific projects are developed and sites identified, a search of the California Natural Diversity Database could be employed to confirm that any potentially sensitive plant species 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 and animal species occur on the project site, mitigation measures can be developed in consultation with the CDFG and the USFWS. Responsible parties should endeavor to avoid compliance measures that could result in reduction of the numbers of any unique, rare or endangered species of plants. Plant number and species diversity could be maintained by either preserving them prior to, during, and after installation of BMPs or by re-establishing and maintaining the plant communities post construction.

Regional agricultural BMPs would focus on sediment removal and filtration and would not result in significantly decreased flows to the river to could impact plant life. Mitigation measures to maintain minimal flow to support downstream plant life-related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional Natural Treatment Systems

Regional natural treatment systems, such as constructed wetlands, involve the creation of new habitat and would not adversely impact the numbers of any unique, rare or endangered species of plants. Regional natural treatment system could result in reduced flows, particularly during dry weather, and may adversely impact downstream plant life. Mitigation measures to maintain minimal flow to support downstream plant life-related beneficial uses should be reviewed and approved by the CDFG and USFWS.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact to unique, rare or-endangered species of plants.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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: Potentially significant impact

The Santa Clara River watershed contains *Arundo Donax* and other invasive non-native plants. The maintenance of structural BMPs and implementation of some non-structural BMPs and monitoring could spread *Arundo Donax* and other invasive non-native plants as personnel and equipment travel from one site to another. Mitigation to prevent the spread of invasive plant species includes proper cleaning of gear and equipment between sites.

Mitigation of *Arundo Donax* is done by proper removal technologies, depending on the growth and area of the watershed. Control of invasive plants by foliar spraying of full-height stalks and chemical treatment is conducted after those near native vegetation are manually pulled down and compacted. Chain sawing and mowers are used to cut big bushes, and backpack sprayers are used for plants that have been completely flattened by recent flooding. Other techniques, such as removal of small sapling and seeds, are employed to reduce and avoid further spreading of invasive plants and to establish native species (FOLAR, LASGRWC, 2002.)

Sub Regional BMPs

Local Capture Systems

Local capture systems collect storm water runoff. This would not result in introduction of new species of plants into an area. However, the decrease in flow could be a barrier to the normal replenishment of existing species that require a more constant water supply. No adverse impacts are expected because the reduction of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's plant community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive plant species. Impeding the propagation of invasive species is not a negative impact. Proper project siting and planning can help mitigate impacts to the plant life.

Vegetated Treatment Systems and Local Infiltration Systems

For vegetated treatment and local infiltration systems that may include the use of plants, such as vegetated swales, new species of plants may possibly be introduced into the area. However, in cases where plants or landscaping is incorporated into the specific project design, the possibility of disruption of resident native species could be avoided or minimized by using only plants native to the area. The use of exotic invasive species or other plants listed in the Exotic Pest Plant of Greatest Ecological Concern in California (CalEPPC, 1999) should be prohibited.

Media Filtration

Media filters may be used in conjunction with other structural treatment devices, which could result in the introduction of new species of plants into an area. Based on the waste load allocations for storm water permittees, it is most likely that media filters would be sited in urbanized areas. Urban land uses tend to be landscaped and often with common, non-native species.

On-Farm BMPs

Vegetated on-farm BMPs may be used, which could result in the introduction of new species of plants into an area. To the extent possible, vegetated on-farm BMPs should be planted with native species. The use of exotic invasive species or other plants listed in the Exotic Pest Plant of Greatest Ecological Concern in California (CalEPPC, 1999) should be prohibited.

Regional BMPs

Diversion and/or Treatment

Diversion and/or treatment BMPs divert the surface water runoff discharge. This would not result in introduction of new species of plants into an area. However, the decrease in flow could be a barrier to the normal replenishment of existing species that require a more constant water supply. No adverse impacts are expected because the elimination of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's plant community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive plant species. Impeding the propagation of invasive species is not a negative impact. Proper project siting and planning can help mitigate impacts to the plant life.

Regional Infiltration Systems and Regional Detention Facilities

Regional infiltration systems and detention facilities increase permeability thereby reducing storm water runoff. This would not result in introduction of new species of plants into an area. However, the decrease in flow could be a barrier to the normal replenishment of existing species that require a more constant water supply. No adverse impacts are expected because the reduction of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's plant community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive plant species. Impeding the propagation of invasive species is not a negative impact. Proper project siting and planning can help mitigate impacts to the plant life.

Regional Agricultural BMPs

Vegetated regional Agricultural BMPs may be used, which could result in the introduction of new species of plants into an area. To the extent possible, vegetated regional BMPs should be planted with native species. The use of exotic invasive species or other plants listed in the Exotic Pest Plant of Greatest Ecological Concern in California (CalEPPC, 1999) should be prohibited.

Regional Natural Treatment Systems

Constructed wetlands and other natural treatment systems could result in the introduction of new plant species to the area. To the extent possible, NTS should be planted with native species. The use of exotic invasive species or other plants listed in the Exotic Pest Plant of Greatest Ecological Concern in California (CalEPPC, 1999) should be prohibited.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact that result in introduction of new species of plants, or in a barrier to the normal replenishment of existing species.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. d. Will the proposal result in reduction in acreage of any agricultural crop?

Answer: Potentially significant impact

Sub Regional BMPs

Local Capture Systems

It is not expected that local capture systems would be placed in any area currently engaged in crop production, but it would be implemented in existing already urbanized areas and would have no foreseeable impact on the acreage of any agricultural crop. No mitigation measures are required.

Vegetated Treatment Systems and Local Infiltration Systems

Vegetated treatment and local infiltration systems such as vegetated swales, permeable paving, bioretention areas, or retention ponds could be placed in areas currently engaged in crop production. This can be mitigated through proper project siting, and planning such that the agricultural areas impacted are minimized.

Media Filtration

It is not expected that media filters would be placed in any area currently engaged in crop production, but it would be implemented in existing already urbanized areas and would have no foreseeable impact on the acreage of any agricultural crop. No mitigation measures are required.

On-Farm BMPs

On-farm BMPs, if directly implemented on farm land, may result in reduction in acreage of agricultural crops. To the extent possible, on-farm BMPs, such as cover crops, should be implemented in a way that does not result in reduction in acreage of any agricultural crop.

Regional BMPs

Diversion and/or Treatment

It is not expected that diversion and/or treatment BMPs would be placed in any area currently engaged in crop production, but it would be implemented in existing storm drains and already urbanized areas and would have no foreseeable impact on the acreage of any agricultural crop. No mitigation measures are required.

Regional Infiltration Systems, Detention Facilities, and Natural Treatment Systems

Regional infiltration systems, NTS, and detention facilities could be placed in areas currently engaged in crop production. This can be mitigated through proper project siting, and planning such that the agricultural areas impacted are minimized.

Regional Agricultural BMPs

Regional agricultural BMPs, if directly implemented on farm land, may result in reduction in acreage of agricultural crops. To the extent possible, regional agricultural BMPs, such as vegetated ditches, should be implemented in a way that does not result in reduction in acreage of any agricultural crop.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact on the acreage of any agricultural crop.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. 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 method chosen, it is possible that direct or indirect impacts to animal life may occur. Responsible parties should consult with the CDFG and USFWS prior to implementing compliance strategies that pose a potentially significant impact to animal life. Responsible parties may also choose to implement compliance strategies that incur less impact on animal life.

