

Appendix M

Environmental Analysis and Checklist

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M Environmental Analysis and Checklist

M.1 California Environmental Quality Act Requirements

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) must comply with the California Environmental Quality Act (CEQA) when amending the *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan) as proposed in this project to adopt total maximum daily loads (TMDLs) for indicator bacteria at the impaired shoreline segments of Baby Beach and Shelter Island Shoreline Park. Under the CEQA, the San Diego Water Board is the Lead Agency for evaluating the environmental impacts of the reasonably foreseeable methods of compliance with the proposed conditional waivers.

The adoption of a Basin Plan amendment is an activity subject to CEQA requirements because Basin Plan amendments constitute rules or regulations requiring the installation of pollution control equipment, establishing a performance standard, or establishing a treatment requirement.¹ TMDL Basin Plan amendments normally contain a quantifiable numeric target that interprets the applicable water quality objective. TMDLs also include wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background. The quantifiable target together with the allocations may be considered a performance standard.² Sections M.1.1 and M.1.2 below describe in detail the statutory requirements and scope of this environmental analysis required by the CEQA for Basin Plan amendments.

M.1.1 Exemption from Requirement to Prepare Standard CEQA Documents

The CEQA authorizes the Secretary of the Resources Agency to certify state regulatory programs, designed to meet the goals of the CEQA, as exempt from its requirements to prepare an Environmental Impact Report (EIR), Negative Declaration, or Initial Study. The State Water Resources Control Board's (State Water Board) and the San Diego Water Board's Basin Plan amendment process is a certified regulatory program and is therefore exempt from the CEQA's requirements to prepare such documents.³

The State Water Board's CEQA implementation regulations⁴ describe the environmental documents required for Basin Plan amendment actions. These documents consist of a written report that includes a description of the proposed activity, alternatives to the proposed activity to reduce or eliminate potentially significant environmental impacts, and identification of mitigation measures to minimize any significant adverse impacts. For this project, these documents are the Technical Report entitled *Total Maximum*

¹ California Code of Regulations Title 14 section 15187(a)

² The term "performance standard" is defined in the rulemaking provisions of the Administrative Procedure Act [Government Code sections 11340-11359]. A "performance standard" is a regulation that describes an objective with the criteria stated for achieving the objective [Government Code section 11342(d)].

³ California Code of Regulations Title 14 section 15251(g) and Public Resources Code section 21080.5

⁴ California Code of Regulations Title 23 section 3720 et seq. "Implementation of the Environmental Quality Act of 1970"

Daily Loads for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay (Technical Report), an initial draft of the Basin Plan amendment (Appendix C) and an environmental checklist (section M.4 below). These components fulfill the requirements of the CEQA for preparation of environmental documents for this Basin Plan amendment.⁵

M.1.2 Scope of Environmental Analysis

The CEQA has specific provisions that establish the scope of the environmental analysis required for the adoption of this TMDL Basin Plan amendment. The CEQA limits the scope to an environmental analysis of the reasonably foreseeable methods of compliance with the WLAs and LAs. The State Water Board CEQA Implementation Regulations for Certified Regulatory Programs⁶ require the environmental analysis to include at least the following:

1. A brief description of the proposed activity. In this case, the proposed activity is the TMDL Basin Plan amendment. The Basin Plan amendment is described in section M.2 of this appendix.
2. Reasonable alternatives to the proposed activity (discussed in section M.8).
3. Mitigation measures to minimize any significant adverse environmental impacts of the proposed activity (discussed in section M.5).

Additionally, the CEQA⁷ and CEQA Guidelines⁸ require the following components, some of which are repetitive from the list above:

1. An analysis of the reasonably foreseeable environmental impacts of the methods of compliance. These methods may be employed to comply with the TMDL Basin Plan amendment. Reasonably foreseeable methods of compliance are described in section M.3. Sections M.4 and M.5 identify the environmental impacts associated with the methods of compliance.
2. An analysis of the reasonably foreseeable feasible mitigation measures relating to those impacts. This discussion is also in section M.5.
3. An analysis of reasonably foreseeable alternative means of compliance with the rule or regulation, which would avoid or eliminate the identified impacts. This discussion is in section M.5.1.

Additionally, the CEQA Guidelines require the environmental analysis take into account a reasonable range of:⁹

⁵ California Code of Regulations Title 23 section 3777

⁶ California Code of Regulations Title 23 section 3777

⁷ Public Resources Code section 21159 (a)

⁸ California Code of Regulations Title 14 section 15187(c)

1. Environmental factors (section M.5)
2. Economic factors (section M.7)
3. Technical factors (section M.6)
4. Population (section M.6)
5. Geographic areas (section M.6)
6. Specific sites (section M.6)

A “reasonable range” does not require an examination of every site, but a reasonably representative sample of them. The statute specifically states that the agency shall not conduct a “project level analysis.”¹⁰ Rather, a project level analysis must be performed by the dischargers to be eligible for a conditional waiver.¹¹ Notably, the San Diego Water Board is prohibited from specifying the manner of compliance with its regulations,¹² and accordingly, the actual environmental impacts will necessarily depend upon the compliance strategy selected by the dischargers. In preparing this environmental analysis, the San Diego Water Board has considered the pertinent requirements of state law,¹³ and intends this analysis to serve as a tier 1 environmental review.

Any potential environmental impacts associated with the TMDL depend upon the specific compliance projects selected by the dischargers, most of whom are public agencies subject to their own CEQA obligations. If not properly implemented or mitigated at the project level, there could be adverse environmental impacts from implementing these TMDLs.