Sub Regional BMPs

Local Capture Systems

Local capture systems are designed to capture rainwater using structural BMPs such as rain barrels and cisterns. However, these types of local capture systems could also increase the likelihood of vectors and pests. For example, rain barrels and cisterns may develop locations of pooled standing water that would increase the likelihood of mosquito breeding. Mitigation for vectors and pests should involve the use of appropriate vector and pest control strategies, maintenance, and frequent inspections.

Vegetated Treatment Systems and Local Infiltration Systems

The installation of vegetated treatment and local infiltration systems such as vegetated biofiltration systems could increase the diversity or number of animal species, which is beneficial, by creating habitat for those species. However, these types of vegetated treatment and local infiltration systems could also increase the likelihood of vectors and pests. For example, vegetated swales and surface flow wetlands may develop locations of pooled standing water that would increase the likelihood of mosquito breeding. Mitigation includes the prevention of standing water through the construction and maintenance of appropriate drainage slopes and through the use of aeration pumps. The introduction of mosquito larvae eating fish can help mitigate and reduce mosquito breeding in surface flow wetlands. Mitigation for vectors and pests should involve the use of appropriate vector and pest control strategies, maintenance, and frequent inspections.

Installation of non-vector producing vegetated treatment and local infiltration systems can help mitigate vector production from standing water. Netting can be installed over vegetated treatment systems to further mitigate vector production. Vegetated treatment and local infiltration systems can be designed and sites can be properly protected to prevent accidental vector production. Vector control agencies should be involved for other types of mitigation. Vegetated treatment and local infiltration systems prone to standing water can be selectively installed away from high-density areas and away from residential housing and/or by requiring oversight and treatment of those systems by vector control agencies.

Media Filtration

In general, the activities that will take place with the implementation of media filters will be similar in nature to current urban activities that are already occurring in the watershed. Their implementation will not foreseeably:

- Cause a substantial reduction of the overall habitat of a wildlife species
- Produce a drop in a wildlife population below self-sustaining levels
- Eliminate a plant or animal community

It is not reasonably foreseeable that either the construction/implementation or maintenance phase of potential projects will result in a significant long term impact to general wildlife species adapted to developed environments.

On-Farm BMPs

Implementation of the TMDL will considerably improve riparian habitat by removing contaminants from the Santa Clara River. A change in the amount of surface water may occur. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the riparian and wetland habitat. Mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional BMPs

Diversion and/or Treatment

Diversion and/or treatment of flow could eliminate in-stream habitats dependant on those flows. These changes may 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) discussed above. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Regional Infiltration Systems and Detention Facilities

The installation of regional infiltration systems and detention facilities such as detention basins and spreading grounds could increase the diversity or number of animal species, which is beneficial, by creating habitat for those species. However, these types of facilities could also increase the likelihood of vectors and pests. For example, constructed basins may develop locations of pooled standing water that would increase the likelihood of mosquito breeding. Mitigation includes the prevention of standing water through the construction and maintenance of appropriate drainage slopes and siting in areas that have soils with proper drainage. Vector control agencies should be involved for other types of mitigation. Regional detention facilities prone to standing water can be selectively installed away from high-density areas and away from residential housing and/or by requiring oversight and treatment of those systems by vector control agencies.

Regional infiltration and detention facilities could also result in a change in the amount of surface water. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the riparian and wetland habitat. Mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional Agricultural BMPs

Implementation of the TMDL will considerably improve riparian habitat by removing contaminants from the Santa Clara River subwatershed. A change in the amount of surface water may occur. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the riparian and wetland habitat. Mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional Natural Treatment Systems

The installation of NTS could increase the diversity or number of animal species, which is beneficial, by creating habitat for those species.

Non-Structural BMPs

Non-structural BMPs involve no change to the physical environment either directly or indirectly and would have no impact on the diversity of species or numbers of any species 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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Depending on the structural BMPs selected, direct or indirect impacts to special-status animal species may possibly occur during and after construction. Special-status species are present in the watershed. If special-status species are present during activities such as ground disturbance, construction, and 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 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 California Natural Diversity Database 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 USFWS and/or 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.

Sub Regional BMPs

Local Capture Systems

Local capture systems could eliminate in-stream habitats dependant on flows associated with storm water runoff. These changes may result in reduction of the numbers of any unique, rare or endangered species of animals. Two endangered fish, the unarmored stickleback and the steelhead trout, are resident in the river. Proper project modeling, siting, and planning as discussed above can help mitigate impacts to the animal life. However reduction of nuisance flows may help return the flow to a more natural state.

Vegetated Treatment Systems and Local Infiltration Systems

Vegetated treatment and local infiltration systems such as vegetated biofiltration systems could increase the diversity or number of animal species, by creating habitat for those species. The installation of vegetated treatment and local infiltration systems may 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 installation. Proper project siting, and planning, discussed, above, can help mitigate impacts to the animal life. Vegetated treatment and local infiltration systems could eliminate in-stream habitats dependant on flows associated with storm water runoff. These changes may result in reduction of the numbers of any unique, rare or endangered species of animals. Two endangered fish, the unarmored stickleback and the steelhead trout, are resident in the river. Proper project modeling, siting, and planning as discussed above can help mitigate impacts to the animal life. However reduction of nuisance flows may help return the flow to a more natural state.

Media Filtration

Even though it is expected that potential projects would occur in previously developed areas it is possible for special-status species to occur in urban areas. The installation of media filters may 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 installation. Proper project siting, and planning, discussed, above, can help mitigate impacts to the animal life.

On-Farm BMPs

Implementation of the TMDL will considerably improve riparian habitat by removing contaminants from the Santa Clara River. A change in the amount of surface water may occur. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the riparian and wetland habitat. Mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional BMPs

Diversion and/or Treatment, Regional Infiltration Systems, Regional Detention Facilities

Diversion and/or treatment, infiltration, or detention of flow could eliminate in-stream habitats dependant on those flows. These changes may result in reduction of the numbers of any unique, rare or endangered species of animals. Two endangered fish, the unarmored stickleback and the steelhead trout, are resident in the river. Proper project modeling, siting, and planning as discussed above can help mitigate impacts to the animal life. However reduction of nuisance flows may help return the flow to a more natural state.

Regional Agricultural BMPs

Implementation of the TMDL will considerably improve riparian habitat by removing contaminants from the Santa Clara River. A change in the amount of surface water may occur. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the riparian and wetland habitat. Mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional Natural Treatment Systems

Regional natural treatment systems could increase the diversity or number of animal species by creating habitat for those species. The installation of regional detention facilities may 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 installation. Proper project siting, and planning, discussed, above, can help mitigate impacts to the animal life.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact that result in reduction of the numbers of any unique, rare or endangered species 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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These

parties 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

Structural BMPs would not foreseeably introduce new animal species. In urbanized areas, the potential installation sites would not act as a travel route or regional wildlife corridors. However, BMPs could potentially be constructed in agricultural areas or open space where travel routes or regional wildlife corridors exist. 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 such as water, food, or 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 reasonably foreseeable structural BMPs likely would not restrict wildlife movement because the sizes of the BMPs are generally too small to obstruct a corridor. For terrestrial animals, corridors would be maintained regardless of stream flow since reduced flows would not provide physical barriers for these animals. In the event that any structural BMP built would hinder animals from moving throughout the stream corridor, a pathway around the BMP could be constructed.