The substitute CEQA documents identify broad mitigation approaches that could be considered at the project level. Consistent with the CEQA, the substitute documents do not engage in speculation or conjecture, but rather consider the reasonably foreseeable environmental impacts of the reasonably foreseeable methods of compliance, the reasonably foreseeable mitigation measures, and the reasonably foreseeable alternative means of compliance, which would avoid, eliminate, or reduce the identified impacts.

M.2 Description of the Proposed Activity

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 TMDLs for indicator bacteria at Baby Beach and Shelter Island Shoreline Park.

⁹ California Code of Regulations Title 14 section 15187(d), Public Resources Code section 21159 (c)

¹⁰ Public Resources Code section 21159(d)

¹¹ Public Resources Code section 21159.2

¹² Water Code section 13360

¹³ Public Resources Code section 21159 and 14 CCR section 15187

The San Diego Water Board's goal in adopting the TMDL is to eliminate the water quality problems caused by bacteria at the impaired shoreline segments of Baby Beach and Shelter Island Shoreline Park. Although the indicator bacteria water quality objectives (WQOs) for are written in terms of density of indicator bacteria colonies (most probable number of colonies per milliliter of water), the actual risk to human health is caused by the presence of disease-causing pathogens. When the risk to human health from pathogens in the water is so great that beaches are posted with health advisories or closure signs the quality and beneficial use of the water are impaired. The adoption of a TMDL is not discretionary; rather, it is compelled by section 303(d) of the federal Clean Water Act.

The TMDLs for indicator bacteria, and their derivation are discussed in the Technical Report, section 8. For point sources, the TMDLs will be implemented primarily through waste discharge requirements (WDRs) for urban runoff that implement federal National Pollutant Discharge Elimination System (NPDES) regulations. The primary dischargers are municipalities located in the watersheds. Dischargers will receive wasteload allocations (WLAs) that must be met over a phased compliance schedule that should result in attainment of water quality standards.

M.2.1 Surrounding Land Uses and Setting

The San Diego Region forms the southwest corner of California and occupies approximately 3,900 square miles. The western boundary of the Region consists of the Pacific Ocean coastline. The northern boundary of the Region is formed by the hydrologic divide starting near Laguna Beach and extending inland through El Toro and easterly along the ridge of the Elsinore Mountains into the Cleveland National Forest. The eastern boundary of the Region is formed by the Laguna Mountains and other lesser known mountains located in the Cleveland National Forest. The southern boundary of the Region is formed by the United States-Mexico international border.

The San Diego Region encompasses most of San Diego County, parts of southwestern Riverside County, and southwestern Orange County. The Region is divided into a coastal plain area, a central mountain-valley area, and an eastern mountain-valley area. It consists of eleven hydrologic units that ultimately drain to the Pacific Ocean. The climate in the San Diego Region is generally mild with annual temperatures averaging around 65 degrees Fahrenheit near the coastal areas. Average annual rainfall ranges from 9 to 11 inches along the coast to more than 30 inches in the eastern mountains. There are two distinct seasons in the Region. Summer dry weather occurs from late April to mid-October. During this period almost no rain falls. The winter season (mid-October through early April) consists of generally dry weather interspersed by occasional rain storms. Eighty-five to ninety percent of the annual rainfall occurs during the winter season.

The land use of the San Diego Region is highly variable. However, the coastline areas are highly concentrated with urban and residential land uses. Most of the watershed areas addressed in this project are occupied by recreational and open space land uses

and low-density and high-density residential land uses. Other major land uses are commercial/institutional and industrial/transportation. More information is provided in section 2 of the Technical Report.

M.3 Analysis of Reasonably Foreseeable Methods of Compliance

This section identifies a range of reasonably foreseeable method(s) of compliance with the Basin Plan amendment. Bacteria generation is linked to different types of land uses, and for these watersheds, bacteria are transported to receiving waters primarily via urban runoff. Therefore, the most significant controllable source of bacteria to receiving waters is urban runoff discharges from MS4s during wet and dry weather. In wet weather, the amount of runoff and associated bacteria densities are highly dependent on land use and associated management practices (e.g., pet waste in residential areas). In dry weather, the amount of runoff and associated bacteria densities result from various land use practices that cause water to enter storm drains, such as lawn irrigation runoff and car washing. Bacteria loads from natural sources are uncontrollable and were not included in the watershed runoff, but included as part of the load existing in the receiving waters of the impaired shoreline segments.

The most reasonably foreseeable methods of compliance with the WLAs of these TMDLs are for dischargers (i.e., owner of MS4) to implement structural and non-structural best management practices (BMPs). Typical BMPs that may be selected by dischargers to comply with WLAs are divided into non-structural and structural controls, and are described below.

Non-structural Controls

Non-structural controls typically are aimed at controlling sources of a pollutant and generally do not involve new construction. Non-structural controls are expected to be the first methods to be utilized by the dischargers. No potentially significant impacts on the environment were identified for these controls.

Education and Outreach: Conduct education and outreach to residents to minimize the potential for contamination of stormwater runoff by cleaning up after their pets, picking up litter, minimizing runoff from agriculture, livestock, and horse ranch facilities, and controlling excessive irrigation. Bacterial source-tracking studies in a watershed in the Seattle, Washington area found that nearly 20 percent of the bacteria isolates that could be matched with host animals were matched with dogs.¹⁴

Road and Street Maintenance: Increase frequency of street sweeping to maintain clean sidewalks, streets, and gutters. Street sweeping can reduce pollution by 5 to 30 percent when a conventional mechanical broom and vacuum-assisted wet sweeper is used.¹⁵ The U.S. Environmental Protection Agency (USEPA) reports that the new vacuum assisted dry sweepers can achieve 50 to 88 percent overall reductions in the

¹⁴ USEPA, 1999, National Menu of Best Management Practices for Stormwater-Phase II, <http://cfpub.epa.gov/npdes/stormwater/menuofbmps>

¹⁵ *ibid*

annual sediment loading for a residential street, depending on sweeping frequency. A reduction in sediment load may lead to a reduction in bacteria being carried to the MS4, and ultimately to the impaired shorelines.

Storm Drain System Cleaning: Storm drain systems should be cleaned regularly since flows in the drains are rarely high enough to flush the drains. Cleaning of the storm drain systems will reduce the levels of bacteria as well as reduction of other pollutants, trash, and debris both in the storm drain system and in receiving waters.

BMP Inspection and Maintenance: Conduct regular inspections of treatment control BMPs to ensure their adequacy of design and proper function. Routine inspection and maintenance is an efficient way to prevent potential nuisance situations, such as odors, mosquitoes, weeds, etc., and can reduce the need for repair maintenance and the chance of polluting storm water runoff by finding and correcting problems before the next storm event.¹⁶

Enforcement of Local Ordinances: Develop and/or enforce municipal ordinances prohibiting the discard of litter, pet cleanup negligence, or lawn over-watering. Enforcement of such ordinances will decrease the likelihood of bacteria from controllable sources reaching storm drains.

Structural Controls

Structural controls may be utilized to divert, store, and/or treat stormwater, or infiltrate stormwater into the ground. Structural controls can involve construction and operation activities that create potentially significant environmental impacts.

Buffer Strips and Vegetated Swales: Construct and/or maintain vegetative buffer strips along roadsides and in medians to slow surface runoff velocity, filter pollutants, and increase stormwater infiltration. Replace curbs with vegetated swales to allow highway and road runoff to percolate into the ground.

Bioretention: Construct and maintain bioretention BMPs to provide on-site removal of pollutants from stormwater runoff through landscaping features.

Infiltration Trenches: Construct and maintain infiltration trenches designed to capture and naturally filter stormwater runoff.

Sand Filters: Install and maintain sand filters, which are effective for pollutant removal from stormwater. Sand filters may be a good option in densely developed urban areas with little pervious surface since the filters occupy minimal space.

Diversion/Treatment Systems: Install diversion and containment systems to capture non-stormwater runoff. During low flow conditions, runoff may be diverted to an on-site

¹⁶ ibid

treatment system and released back to the MS4/receiving water, or it may be diverted to wastewater collection plants for treatment.

M.4 Environmental Checklist

| POTENTIAL IMPACT | POTENTIALLY SIGNIFICANT | LESS THAN SIGNIFICANT WITH MITIGATION | LESS THAN SIGNIFICANT | NO IMPACT |
|--|--------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| 1. Earth. Will the proposal result in: | | | | |
| a.Unstable earth conditions or in changes in geologic substructures? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b.Disruptions, displacements, compaction or overcoming of the soil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c.Change in topography or ground surface relief features? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d.The destruction, covering or modification of any unique geologic or physical features? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e.Any increase in wind or water erosion of soils either on or off the site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g.Exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Air. Will the proposal result in: | | | | |
| a.Substantial air emissions or deterioration of ambient air quality? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b.The creation of objectionable odors? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c.Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b.Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c.Alterations to the course of flow of flood waters? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| POTENTIAL IMPACT | POTENTIAL SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT IMPACT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|------------------------------|--|-------------------------------------|-------------------------------------|
| 3. Water. Will the proposal result in (Cont'd): | | | | |
| d. Change in the amount of surface water in any water body? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Alteration of the direction or rate of flow of groundwaters? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. Change in the quantity or quality of groundwaters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Substantial reduction in the amount of water otherwise available for public water supplies? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i. Exposure of people or property to water related hazards such as flooding or tidal waves? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Reduction of the numbers of any unique, rare or endangered species of plants? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Reduction in acreage of any agricultural crop? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Animal Life. Will the proposal result in: | | | | |
| a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| POTENTIAL IMPACT | POTENTIAL SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT IMPACT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|------------------------------|--|-------------------------------------|-------------------------------------|
| 5. Animal Life. Will the proposal result in (Cont'd): | | | | |
| b.Reduction of the numbers of any unique, rare or endangered species of animals? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c.Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d.Deterioration to existing fish or wildlife habitat? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Noise. Will the proposal result in: | | | | |
| a.Increases in existing noise levels? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b.Exposure of people to severe noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. Light and Glare. Will the proposal: | | | | |
| a.Produce new light or glare? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Land Use. Will the proposal result in: | | | | |
| a.Substantial alteration of the present or planned land use of an area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 9. Natural Resources. Will the proposal result in: | | | | |
| a.Increase in the rate of use of any natural resources? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b.Substantial depletion of any nonrenewable natural resource? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 11. Population. Will the proposal: | | | | |
| a.Alter the location, distribution, density, or growth rate of the human population of an area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 12. Housing. Will the proposal: | | | | |
| a.Affect existing housing, or create a demand for additional housing? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| POTENTIAL IMPACT | POTENTIAL SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT IMPACT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|--|------------------------------|--|-------------------------------------|-------------------------------------|
| 13. Transportation/Circulation. Will the proposal result in: | | | | |
| a.Generation of substantial additional vehicular movement? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b.Effects on existing parking facilities, or demand for new parking? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c.Substantial impact upon existing transportation systems? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d.Alterations to present patterns of circulation or movement of people and/or goods? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e.Alterations to waterborne, rail or air traffic? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 14. Public Service. Will the proposal have an effect upon, or result in a need for new or altered governmental services in an of the following areas: | | | | |
| a.Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b.Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c.Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d.Parks or other recreational facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e.Maintenance of public facilities, including roads? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Other governmental services? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Energy. Will the proposal result in: | | | | |
| a.Use of substantial amounts of fuel or energy? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b.Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b.Communications systems? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c.Water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d.Sewer or septic tanks? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e.Storm water drainage? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| POTENTIAL IMPACT | POTENTIAL SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT IMPACT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|--|------------------------------|--|-------------------------------------|--------------------------|
| 16. Utilities and Service Systems. Will the proposal result in a need for new systems, or substantial alterations to the following utilities (Cont'd): | | | | |
| f. Solid waste and disposal? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 17. Human Health. Will the proposal result in: | | | | |
| a. Creation of any health hazard or potential health hazard (excluding mental health)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Aesthetics. Will the proposal result in: | | | | |
| a. The obstruction of any scenic vista or view open to the public? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. The creation of an aesthetically offensive site open to public view? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Recreation. Will the proposal result in: | | | | |
| a. Impact upon the quality or quantity of existing recreational opportunities? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. Archeological/Historical. Will the proposal: | | | | |
| a. Result in the alteration of a significant archeological or historical site structure, object or building? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| POTENTIAL IMPACT | POTENTIAL SIGNIFICANT IMPACT | LESS THAN SIGNIFICANT IMPACT WITH MITIGATION | LESS THAN SIGNIFICANT IMPACT | NO IMPACT |
|---|------------------------------|--|------------------------------|-------------------------------------|
| 21. Mandatory Findings of Significance | | | | |
| 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.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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.) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Substantial adverse: Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