Compliance measures should be avoided which result in significant barriers to the migration or movement of animals, and instead non-structural BMPs and/or structural BMPs other than fences or obstructions that would not change the migration or movement of animals should be emphasized. Potential project sites in open space areas that might be used to install structural BMPs should be evaluated in consultation with CDFG to identify potential wildlife travel routes. If a wildlife travel route is identified that could be impacted by the installation of structural BMPs, then the project should be designed to include a new wildlife travel route in the same general location.

Some migratory avian species may use portions of potential project sites, including new 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 USFWS and CDFG. The MBTA protects over 800 species including, geese, ducks, shorebirds, raptors, songbirds, and many other relatively common species. 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 should be conducted on the project site following USFWS and/or CDFG guidelines. If no active avian nests are identified on or within the appropriate distance of construction areas, further mitigation may not 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 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 prescribed 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 USFWS or CDFG. These impacts are highly site specific, and assuming they are foreseeable, they would require a project-level analysis and mitigation plan.

With the installation and maintenance of the regional and sub regional structural BMPs, as well as implementation of non-structural BMPs and monitoring, in-stream contamination could be possible by species such as New Zealand mud snails (*Potamopyrgus antipodarum*), which are grain-sized asexually reproducing highly invasive species. After infesting the waterbody, mud snails quickly drive out tiny animals and are poor food substitute because of their hard shells. Hence they deprive nutrition for animals such as frogs, birds and fishes and also make waters ideal for algal blooms. Mitigation measures to avoid spreading mud snails include washing boots, waders and other gear between sites.

Sub Regional BMPs

Local Capture Systems

Local capture systems would not result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals.

Vegetated Treatment Systems Local Infiltration Systems

Construction of reasonably foreseeable vegetated treatment and local infiltration systems likely would not restrict wildlife movement because the sizes of vegetated treatment and local infiltration systems are generally too small to obstruct a corridor. In some cases, detention/retention ponds, vegetated swales, and surface flow wetlands may actually provide important habitat. Proper project siting and planning, discussed above, mitigate impacts to the animal life.

Media Filtration

Media filters would be located in urbanized areas and would not be of the size to result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals.

On-Farm BMPs

On-farm BMPs are implemented on-site and would not be of the size to result in the introduction of new species of animals into an area, or in a barrier to the migration or movement of animals.

Regional BMPs

Diversion and/or Treatment

Diversion and/or treatment BMPs could result in a barrier to the migration or movement of animals especially in the dry weather season by eliminating habitat dependant on those flows. However, this would cause dry weather flows in the watersheds to return to a more natural, pre-

development condition. Animal species that thrived in streams in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated.

Regional Infiltration Systems and Detention Facilities

Construction of reasonably foreseeable infiltration systems and detention facilities likely would not restrict wildlife movement. In some cases, detention basins may actually provide important habitat. Proper project siting and planning, discussed above, mitigate impacts to the animal life.

Regional Agricultural BMPs

Construction activities associated with the implementation of regional agricultural BMPs may impact wildlife crossings or migratory avian species. Proper project siting and planning, discussed above, mitigate impacts to the animal life.

Regional Natural Treatment Systems

It is not reasonably foreseeable that implementation of regional natural treatment facilities will result in the introduction of a new animal species or impact wildlife corridors or crossings. Regional NTS, such as constructed wetlands will create habitat. Construction activities associated with the implementation of regional natural treatment facilities may impact migratory avian species. Proper project siting and planning, discussed above, mitigate impacts to the animal life.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impacts that result in introduction of new species of animals into an area, or in a barrier 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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Sub Regional BMPs

Local Capture Systems

Local capture systems collect stormwater runoff which may potentially change the fish and wildlife habitat within the stream channels by changing the flow regime of the creeks. Local capture systems could impact in-stream species dependant on those flows. Animal species that thrived in the creeks in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. No adverse impacts are expected because the elimination of nuisance flows would return the stream bed's wet weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's animal community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive animal species. Impeding the propagation of invasive species is not a negative impact.

Vegetated Treatment Systems and Local Infiltration Systems

Vegetated treatment and local infiltration systems increase infiltration rates of stormwater runoff which may potentially change the fish and wildlife habitat within the stream channels by changing the flow regime of the creeks. Vegetated treatment and local infiltration systems could impact in-stream species dependant on those flows. Animal species that thrived in the creeks in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. No adverse impacts are expected because the elimination of nuisance flows would return the stream bed's wet weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's animal community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive animal species. Impeding the propagation of invasive species is not a negative impact.

Media Filtration

Implementation of the TMDL will considerably improve fish habitat by removing bacteria from the Santa Clara River and Estuary. It is not reasonably foreseeable that the implementation of media filters would result in the deterioration of existing fish and or wildlife habitat. Media filters will be located in previously developed areas and would not result in the removal of sensitive biological habitats. However, in an abundance of caution, when project sites are selected by the TMDL implementing agencies, a site specific California Natural Diversity Database search could be conducted to ensure that no sensitive biological habitats are located on the site.

See also response to Animal Life 5.a and 5.b.

On-Farm BMPs

Implementation of the TMDL will considerably improve fish habitat by removing bacteria from the Santa Clara River. A change in the amount of surface water may occur. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the riparian and wetland habitat. Mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional BMPs

Diversion and/or Treatment

Diversion and/or treatment methods divert runoff which may potentially change the fish and wildlife habitat within the stream channels by changing the flow regime of the creeks. Low-flow

diversions could impact in-stream species dependant on those flows. Animal species that thrived in the creeks in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. No adverse impacts are expected because the elimination of nuisance flows would return the stream bed's dry weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's animal community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive animal species. Impeding the propagation of invasive species is not a negative impact.

If diverted water is treated, the ecological effects of disinfected water should be considered. Discharges to surface waters must meet NPDES permit requirements.

Regional Infiltration Systems

Regional infiltration systems increase infiltration rates of stormwater runoff which may potentially change the fish and wildlife habitat within the stream channels by changing the flow regime of the creeks. Regional infiltration systems could impact in-stream species dependant on those flows. Animal species that thrived in the creeks in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. No adverse impacts are expected because the elimination of nuisance flows would return the stream bed's wet weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the stream's animal community to a more natural, pre-development condition and could impede the propagation of water-loving nonnative and invasive animal species. Impeding the propagation of invasive species is not a negative impact.

Regional Agricultural BMPs

Implementation of the TMDL will considerably improve fish habitat by removing bacteria from the Santa Clara River. A change in the amount of surface water may occur. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the wetland habitat. However, the TMDL staff report demonstrates that water levels will likely be maintained by groundwater flow if surface water flow is reduced. If necessary, potential impacts to dry-weather flow could be considered at the project level. Mitigation measures to maintain minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Regional Detention Facilities

Reasonably foreseeable regional detention facilities would not likely result in deterioration to existing fish and wildlife habitat. In some cases, detention basins may provide important habitat for animals. Detention facilities, by design, impede or slow overland flow to the river. Proper project modeling, siting, and planning can help mitigate impacts to the animal life.

Regional Natural Treatment Systems

Implementation of NTS will considerably improve fish habitat by removing bacteria from the Santa Clara River. Furthermore, NTS involve the creation of wildlife habitat. A change in the amount of surface water may occur. Free Surface flow wetlands may impede or slow overland flow if not properly designed and maintained and could change the amount of surface water. Reductions in dry and wet-weather flow could have potential negative impacts on minimum flows required to support and protect the wetland habitat. Mitigation measures to maintain

minimal flow to support habitat related beneficial uses could be reviewed and approved by the CDFG and USFWS.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impacts that result in deterioration to existing fish or wildlife habitat.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

The construction and installation of structural BMPs would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. The noise associated with the construction and installation of structural BMPs would be the same as typical construction activities in urbanized areas, such as ordinary road and infrastructure maintenance and building activities.