M.5 Discussion of Possible Environmental Impacts of Reasonably Foreseeable Compliance Methods and Mitigation Measures

As stated previously, the environmental analysis must include an analysis of the reasonably foreseeable environmental impacts of the methods of compliance and the reasonably foreseeable feasible mitigation measures relating to those impacts. This section, consisting of answers to the questions in the checklist, discusses compliance methods and mitigation measures as they pertain to the checklist.

In formulating these answers, the impacts of implementing the non-structural and structural controls listed in section M.3 were evaluated. At this time, the exact type, size, and location of non-structural and/or structural controls that might be implemented to comply with the TMDLs is unknown. This analysis considers a range of non-structural and/or structural controls that might be used, but is by no means an exhaustive list of available controls. When non-structural and/or structural controls are selected for implementation, a project-level and site-specific CEQA analysis must be performed by the responsible agency.

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 implementation and/or construction or implementation of the non-structural and/or structural controls would cause a substantial, adverse change in any of the physical conditions within the areas affected by the control. In addition, the evaluation considered environmental effects in proportion to their severity and probability of occurrence. Based on this review, we concluded that the potentially significant impacts can be mitigated to less than significant levels. Broad mitigation approaches have been identified that if employed, would reduce the potentially significant adverse impacts identified to less than significant. However, such mitigation approaches are within the responsibility and jurisdiction of other public agencies, and not the San Diego Water Board. Water Code section 13360 precludes the San Diego Water Board from dictating the manner in which responsible agencies comply with any of the San Diego Water Board's regulations or orders.

The San Diego Water Board does not engage in speculation or conjecture regarding the projects that may be implemented to comply with the TMDLs and only considers the reasonably foreseeable alternative methods of compliance, the reasonably foreseeable feasible environmental impacts of the these methods of compliance, and the reasonably foreseeable mitigation measures which would avoid or eliminate the identified impacts, all from a broad general perspective consistent with the uncertainty regarding how the TMDLs, ultimately, will be implemented. When the agencies responsible for implementing projects to comply with this TMDL determine how they will proceed, the agencies responsible for those parts of the project can and should incorporate such mitigation approaches into any subsequent projects or project approvals to reduce any potentially significant impacts to less than significant. The potential impacts and mitigation measures were identified in discussions below.

A significant effect on the environment is defined as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. A social or economic change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.”¹⁷

A significant effect on the environment is defined in statute as “a substantial, or potentially substantial, adverse change in the environment”¹⁸ where “Environment” is

¹⁷ California Code of Regulations Title 14 section 15382

¹⁸ Public Resources Code section 21068

defined as “*the physical conditions which exist within the area which will be affected by a proposed project, including air, water, minerals, flora, fauna, noise, objects of historic or aesthetic significance.*”¹⁹

In this analysis, the level of significance was based on baseline conditions (i.e., current conditions). Short-term impacts associated with construction of structural controls were considered less than significant because the impacts due to construction activities are temporary and similar to typical capital improvement projects and maintenance activities currently performed by municipalities or dischargers. The long-term impacts associated with structural controls were considered potentially significant, but only if they could have an adverse, or potentially adverse, impact on the environment even with mitigation.

Social or economic changes related to a physical change of the environment were also considered in determining whether there would be a significant effect on the environment. However, adverse social and economic impacts alone are not significant effects on the environment.

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

Answer: Less than significant with mitigation

Discussion: Reasonably foreseeable non-structural controls would not create unstable earth conditions or changes in geologic substructure because none of these controls include earth moving activities.

For structural controls, infiltration of surface runoff could potentially result in unstable earth conditions if loose or compressible soils are present, or if such structural controls were to be located where infiltrated runoff flowing as groundwater could destabilize existing slopes. These impacts can be avoided by siting infiltration type structural controls away from areas with loose or compressible soils, and away from slopes that could become destabilized by an increase in groundwater flow. Infiltration type structural controls can also be built on a small enough scale to avoid these types of impacts.

¹⁹ Public Resources Code section 21060.5

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

Answer: Less than significant

Discussion: Reasonably foreseeable non-structural controls would not result in disruptions, displacements, compaction or overcoming of the soil because none of these controls include earth moving activities.