Mitigation measures include the use of newer equipment with improved noise muffling, use of installation methods or equipment that will provide the lowest level of noise and ground vibration impact, turning off idling equipment, and use of noise barriers. Below is the typical summary of noise emission levels for various equipments and the different mitigation techniques are listed further below:

Typical Installation Equipment Noise Emission Levels

Equipment	Maximum Noise Level, (dBA) 50 feet from source	Equipment Usage Factor	Total 8-hr Leq exposure (dBA) at various distances	
			50ft	100ft
Foundation Installation			83	77
Concrete Truck	82	0.25	76	70
Front Loader	80	0.3	75	69
Dump Truck	71	0.25	65	59
Generator to vibrate concrete	82	0.15	74	68
Vibratory Hammer	86	0.25	80	74
Equipment Installation			83	77
Flatbed truck	78	0.15	70	64
Forklift	80	0.27	74	69
Large Crane	85	0.5	82	76

Source: U.S. FTA, 2004

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.

The following measures would minimize noise and vibration disturbances at sensitive areas during installation:

- Use newer equipment with improved noise muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Newer equipment

will generally be quieter in operation than older equipment. All installation equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding).

- Perform all installation in a manner to minimize noise and vibration. Use installation methods or equipment that will provide the lowest level of noise and ground vibration impact near residences and consider alternative methods that are also suitable for the soil condition. The contractor should select installation processes and techniques that create the lowest noise levels.
- Perform noise and vibration monitoring to demonstrate compliance with the noise limits. Independent monitoring should be performed to check compliance in particularly sensitive areas. Require contractors to modify and/or reschedule their installation activities if monitoring determines that maximum limits are exceeded at residential land uses.
- Conduct truck loading, unloading and hauling operations so that noise and vibration are kept to a minimum by carefully selecting routes to avoid going through residential neighborhoods to the greatest possible extent. Ingress and egress to and from the staging area should be on collector streets or higher street designations (preferred).
- Turn off idling equipment.
- Temporary noise barriers shall be used and relocated, as practicable, to protect sensitive receptors against excessive noise from installation activities. Consider mitigation measures such as partial enclosures around continuously operating equipment or temporary barriers along installation boundaries.
- The installation contractor should be required by contract specification to comply with all local noise and vibration ordinances and obtain all necessary permits and variances.

Implementation may also result in increased noise levels during operation and maintenance of BMPs, including pumps used for diversion of water and vacuum trucks and pumps for removing liquids. The specific project impacts can be mitigated by standard noise abatement techniques including siting facilities away from receptors, installing sound barriers and insulation to reduce noise from pumps, motors, fans, etc., designing passive BMPs that do not require frequent maintenance, scheduling of maintenance during mid-day hours, and noise monitoring to ensure levels remain below acceptable levels. Storm water treatment BMPs should be design with sufficient hydraulic head to operate by gravity and eliminate the need for pumps.

Sub Regional BMPs

Local Capture Systems

The construction and installation of local capture systems would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed.

Vegetated Treatment Systems and Local Infiltration Systems

The construction and installation of vegetated treatment and local infiltration systems would 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 is less than significant.

Media Filtration

The construction and installation of media filters would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed.

On-Farm BMPs

Construction of on-farm BMPs could involve temporary noise, although no major construction activities are anticipated. Increases in ambient noise levels from construction activities are expected to be less than significant once mitigation measures, as discussed above, have been properly applied.

Regional BMPs

Diversion and/or Treatment

The construction and installation of diversion and/or treatment BMPs would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed. Diversion pumps may also result in an increase in existing noise levels. The operation of treatment facilities may result in additional noise. These pumps and facilities can be sited below surface and the use of noise reducing barriers can be employed to mitigate the increase in noise levels.

Regional Infiltration Systems, Detention Facilities, and Natural Treatment Systems

The construction and installation of regional infiltration systems and detention facilities would result in temporary increases in existing noise levels, but this would be short term and only exist until construction is completed.

Regional Agricultural BMPs

Construction of regional agricultural BMPs, could involve temporary noise, although no major construction activities are anticipated. Increases in ambient noise levels from construction activities are expected to be less than significant once mitigation measures, as discussed above, have been properly applied.

Regional Natural Treatment Systems

Construction of regional natural treatment facilities could involve temporary noise, although no major construction activities are anticipated. Increases in ambient noise levels from construction activities are expected to be less than significant once mitigation measures, as discussed above, have been properly applied.

Non-Structural BMPs

Non-structural BMPs could result in increases in existing noise levels due to increased traffic from maintenance vehicles, which may increase the noise level temporarily as the vehicles pass through an area. However, the increase in noise levels would be no greater than typical infrastructure maintenance activities currently performed by municipalities.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

See response to 6. Noise. a.

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

Answer: Potentially Significant Impact

Structural BMPs

The construction and installation of structural BMPs could potentially be performed during evening or night time hours. If this scenario were to occur, night time lighting would temporarily be required to perform the work. Also, lighting could possibly be used to increase safety around structural BMPs. A lighting plan should be prepared to include mitigation measures. Mitigation measures can include shielding on all light fixtures and limiting light trespass and glare through the use of directional lighting methods. Other potential mitigation measures may include the use of screening and low-impact lighting, performing construction during daylight hours, or designing security measures for installed structural BMPs that do not require night lighting. Certain BMPs may employ solar panels for electricity to operate. The potential glare from these solar panels can be mitigated by siting them away from receptors, using shielding, or using alternative photovoltaic panels, which absorb light and do not produce glare.

Non-Structural BMPs

Non-structural BMPs will not produce new light or glare because none of the BMPs would introduce any physical effects that could impact light and glare.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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)).

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

Answer: Potentially Significant Impact

Structural BMPs

The installation of local capture systems, vegetated treatment and local infiltration systems, media filtration, diversion and/or treatment BMPs, regional infiltration systems, regional detention facilities, and regional natural treatment systems are not expected to result in substantial alterations or adverse impacts to present or planned land use. To the extent that there could be land use impacts at a specific location, these potential land use conflicts are best addressed at the project level. Since the Regional Board cannot specify the manner of compliance with the TMDL, the Regional Board can not specify the exact location of structural treatment devices. The various agencies that might install such structural BMPs such as vegetated bioswales and detention basins will need to identify local land use plans as part of a project-level analysis to ensure that projects comply with permitted use regulations and are consistent with land use plans, general plans, specific plans, conditional uses, or subdivisions.

Notably, structural BMPs can be suitable for an ultra-urban setting and can be specifically designed to accommodate limited land area. For example, underground sand filters are well adapted for applications with limited land area and are most useful where multiple uses of land area are required. They can be placed adjacent to roadways without imposing a safety hazard and can function satisfactorily in the area below elevated roadways or ramps (FHWA, 2010).

Construction of structural treatment devices will not result in permanent features such as above-ground infrastructure that would disrupt, divide, or isolate existing communities or land uses. Projects can incorporate public education and aesthetically pleasing design with functional water quality treatment, such as the Santa Monica Urban Runoff Recycling Facility (Santa Monica, 2010). Projects may be designed to increase parks and wildlife habitat areas and to improve water quality. Construction activities could follow standard mitigation methods and BMPs to reduce any potential impact on surrounding land uses and access to all adjacent land uses could be provided during the construction period.

On-Farm and Regional Agricultural BMPs

On-farm and regional agricultural BMPs, could result in loss of agricultural lands. To the extent possible, on-farm and regional agricultural BMPs, should be implemented in a way that does not result in substantial reduction in acreage of any agricultural crop. To the extent that there could be land use impacts at a specific location, these potential land use conflicts are best addressed at the project level. Since the Regional Board cannot specify the manner of compliance with the TMDL, the Regional Board can not specify the exact location of on-farm and regional agricultural BMPs. The various stakeholders that might install these devices will need to identify local land use plans as part of a project-level analysis to ensure that projects comply with permitted use regulations and are consistent with land use plans, general plans, specific plans, conditional uses, or subdivisions.

Non-Structural BMPs

Non-structural BMPs and source reduction efforts would involve no change to the physical environment either directly or indirectly and would have no impact on land use.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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)).

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

Answer: No impact

Non-structural and/or structural BMPs will not increase the rate of use of any natural resources. Implementation of non-structural and/or structural BMPs should not require quarrying, mining, dredging, or extraction of locally important mineral resources. Operation of construction and maintenance vehicles could increase the use of fossil fuels, and some types of structural BMPs may consume electricity to operate 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

Sub Regional BMPs

There is the possibility that hazardous materials (e.g., oil and gasoline) may be present depending on equipment used to install sub-regional BMPs, but potential risks of exposure can be mitigated with proper handling and storage procedures. All risks of exposure would be short term and would be eliminated with the completion of installation. Compliance with the requirements of California Occupational Health and Safety Administration (CalOSHA) and local safety regulations during installation 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. During installation, the site can be properly protected with fencing and signs to prevent accidental health hazards.

Fluids and sediment must be removed media filters to ensure proper flow-through of runoff and could pose a risk of release of hazardous substances if not handled in a timely manner and disposed of appropriately. Contaminated sand removed from sand filters can be disposed of in a landfill (WERF, 2005). Maintenance of underground sand filters may pose risks to maintenance workers. Mitigation measures to avoid these risks include requiring workers to obtain hazardous materials maintenance, record keeping, and disposal activities training, OSHA-required Health and Safety Training, and OSHA Confined Space Entry training.

Regional BMPs

Diversion and/or Treatment

There is the possibility that hazardous materials (e.g., oil and gasoline) may be present depending on equipment used to install diversion and treatment, but potential risks of exposure can be mitigated with proper handling and storage procedures. All risks of exposure would be short term and would be eliminated with the completion of installation. Compliance with the requirements of CalOSHA and local safety regulations during installation 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. During installation the site can be properly protected with fencing and signs to prevent accidental health hazards.

Treatment plants may use disinfectants and caustics during operation and there is a potential risk that these materials might escape. Potential impacts should be considered and mitigated at the project level. Proper maintenance and oversight and the use of safer substitute materials in treatment plants could mitigate any risk of escape of hazardous materials.

Regional Infiltration Systems, Detention Facilities, and Agricultural BMPs

There is the possibility that hazardous materials (e.g., oil and gasoline) may be present depending on equipment used to install regional infiltration systems, detention facilities, and regional agricultural BMPs, but potential risks of exposure can be mitigated with proper handling and storage procedures. All risks of exposure would be short term and would be eliminated with the completion of installation. Compliance with the requirements of CalOSHA and local safety regulations during installation 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. During installation the site can be properly protected with fencing and signs to prevent accidental health hazards.

Regional Natural Treatment Systems

Implementation of regional natural treatment systems is not likely to 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. Fluids and sediment must be removed from constructed wetlands to ensure proper flow-through of runoff and could pose a risk of release of hazardous substances; mitigation measures for this impact include proper handling and timely disposal in an appropriate disposal site.

Non-Structural BMPs

Non-structural and structural BMPs will not involve a risk of an explosion or the release of hazardous substances in the event of an accident or upset conditions.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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 methods of compliance will 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: No impact

Structural BMPs

It is not anticipated that reasonably foreseeable methods of compliance will result in an impact to existing housing, or create a demand for additional housing. Small infrastructure projects such as vegetated swales and the use of porous pavement would be placed in urbanized areas, and no additional space would be necessary. Some regional BMPs such as detention and infiltration basins could require space, but such BMPs are not of the scale to significantly impact housing.

Non-Structural BMPs

It is not reasonably foreseeable that non-structural BMPs would affect existing housing, or create a demand for additional housing.

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

Answer: Potentially significant impact

Structural BMPs

Structural BMPs will not result in generation of substantial additional long-term vehicular movement. There may be additional vehicular movement during construction of structural BMPs 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 minor additional vehicular movement.

In order to reduce the impact of construction traffic, a construction traffic management plan could be prepared for traffic control during any street closure, detour, or other disruption to traffic circulation. The plan could identify the routes that construction vehicles would 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 stripping, location points for ingress 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.

Non Structural BMPs

Non-structural BMPs could result in increases in vehicular movement due to increased traffic from maintenance vehicles. However, the increase in vehicular movement would be no greater than typical infrastructure maintenance activities currently performed by municipalities.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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: Potentially significant impact

Structural BMPs

Compliance with the TMDL may result in alterations to existing parking facilities to incorporate infiltration stormwater BMPs or other structural BMPs to treat stormwater. Structural BMPs can be designed to accommodate space constraints or be placed under parking spaces and would not significantly decrease the amount of parking available in existing parking facilities. If structural BMPs did create an impact on parking, available parking spaces can be reconfigured to provide equivalent number of spaces or a functionally similar parcel can be provided to mitigate potential adverse parking impacts.

Maintenance of structural BMPs could reduce available parking in an area during certain times of the day, week, and/or month, depending on frequency of operation and/or maintenance events. Maintenance events should be scheduled to be performed at the same time as other maintenance activities performed by the municipalities, and/or at times when these activities have lower impact, such as periods of low traffic activity and parking demand.

Non-Structural BMPs

Street sweeping could reduce available parking in an area during certain times of the day, week, and/or month, depending on frequency of events. Street sweeping should be scheduled during times of low parking demand to mitigate this impact.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. c. Will the proposal result in substantial impacts upon existing transportation systems?

Answer: Less than significant impact

Structural BMPs

Depending on the structural BMPs 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.

Non-Structural BMPs

It is not reasonably foreseeable that non-structural BMPs would result in substantial impacts upon existing transportation systems.

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.c.

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

Answer: No impact

Structural BMPs

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

Non-Structural BMPs

It is not reasonably foreseeable that non-structural BMPs 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: Potentially significant impact

Structural BMPs

A temporary increase in traffic hazards may occur during construction and installation activities. 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 local 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 pedestrian/bicyclists accidents.

Non-Structural BMPs

It is not reasonably foreseeable that non-structural BMPs would result in increases in traffic hazards to motor vehicles, bicyclists or pedestrians.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. 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: Potentially significant impact

Structural BMPs

During construction and installation of structural BMPs, temporary delays in response time of fire vehicles due to road closure/traffic congestion may occur. However, any construction activities would be subject to applicable building and safety and fire prevention regulations and codes. 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. 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 would not result in a need for new or altered fire protection services. 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. The installation of structural devices would not create any more significant impediments than such other ordinary activities.