Depending on the structural controls selected, the proposal may result in minor surface soil excavation or grading during construction of structural controls resulting in increased disturbance of the soil. However, the subwatersheds draining to the shoreline segments addressed in this project are located primarily within urban areas which have already undergone soil compaction and hardscaping. Standard construction techniques, including but not limited to, shoring, piling and soil stabilization can mitigate any potential short-term impacts. In addition, structural controls can be designed and sited in areas where the risk of new soil disruption is minimal. Soil disruptions, displacements, compaction, or overcoming during construction activities would be similar to typical temporary capital improvement construction and maintenance activities currently performed by municipalities, and no long-term impacts to the soil are expected.

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

Answer: Less than significant with mitigation

Discussion: Reasonably foreseeable non-structural controls would not result in change in topography or ground relief features because none of these controls include earth moving activities.

Implementation and construction of structural controls could result in some change in topography or ground surface relief features; however, most of the potential structural controls are so small that changes to topography will not be noticeable. If the dischargers construct structural controls on a scale large enough to change topography or ground relief features, then potential adverse impacts could be avoided or mitigated through siting such topographic alterations in geologically stable areas, or by installing or designing structural controls with the least amount of impact to the topography.

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

Answer: Less than significant with mitigation

Discussion: Reasonably foreseeable non-structural controls would not result in the destruction, covering or modification of any unique geologic or physical features because none of these controls include earth moving activities.

Constructing structural controls in areas where doing so would result in the destruction, covering or modification of a unique geologic or physical features is not a reasonably foreseeable alternative that dischargers would choose. Furthermore, no impact is expected because foreseeable methods of compliance, including implementation of structural controls to control bacteria, would not be of the size or scale to result in the destruction, covering or modification of any unique geologic or physical features. In the unlikely event that dischargers might install facilities on a scale that could result in the destruction, covering or modification of any unique geologic or physical features, potential impacts could be mitigated by mapping these features to avoid siting facilities in these areas.

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

Answer: Less than significant

Discussion: Reasonably foreseeable non-structural controls would not result in increase in wind or water erosion of soils because none of the non-structural controls would result in increased stormwater discharge, or in exposing soils to erosion by wind and water.

Depending on the structural controls selected, the proposal may result in minor soil excavation during construction of structural controls. However, construction related erosion impacts will cease with the cessation of construction. Wind or water erosion of soils may occur as a potential short-term impact. On-site soil erosion during construction activities will be similar to typical temporary capital improvement projects and maintenance activities currently performed by the municipalities in urban areas. Typical established construction BMPs should be used during installation of structural controls to minimize offsite sediment runoff or deposition. Construction sites are required to retain sediment on site, both under general construction storm water WDRs and through the construction program of the applicable MS4 WDRs; both of which are already designed to minimize or eliminate erosion impacts on receiving water.

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: Less than significant

Discussion: Reasonably foreseeable non-structural controls would not result in changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake. However, non-structural controls, such as increased street sweeping, may reduce the amount of silt and sediment that is transported and deposited to the impaired shorelines.

Deposition of significant volumes of sediment to beaches occurs mostly during wet weather flows. Therefore, structural wet weather diversion and treatment controls that remove the stream's sediment load could impact deposition of sand on beaches. End of stream detention basins that capture sediment, resulting in possible changes in deposition or erosion, can be mitigated through sand replacement and importation.

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

Answer: Less than significant with mitigation

Discussion: Reasonably foreseeable non-structural controls would not result in exposure of people or property to geologic hazards because none of these controls would result in earth moving activities.

For structural controls, infiltration of collected stormwater could possibly result in ground failure if loose or compressible soils are present, or if such controls were to be located where introduced groundwater movements could destabilize existing slopes. This may result in landslides, mudslides, ground failure, or similar hazards. However, complying with these TMDLs using structural controls in areas where doing so, or of a size or scale that would result in exposure of people or property to such geologic hazards is unlikely when other alternatives exist. In the unlikely event that dischargers might install facilities on a scale that could result in exposure of people or property to geologic hazards, a geotechnical investigation should be prepared at the project level to ensure that structural controls are not employed in areas subject to potential geologic hazards.

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

Answer: Less than significant with mitigation

Discussion: Short term increases in traffic during the construction and installation of structural controls and long-term increases in traffic caused by non-structural controls and maintenance of structural controls are potential sources of air emissions that may adversely affect ambient air quality. Several mitigation measures are available to reduce potential impacts to ambient air quality due to increased traffic during short-term construction and long-term maintenance activities. Mitigation measures could include, but are not limited to, the following: 1) use of construction, maintenance, and street sweeper vehicles with lower-emission engines, 2) use of soot reduction traps or diesel particulate filters, 3) use of emulsified diesel fuel, 4) use of vacuum-assisted street sweepers to eliminate potential re-suspension of sediments during sweeping activity, 5) the design of structural devices to minimize the frequency of maintenance trips, and/or 6) proper maintenance of vehicles so they operate cleanly and efficiently.

The generation of fugitive dust and particulate matter during construction or maintenance activities could also impact ambient air quality. An operations plan for the specific construction and/or maintenance activities could be completed to address the variety of available measures to limit the ambient air quality impacts. These could include vapor barriers and moisture control to reduce transfer of particulates and dust to air.

The emission of air pollutants during short-term construction activities associated with reasonably foreseeable methods of compliance would not likely change ambient air conditions, because long-term ambient air quality would not change after short-term construction activities are completed.

Ambient air quality may change as a result of increased traffic due to an increase in street sweeping and/or maintenance activities. However, the impact to ambient air quality can be reduced by using the mitigation measures described above for street sweepers and maintenance vehicles. The potential impact to ambient air quality can be further reduced if street sweeping and/or 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. In any case, the number of additional vehicles expected in the watersheds due to non-structural and structural controls is not expected to increase the level of pollutants in the air compared to current conditions, because various common managerial practices are available to mitigate the adverse effects. In fact, additional street sweeping could potentially reduce the amount of dust and particulates that may be available on the streets.

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

Answer: Less than significant with mitigation

Discussion: Non-structural controls could result in the creation of objectionable odors in urbanized areas caused by exhaust from street sweepers or 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. Additionally, street sweepers and maintenance vehicles 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 when there are fewer people in the area.

Construction and installation of structural controls may result in objectionable odors in the short-term due to exhaust from construction equipment and vehicles, but no more so than during typical construction activities currently performed. Structural controls may be a source of objectionable odors if structural control designs allow for water stagnation or collection of water with sulfur-containing compounds. Stormwater 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 design to eliminate standing water, covers, aeration, filters, barriers, and/or odor suppressing chemical additives. Structural controls should be inspected regularly to ensure that treatment devices are not clogged, pooling water, or odorous. During maintenance, odorous sources should be uncovered for as short of a time period as possible. Structural controls 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.

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

Discussion: Reasonably foreseeable non-structural and/or structural controls would not be of the size or scale to result in alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally.

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: Less than significant

Discussion: Most non-structural controls will not cause changes in currents, or the course of direction or water movements, in either marine or fresh waters because most of these controls would not introduce any physical effects that could impact these characteristics. Reduction or elimination of dry weather flows caused by implementation of non-structural controls could have a physical impact due to a reduction in sediment and refuse discharge.

Structural controls may change the currents in the watersheds by diverting flow. Overland flow in these urbanized watersheds is directed primarily to storm drains. Overland flow may change depending on the structural controls installed such as infiltration trenches. If stormwater runoff flow is reduced, these changes would reduce the potential for erosion.

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

Answer: Less than significant

Discussion: Non-structural controls would not result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff because none of these controls would introduce any physical effects that could impact these characteristics.

Depending on the structural controls selected, absorption rates, drainage patterns, and surface water runoff may change. Grading and excavation during construction and installation of structural controls could result in alterations in absorption rates, drainage patterns, and surface water runoff. Several types of structural controls collect and/or inhibit surface runoff flow, which would likely alter drainage patterns, and also decrease the rate and amount of surface runoff. For example, structural controls such as buffer strips would change drainage patterns by increasing absorption rates, which would reduce the amount of surface runoff. If surface runoff is diverted to wastewater collection system and treatment facilities, thereby reducing the overall flow, the erosion and scour that would normally be caused by surface runoff would be reduced. The amount of flow within the stream channel may change; however, the channelized drainage pattern would remain essentially unchanged.

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

Answer: Less than significant with mitigation

Discussion: Reasonably foreseeable non-structural controls are unlikely to result in alterations to the course of flow of flood waters because none of the controls would introduce any physical effects that could impact these characteristics.

The course of flow of flood waters may change depending on the structural controls selected. Structural controls, such as sand filters, could reduce a storm drain's ability to convey flood waters. This can be mitigated through proper design (including flood water bypass systems), sizing, and maintenance of these types of structural controls. Other structural controls, such as sewer diversions, detention basins or infiltration basins, could alter the volume of flood waters by diverting a portion of the flood waters, but these controls are unlikely to alter the course of flood waters.

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

Answer: Less than significant

Discussion: Implementation of non-structural controls could result in a reduction in the amount of dry weather surface water in the watersheds. Because the reduction of nuisance flows would return the watersheds to a more natural, predevelopment condition, this impact is considered less than significant.

Depending on the structural controls selected, surface runoff may be retained and/or diverted for groundwater infiltration and/or reused. Water that is retained or diverted would not flow into creek and stream channels or storm drains. Because the surface water runoff to the creeks would be reduced, the adverse effects of channel scour and erosion of the creeks would also be reduced.

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: Less than significant with mitigation

Discussion: Non-structural and/or structural controls would not result in any additional discharge to surface waters. Depending on the structural controls

selected, the current amount of surface runoff discharged to surface waters may actually be reduced if diverted for groundwater infiltration, reuse, or to wastewater collection system and treatment facilities.

During wet weather discharges, certain structural controls (including detention basins, infiltration basins, and sand filters) would reduce turbidity and increase dissolved oxygen, because these controls would remove sediment and bioavailable oxygen demanding substances from the surface water. However, reduced turbidity, and increased dissolved oxygen does not typically result in an adverse effect on the environment.

Onsite facilities may be employed for treatment of dry weather or storm flows that use oxidizing agents such as ozone for disinfection, which can result in decreased bacteria loads. If not used properly, use of these technologies can result in adverse alteration of surface water quality because of the production of disinfection by-products. For example, if a surface water has significant concentrations of bromide, reaction with ozone can cause the formation of brominated by-products that can cause both immediate and delayed toxicity to marine organisms even after relatively short periods of ozonation.²⁰ Mitigation measures could include removal of bromide before contact with ozone occurs, or not using this treatment method where high concentrations of bromide are present.

A reduction of dry weather discharges (i.e., a cessation or reduction in nuisance flows) would result in a reduction of overall surface runoff flow during the dry season. This could result in a water temperature increase, and a decrease of dissolved oxygen in dry weather pools.

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

Answer: Less than significant with mitigation

Discussion: Non-structural controls would not result in alteration of the direction or rate of flow of groundwaters because none of the controls would introduce any physical effects that could impact these characteristics.