Non-structural BMPs

It is not reasonably foreseeable that non-structural BMPs would result in a need for new or altered governmental services in fire protection.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. 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: Potentially significant impact

Structural BMPs

There is potential for temporary delays in response times of police vehicles due to road closure/traffic congestion during installation of structural BMPs. To mitigate potential delays the responsible agencies could notify local emergency and police service providers of construction activities and road closures, if any, and coordinate with the local police protection to establish alternative routes and traffic control during the installation activities. 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, and there is no evidence to suggest that installation of these structural devices would create any more significant impediments than other such typical activities. Any construction activity would be subject to applicable building and safety codes and permits. Therefore, the potential delays in response times for police vehicles after mitigation are less than significant.

Non-Structural BMPs

It is not reasonably foreseeable that non-structural BMPs would result in a need for new or altered governmental services in police protection.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. 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: No impact

Non-structural and structural BMPs will not have an effect upon, or result in a need for new or altered schools or school services because none of the BMPs would introduce any physical effects that could impact this public service category.

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: Potentially significant impact

Structural BMPs

During construction and installation of local infiltration systems, local capture systems or vegetated treatment systems, parks or other recreational facilities could be temporarily affected. Construction activities could potentially be performed near or within a park or recreational facilities. Potential impacts would be limited and short-term and could be avoided through siting, designing, and scheduling of construction activities. Parks can also be used to treat stormwater runoff by designing playing fields to serve as infiltration basins, which could impact the recreational use of the fields after a storm. This impact could be mitigated by designing infiltration facilities that drain quickly.

Non-Structural BMPs

It is not foreseeable that non-structural BMPs will have a negative impact upon, or result in a need for new or altered governmental services to parks or other recreational facilities.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. 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

Structural BMPs

Structural BMPs and infrastructure improvements could potentially impact public service requiring additional maintenance to ensure proper operation. For example, vegetated swales must be mowed and media filters must be cleaned. The use of bioswales and curb cutouts could also impact maintenance of curbs and street sweeping activities. Certain BMPs only require annual maintenance and other structural BMPs and infrastructure improvements require frequent maintenance. These devices can be designed and engineered to lessen the amount of maintenance and servicing required.

Non-Structural BMPs

It is not foreseeable that non-structural BMPs will have a negative impact upon, or result in a need for new or altered governmental services in any of the following areas: maintenance of public facilities, including roads.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Structural BMPs

As discussed above, structural BMPs may include additional maintenance to ensure proper operation of newly installed structural BMPs. Maintenance events could be scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at times when these activities have lower impact, such as periods of low traffic activity and parking demand.

Non-Structural BMPs

Although the river is already monitored for bacterial indicators, implementation of the TMDL will result in the need for some increased monitoring to track compliance. However, no impact on the environment would be expected from these monitoring activities. Increased enforcement of local ordinances and outreach and education may potentially impact government services. Enlisting enforcement and clean-up volunteers may help mitigate adverse impacts associated with non-structural BMPs.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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

Structural BMPs

Compliance should not result in the use of substantial additional amounts of fuel or energy, or a substantial increase in demand upon existing sources of energy, or require the development of new sources of energy.

Construction of infrastructure improvements and structural BMPs require energy and fuel for heavy equipment, machinery, and vehicles. Energy demands during construction are temporary. Responsible parties can further mitigate fuel and energy consumption during construction through the use of more energy efficient vehicles and equipment.

Reasonable foreseeable infrastructure improvements and structural BMPs require infrequent maintenance and are unlikely to use substantial amount of fuel or energy, substantially increase demand upon existing sources of energy, or require the development of new sources of energy.

Non-Structural BMPs

Increases administrative action, and outreach and education may also increase consumption and demand for fuel and energy. Responsible parties may also employ volunteers and choose to employ outreach activities and use non-fuel consuming enforcement vehicles like bicycles.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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: Potentially 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

Structural BMPs

Installation of structural BMPs may require alterations or installation of new power or natural gas lines. Power and natural gas lines might need to be rerouted to accommodate the addition of structural BMPs. The degree of alteration depends upon local system layouts which careful placement and design can minimize. However, it is not reasonably foreseeable that the installation of structural BMPs will result in a substantial increased need for new systems, or substantial alterations to power or natural gas utilities because none of these BMPs are large enough to substantially tax current power or natural gas sources. No long term effects on the environment are expected if alterations to power or natural gas utilities are required.

Non-Structural BMPs

Non-structural BMPs will not result in a need for new systems or alterations to power or natural gas utilities because none of the BMPs would introduce any physical effects that could impact this characteristic.

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: No impact

Structural BMPs

New systems or alterations to communications systems are not necessarily required for structural BMPs. Structural BMPs can be manually inspected and maintained without any communications system required. However, it is possible that municipalities could install a remote monitoring system, which could include a new communications system. A telephone line or wireless communications system could be installed, which would not be a substantial alteration.

Non-Structural BMPs

Non-structural BMPs will not result in a need for new systems or alterations to communications systems because none of the BMPs would introduce any physical effects that could impact this characteristic. Current forms of communications used in maintenance vehicles could still be used.

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: No impact .

Non-structural and/or structural BMPs will not result in a need for new systems or alterations to water lines. The need for new municipal or recycled water to implement this TMDL is not foreseeable.

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

Structural BMPs

Reasonably foreseeable methods of compliance may cause a potentially significant impact upon sewer utilities. Low-flow diversions involve the diversion of dry weather flows in storm drains to local Publicly Owned Treatment Works (POTWs). Diversions are retrofitted in existing storm drains. High-flow bypasses are also installed along with the diversions. These bypasses can mitigate and prevent impacts to flooding. High-flow bypasses are designed to bypass the diversion in the event high-flow events, like storm events, to prevent overflow, flooding, and exhaustion of POTW treatment capacity.

Depending on the number of diversions installed and flow potential, low-flow diversions may significantly impact the treatable capacity of local POTWs. Responsible parties should determine the optimal amount of diversions necessary and the flow potential associated with those diversions. Responsible parties should also consult with local POTWs to determine the average flow rate and treatable capacity of each POTW.

Non-Structural BMPs

It is foreseeable that septic systems may have to be updated to comply with load allocations where systems are failing or sited improperly. These upgrades would be implemented through permits or waivers and mitigated at the project level. It is not foreseeable that other non-structural BMPs would result in the need for new sewers or septic tanks.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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: Potentially significant impact

Structural BMPs

In order to achieve compliance with the TMDL, the stormwater drainage systems may need to be reconfigured and/or retrofitted with structural BMPs to capture and/or treat a portion or all of the stormwater runoff. The alterations and/or additions to stormwater drainage systems will depend on the compliance strategy selected by each responsible party at each location where structural BMPs might be installed. Impacts from construction activities to retrofit or reconfigure the storm drain system as part of BMP installation, and mitigation measures have been considered and discussed in the previous sections of the checklist discussion.

Non-structural BMPs

Non-structural BMPs will not result in a need for new systems, or substantial alterations to stormwater drainage systems because none of the BMPs would introduce any physical effects that could impact this characteristic.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. f. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: solid waste and disposal?

Answer: Potentially significant impact

Structural BMPs

The installation of structural BMPs may generate construction debris. Additionally, installed structural BMPs may collect sediment and solid wastes that will require disposal. However, no new solid waste or disposal systems would be needed to handle the relatively small volume generated by these projects. Construction debris may be recycled at aggregate recycling centers or disposed of at landfills. Sediment and solid wastes that may be collected can be disposed of at appropriate landfill and/or disposal facilities.

Non-Structural BMPs

Most non-structural BMPs will not result in a need for new systems, or substantial alterations to the solid waste and disposal systems because none of the BMPs would introduce any physical effects that could impact this characteristic.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. a. Will the proposal result in creation of any health hazard or potential health hazard (excluding mental health)?