Over the long term, infiltration of stormwater runoff via infiltration type structural controls such as vegetative strips could significantly alter the direction or rate of flow of groundwater. This could result in unstable earth conditions if such controls were to be located where infiltrated stormwater flowing as groundwater could destabilize existing slopes. As discussed in the answer to question 1.a, these impacts can be

²⁰ William Cooper et al. 2002. Final Report. *Ozone, seawater, and aquatic nonindigenous species: Testing a full-scale ozone ballast water treatment system on an American oil tanker.*

avoided by siting infiltration type structural controls away from areas with loose or compressible soils, and away from slopes that could become destabilized by an increase in groundwater flow. Infiltration type structural controls can also be built on a small enough scale to avoid these types of impacts. In the unlikely event that dischargers might install facilities on a scale that could result in unstable earth conditions, potential impacts could be avoided through proper groundwater investigations, siting, design, and groundwater level monitoring to ensure that structural controls are not employed in areas where slopes could become destabilized.

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

Answer: Less than significant with mitigation

Discussion: Non-structural controls will not change the quantity or quality of groundwaters because none of these controls would introduce any physical effects that could impact these characteristics.

Infiltration type structural controls such as infiltration trenches may increase the quantity and degrade the quality of groundwaters. The increase in quantity is unlikely to have any adverse effects since, under pre-development conditions, infiltration rates of stormwater runoff to groundwater were most likely much higher than they are today due to the absence of hardscapes. However, as discussed in question 3.f above, increased infiltration of stormwater near steep slopes, such as canyon walls, could potentially destabilize these slopes by saturating the soils, making them more prone to sliding. Mitigation could include not siting large infiltration structural controls near canyon walls or other steep slopes.

In addition to bacteria, stormwater also contains dissolved pollutants such as nutrients, metals, pesticides, hydrocarbons, oil and grease. However, infiltration based structural controls are not expected to degrade groundwater with respect to these pollutants for the following reasons.

Ambient nitrogen and phosphorus concentrations in groundwater are likely higher than nutrient concentrations in stormwater due to decades of over application of fertilizers on domestic and commercial landscapes, and deep percolation of applied irrigation water. Nonetheless, if stormwater nutrient concentrations are higher than ambient concentrations in the groundwater, mitigation could include education and outreach to homes and business to better manage fertilizer use. Phytoremediation can also be used to remove nutrients from stormwater runoff.

Bacteria and metals in stormwater runoff are not expected to degrade groundwater quality since they tend to adsorb to clay and organic particles in the soil. Likewise,

oil and grease would become bound up in the soil and remain nearer to the surface due to lower densities. Pesticides and hydrocarbons are not expected to degrade groundwater quality because natural bacteria in the soil and groundwater tend to break down pesticides.

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

Answer: No impact

Discussion: Reasonably foreseeable non-structural and/or structural controls will not reduce public water supplies because most of the public water supplies for the watersheds included in these TMDLs are imported from outside the region.

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

Answer: Less than significant with mitigation

Discussion: Reasonably foreseeable non-structural controls would not result in exposure of people or property to water related hazards such as flooding or tidal waves because none of these controls would introduce any physical effects that could impact these characteristics.

Installation of structural controls that are not properly designed and constructed to allow for bypass of stormwater during storms that exceed design capacity can cause flooding. However, this potential impact can be mitigated through proper design and maintenance of structural controls. Any modifications to the watershed hydrology should be modeled and accounted for in the design of structural controls.

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: Less than significant

Discussion: Implementing non-structural controls will not directly result in change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants) because most of these controls would not introduce any physical effects that could impact these characteristics.

However, the reduction or elimination of nuisance flows could result in a change in the diversity of species, or number of any species of plants, especially in the dry weather season. No adverse impacts are expected because the elimination of nuisance flows would return the dry weather flows to a more natural, pre-development condition. This in turn would facilitate the return of the plant community to a more natural, pre-development condition and could impede the propagation of water-loving non-native and invasive plant species. Impeding the propagation of invasive species is not an adverse impact. Additionally, because these watersheds are located within urbanized areas, the diversity of species, or number of any species of plants is more dependent on anthropogenic activities rather than natural propagation.

The installation of structural controls such as vegetated swales or buffer strips could increase the diversity or number of plant species. During storm events, structural controls could also divert, reduce, and/or eliminate surface water runoff discharge, which may reduce the number and/or diversity of plant species dependent on such flows. However, surface runoff rates were most likely much lower than they are today due to the absence of hardscapes, and structural controls such as vegetated swales and buffer strips would likely restore surface runoff flows closer to more natural, pre-development conditions.

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

Answer: Less than significant with mitigation

Discussion: Implementing non-structural controls will not directly result in a reduction of the numbers of any unique, rare, or endangered species of plants because these controls will not affect the habitat of any unique, rare, or endangered species of plants.

Depending on the type of discharge and/or structural controls selected, direct or indirect impacts to special-status plant species may occur during and after the waste discharge and/or construction of structural controls. However, when the specific projects are developed and sites identified, a focused protocol plant survey and/or a search of the California Natural Diversity Database should be performed to confirm that any potentially sensitive or special status plant species in the site area are properly identified and protected as necessary. If sensitive plant species occur on the project site, mitigation is required in accordance with the Endangered Species Act. Mitigation measures should be developed in consultation with the California Department of Fish and Game (CDFG) and the United States Fish and Wildlife Service (USFWS). Therefore, responsible agencies should avoid installing structural controls that could result in reduction of the numbers of unique, rare or endangered

species of plants, and instead opt for non-structural controls and/or identify and install structural controls in areas that will not reduce the numbers of such plants.

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: Less than significant with mitigation

Discussion: Implementing non-structural controls will not result in introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species because most of the controls would not introduce any physical effects that could impact these characteristics. However, the reduction or elimination of nuisance flows could result in the introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species especially in the dry weather season. However, no adverse impacts are expected as discussed in the answer to question 4.a.