Answer: Potentially significant impact

Structural BMPs

As discussed in Items 1, 2, 3, 5, and 13, the installation of structural BMPs could have an effect on earth, air, water, animal life, and transportation/circulation. Structural BMPs could increase the risk of unstable earth conditions, which could pose a physical risk to persons in the area should a slope fail. Construction, installation, and maintenance of structural BMPs could increase the amount of pollutants the air, which could have an effect on health. Some structural BMPs such as detention and infiltration basins could potentially result in additional habitat and/or standing water, which can provide habitat for mosquitoes, which can be carriers of disease. Maintenance of structural BMPs could also increase traffic, which could potentially decrease the safety of pedestrians. Additionally, heavy machinery and materials that may be used during construction and installation of structural BMPs could pose physical and/or chemical risks to human health.

Potential impacts to earth could be avoided or mitigated through proper geotechnical investigations, siting, design, and ground and groundwater level monitoring to ensure that structural BMPs are not employed in areas subject to unstable soil conditions. Potential health hazards attributed to installation and maintenance of structural BMPs can be mitigated by use of OSHA construction and maintenance health and safety guidelines. Potential health hazards attributed to BMP maintenance can be mitigated through OSHA industrial hygiene guidelines. Installation of non vector-supporting structural BMPs can help mitigate vector production from standing water. Structural BMPs can be designed and sites can be properly protected to prevent accidental health hazards as well as prevent vector production. Vector control agencies may also be employed as another source of mitigation. Structural BMPs prone to standing water can be selectively installed away from high-density areas and away from residential housing and/or by requiring oversight and treatment of those systems by vector control agencies. Potential impacts to transportation/circulation can be reduced or eliminated if maintenance activities are scheduled to be performed at the same time as other maintenance activities performed by the municipalities, or at times when these activities have lower impact, such as periods of low traffic activity. Appropriate planning, design, siting, and implementation can reduce or eliminate potential health hazards due to the installation of structural BMPs.

Non-Structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact related to hazards, hazardous materials, or human health.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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.

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

Answer: Potentially significant impact

Structural BMPs

Construction of low-flow diversions and other structural BMPs could potentially result in a temporary impairment of a scenic vista or view open to the public and create an 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 like 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. After construction, the scenic vista or view would return to the condition it was prior to the construction.

Non-Structural BMPs

Non-structural BMPs will not result in the obstruction of any scenic vista or view open to the public because none of the BMPs would introduce any physical effects that could impact this characteristic.

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 jurisdiction of the responsible parties

listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. 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 an impact on the quality or quantity of existing recreational opportunities?

Answer: Potentially significant impact

Structural BMPs

During construction and installation of structural BMPs, 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 municipalities might install facilities on a scale that could alter a recreational area, the structural BMPs could be designed in such a way as to be incorporated into the recreational area. Additionally, many structural BMPs, if necessary, may be constructed underground to minimize impacts on the quality or quantity of existing recreational opportunities. 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.

Additionally, improvement of water quality could create new recreation opportunities in urbanized areas of the watersheds by providing the opportunity to recreate in and near a clean water body with a robust and diverse population of plants and animals.

Non-Structural BMPs

If load allocations were implemented through a restriction of horses on trails or by prohibiting horse riding within a certain distance of the river, this could impact recreational opportunities. To mitigate this impact, other non-structural controls such as education and outreach about proper manure storage and disposal could be implemented. It is not reasonably foreseeable that other non-structural BMPs would impact the quality or quantity of existing recreational opportunities.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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)).

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

Structural BMPs

Stormwater BMPs and diversion and treatment facilities would be installed in currently urbanized areas where ground disturbance has previously occurred. Because these areas are already fully urbanized it is unlikely that implementation of structural treatment devices would cause a substantial adverse change to historical or archeological resources, destroy paleontological resources, or disturb human remains. However, depending on the final location of facilities, potential impacts to cultural resources could occur. The site-specific presence or absence of these resources is unknown because the specific locations for facilities will be determined by responsible agencies at the project level. Installation of these systems could result in minor ground disturbances, which could impact cultural resources if they are sited in locations containing these resources and where disturbances have not previously occurred.

Upon determination of specific locations for structural treatment devices, responsible agencies should complete an archaeological survey including consultation with the Native American Heritage Commission, to make an accurate assessment of potential to affect historic, archaeological, or architectural resources or to impact any human remains. If potential impacts are identified, mitigation measures could include project redesign, such as the relocation of facilities outside the boundaries of archeological or historical sites. In the event that prehistoric or historic cultural resources are discovered in project area during construction, all work shall be halted in the vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the archaeological discovery.

Non-structural BMPs

Non-structural BMPs would involve no change to the physical environment either directly or indirectly and would have no impact on cultural resources.

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 jurisdiction of the responsible parties listed in this TMDL (Title 14, California Code of Regulations, Section 15091(a)(2)). These parties 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. The implementation of this 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.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 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 of non-structural and/or structural BMPs that would be at the expense of long-term beneficial effects on the environment. The implementation and compliance with this 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. However, this TMDL will require many individual projects, which may have potential program-level, and project-level cumulative effects upon the region. Mitigation measures are available for most of these impacts.

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.

7. OTHER ENVIRONMENTAL CONSIDERATIONS

This section evaluates several other environmental considerations of reasonably foreseeable methods of complying with the bacteria 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 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.

7.1.1 PROGRAM CUMULATIVE IMPACTS

Currently there are three other TMDLs adopted for the Santa Clara River – the upper Santa Clara River Chloride TMDL, the Reach 3 Chloride TMDL, and the Santa Clara River Nutrient TMDL. There is also a draft Pesticides and PCBs TMDL for the McGrath Lake subwatershed, located in the Santa Clara River Estuary area. None of the implementation approaches for these other TMDLs should disrupt any structural BMPs as applied for bacteria. In fact, potential implementation strategies discussed in this SED for the bacteria TMDL may contribute to the implementation of other TMDLs in the watershed. Likewise, implementation of other TMDLs in the watershed may contribute to the implementation of this bacteria TMDL.

7.1.2 PROJECT CUMULATIVE IMPACTS

Specific TMDL projects must be environmentally evaluated and cumulative impacts considered as the implementing municipality or 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 bacteria TMDL 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 BMP installation activities are being conducted in the same vicinity as other projects will not make mitigation methods less implementable.

Air Quality - Implementation of the bacteria TMDL Program may cause additional emissions of criteria pollutants and slightly elevated levels of carbon monoxide during construction or BMP device 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 installation-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 bacteria TMDL involves installation activities occurring simultaneously at a number of surface sites in the bacteria TMDL area. Installation of BMP devices 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 are available as discussed in the checklist. In addition, the fact that structural BMP 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 bacteria 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 bacteria 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 Santa Clara River and the Santa Clara River Estuary bacteria TMDL area,
- 7.2.3) a discussion of obstacles to growth in the watershed, 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 could indirectly 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 bacteria 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 bacteria 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 bacteria 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 County of Ventura and the County of Los Angeles is governed by the County 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 agencies within the bacteria 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.

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

Direct Growth Inducement

Because the reasonably foreseeable methods of compliance with the proposed bacteria TMDL focus on non-structural and structural BMPs which are located throughout the bacteria TMDL

area, the bacteria 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 of structural BMPs to comply with the proposed TMDL would occur over an eight-year period for dry weather and a 14-year period for wet weather. Installation and maintenance spending for compliance would generate jobs throughout the region and elsewhere where goods and services are purchased or used to install structural BMPs. The alternatives would result in direct jobs and indirect jobs. The creation of jobs in the region is considered a benefit.

Although the construction activities associated with the structural BMPs 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 new jobs that would be created by this construction are expected to be filled by persons already residing in the area or region, based on the existing surplus of unemployed persons in the area and region.

The second area of potential indirect growth inducement is through the removal of obstacles to growth. As discussed above, no obstacles exist to land use or to population growth in the watershed.

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.

Furthermore, implementation of the bacteria TMDL is both necessary and beneficial. To the extent that the alternatives, mitigation measures, or both, that are examined in this SED are not deemed feasible by the municipalities and agencies complying with the TMDL, the necessity of implementing the federally required TMDL and removing the significant environmental effects from bacterial impairment in the Santa Clara River and the Santa Clara River Estuary (an action required to achieve the express, national policy of the Clean Water Act) remains. In addition, implementation of the TMDL will have substantial benefits to water quality and will enhance beneficial uses. Enhancement of the recreational beneficial uses (both water contact recreation and non-contact water recreation) will have positive social and economic effects by decreasing potential bacteria hazards in the river and other recreation areas.

8. STATEMENT OF OVERRIDING CONSIDERATIONS AND DETERMINATION

The Regional Board staff has balanced the economic, legal, social, technological, and other benefits of this proposed bacteria 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 bacteria 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. Enhancement of the recreational beneficial uses (both water contact recreation and non-contact water recreation) will have positive social and economic effects by decreasing potential bacteria hazards and increasing the aesthetic experience in the river. 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 and the Basin Plan amendment, and this SED provide the necessary information pursuant to Public Resources Code section 21159 to conclude that properly designed and implemented BMPs 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. These mitigation measures in most cases are routine measures to ease the expected and routine impacts attendant with ordinary minor construction projects and infrastructure maintenance in an urbanized environment. Routine construction and maintenance of power lines, sewers, streets, etc. are regular and expected incidents of living in urban environments. Sewer and power line maintenance, street sweeping, traffic alterations, and environmental impacts from them already occur and are expected. This project will foreseeably require many more such projects, but their individual impacts are not expected to be extraordinary in the magnitude or severity of impacts. Specific projects, that may have a significant impact, would therefore be subject to a separate environmental review. The lead agency for subsequent projects would be obligated to mitigate any impacts they identify, for example by mitigating potential flooding impacts by designing the BMPs with adequate margins of safety. 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, 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 storm water 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 Santa Clara River and Santa Clara River Estuary, but it may result in short-term localized significant adverse impacts to the environment as a variety of small construction projects may be undertaken at many places throughout the watershed over a period of 14 years. 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 Santa Clara River and the Santa Clara River Estuary Bacteria TMDL and this checklist provide the necessary information pursuant to Public Resources Code section 21159 to conclude that properly designed and implemented structural or non-structural BMPs 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 those local agencies, the necessity of implementing the federally required TMDL and removing the bacterial impairment from the Santa Clara River (an action required to achieve the express, national policy of the Clean Water Act) remains.


9. FINDINGS

On the basis of this initial evaluation and staff report for the TMDL, which collectively provide the required information:

- I find the proposed Basin Plan amendment could not have a significant effect on the environment.
- I find that the proposed Basin Plan amendment could have a significant adverse effect on the environment. However, there are feasible alternatives and/or feasible mitigation measures that would substantially lessen any significant adverse impact. These alternatives are discussed above and in the staff report for the TMDL.
- I find the proposed Basin Plan amendment may have a significant effect on the environment. There are no feasible alternatives and/or feasible mitigation measures available which would substantially lessen any significant adverse impacts. See the attached written report for a discussion of this determination.

DATE:

8-30-10


Sam Unger
Interim Executive Officer

10. REFERENCES

California Exotic Pest Plant Council (CalEPPC). 1999. Exotic Pests Plants of Greatest Ecological Concern, October, 1999. <http://www.cal-ipc.org/ip/inventory/pdf/Inventory1999.pdf>

California Stormwater Quality Association (CASQA). 2003a. California Stormwater BMP Handbook: Municipal. January 2003. <http://www.cabmphandbooks.com>.

California Stormwater Quality Association (CASQA). 2003b. California Stormwater BMP Handbook: New Development and Redevelopment. January 2003. www.cabmphandbooks.com.

CDM. 2005. Implementation Plan for the Santa Monica Bay Beaches Dry Weather and Wet Weather Bacteria Total Maximum Daily Loads (TMDLs). June 15, 2005.

City of Los Angeles Stormwater Program Website. 2007. What is a Low Flow Diversion? http://www.lastormwater.org/WPD/program/poll_abate/lowflowdiv/lfintro.htm

City of Santa Monica. Santa Monica Urban Runoff Recycling Facility Fact Sheet. <http://www.smgov.net/Departments/PublicWorks/ContentCivEng.aspx?id=7796>. Accessed April 2010.

Friends of the Los Angeles River and the Los Angeles and San Gabriel Rivers Watershed Council. 2002. Survey of invasive non-native plants, primarily Arundo Donax, along the Los Angeles River and Tributaries.

Federal Highway Administration (FHWA). 2007. Storm water Best Management Practices in an Ultra-Urban Setting: Selection and Monitoring. <http://www.fhwa.dot.gov/environment/ultraurb/index.htm>. Accessed April 2010.

Halverson, N.V. 2004. Review of Constructed Subsurface Flow vs. Surface Flow Wetlands. Westinghouse Savannah River Company. Prepared for the U.S. Department of Energy. September 2004.

Los Angeles Regional Water Quality Control Board (LARWQCB). 1994. Water Quality Control Plan for the Los Angeles Region (Basin Plan).

Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL Implementation Plan. January 8, 2007.

McCoy, M., Hartwich, D. 2006. Final Technical Memorandum Task 4.4: Evaluation of Non-Structural BMP Options. Memo to Hernandez, Carolina, County of Los Angeles Watershed Management Division. CDM Technical Memorandum. March 15, 2006.

McCoy, M., Wolosoff, S., Dresser, C., Susilo, M.K., Rathfelder, K., Leisenring, M., Poresky, A. 2006. Technical Memorandum Task 7.2: Wet Weather Treatment Plan. Memo to Hernandez, Carolina, County of Los Angeles Watershed Management Division. CDM Technical Memorandum. May 15, 2006.

State of California Department of Transportation (Caltrans). 2007. Storm Water Quality Handbooks: Project Planning and Design Guide. May 2007.
<http://www.dot.ca.gov/hq/oppd/stormwtr/>.

U.S. EPA. National Menu of Storm Water Best Management Practices.
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>. Accessed April 2010.

United States Environmental Protection Agency (USEPA). 2005. Stormwater Phase II Final Rule - Public Education and Outreach Minimum Control Measure Fact Sheet. EPA 833-F00-005.

U.S. Department of Transportation Federal Transit Administration, and the Peninsula Corridor Joint Powers Board, 2004. Caltrain Electrification Program –San Francisco to Gilroy: Environmental Assessment/Draft Environmental Report. April, 2004.

Water Environment Research Foundation (WERF). 2005. Critical Assessment of Stormwater Treatment and Control Selection Issues. Project No. 02-SW-1.

Washington State Department of Ecology, 2005. Stormwater Management Manual for Western Washington: Volume V - Runoff Treatment BMPs. Publication No. 05-10-33. February 2005.