For structural controls that may include the use of plants, such as vegetated swales or buffer strips, 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 (1999, California Invasive Plant Council, as amended) should be prohibited

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

Answer: No impact

Discussion: Reasonably foreseeable non-structural and/or structural controls are not expected to result in a reduction in acreage of agricultural crops because the subwatersheds addressed in these TMDLs do not include agricultural land uses.

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: Less than significant

Discussion: Implementing non-structural controls will not directly 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) because the controls would not introduce any physical effects that could impact these characteristics. However, the reduction or elimination of nuisance flows could result in change in the diversity of species, or numbers of any species of animals, due to a reduction of dry weather flows that could eliminate habitats dependant on those flows. However, this would return dry weather flows in the watersheds to a more natural, pre-development condition as discussed in the answer to question 4.a. Animal species that thrive in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. Impeding the propagation of invasive species is not an adverse impact.

The installation of structural controls such as vegetated swales or buffer strips could increase the diversity or number of animal species by providing habitat. Structural controls could also divert, or reduce storm water runoff discharge, which could decrease the number and/or diversity of animal species by eliminating habitat dependant on those flows. However, native communities of animals can thrive under lower streamflow conditions than what currently exist.

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

Answer: Less than significant with mitigation

Discussion: Implementing non-structural controls will not result in a reduction of the numbers of unique, rare or endangered species of animals because these controls will not cause a reduction in habitat for unique, rare, or endangered animals.

Depending on the type of discharge and/or structural controls selected, direct or indirect impacts to special-status animal species may occur during and after construction. Special-status species may be present in these watersheds. If special status species are present during activities such as ground disturbance, construction, operation and maintenance activities associated with the potential projects, direct impacts to special status species could result including the following:

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

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

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

Mitigation measures, however, could be implemented to ensure that special status animals are not negatively impacted, nor their habitats diminished. For example, when the specific projects are developed and sites identified, a focus protocol animal survey and/or a search of the 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 should 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.

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: Less than significant mitigation

Discussion: Implementing non-structural controls will not result in introduction of new species of animals into an area, or in a barrier to the migration or movement of animals because the controls would not introduce any physical effects that could impact these characteristics. However, the reduction or elimination of nuisance flows 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 to return to a more natural, pre-development condition, as discussed in the answer to question 4a. Animal species that thrived in the absence of nuisance flows should not be adversely impacted by habitat changes if the flows are eliminated. Impeding the propagation of invasive species is not an adverse impact.

Implementing structural controls would not foreseeably introduce new species. Construction of reasonably foreseeable structural controls likely would not restrict wildlife movement because the sizes of structural controls 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 controls built, such as animal exclusions, that may impede some wildlife migration, fence gaps large enough to allow migrating wildlife to pass through could be included in the design.

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

Answer: Less than significant with mitigation

Discussion: Implementing non-structural controls will not directly result in deterioration to existing fish or wildlife habitat as discussed in the answers to questions 4 and 5.

Depending on the structural controls selected, direct or indirect impacts to existing fish or wildlife habitat may occur. In urbanized areas, the installation of structural controls would not likely result in the deterioration of existing fish and or wildlife habitat in the immediate area of a project. Nonetheless, potential effects on fish or wildlife habitat can be minimized or eliminated by reducing the size of structural controls and limiting the encroachment and/or removal of animal habitat.

Structural controls could also divert, reduce, and/or eliminate stormwater runoff discharge, which would no longer reach the receiving waters at the impaired shoreline segment. These discharges are not expected to change the fish and wildlife habitat at the shorelines due to the relatively insignificant amount of discharge compared to the volume of the receiving waters.

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

Answer: Less than significant with mitigation

Discussion: Non-structural controls could result in increases in existing noise levels due to increased traffic from street sweepers and/or 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 and is therefore, less than significant.

The construction and installation of structural controls 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 for humans. For some special status wildlife species, however, even temporary increases in noise levels could result in significant impacts. For example, special status birds might abandon nesting sites in response to the stress of noise impacts. Mitigation measures for increased noise levels that adversely affect rare and endangered species are discussed under question 5 b.

The noise associated with the construction and installation of structural controls would be the same as typical construction activities in urbanized areas, such as ordinary road and infrastructure maintenance and building activities. 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 prepared to identify the variety of available measures to limit the impacts from noise to adjacent homes and businesses.

Severe noise levels could be mitigated by implementing commonly-used noise abatement procedures, such as sound barriers, mufflers, and limiting construction and maintenance activities to times when these activities have lower impact, such as periods when there are fewer people near the construction area. Applicable and appropriate mitigation measures could be evaluated when specific projects are determined, depending upon proximity of construction activities to receptors.

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

Answer: Less than significant

Discussion: Non-structural controls would not result in increases in exposure of people to severe noise levels because none of these controls would introduce any physical effects that could impact this characteristic. Increased traffic from street sweepers and/or maintenance vehicles may increase the noise level temporarily as the vehicles pass through an area, but these levels will not be severe.

There is the possibility that severe noise levels could be emitted during construction activities. The increase in noise levels could be mitigated by implementing commonly-used noise abatement procedures, such as sound barriers, mufflers, and limiting construction and maintenance activities to times when these activities have lower impact, such as periods when there are fewer people in the area. Applicable and appropriate mitigation measures should be evaluated when specific projects are determined, depending upon proximity of construction activities to receptors.

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

Answer: Less than significant with mitigation

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

The construction and installation of structural controls could potentially be performed during evening or night time hours. If this scenario were to occur, night time lighting would be required to perform the work. Also, lighting could possibly be used to increase safety around structural controls. If temporary artificial lighting is required for construction purposes, this could be stressful for some rare and endangered species. For example, special status birds might abandon nesting sites in response to the stress of light and glare impacts. Mitigation measures for artificial light or glare that adversely affect rare and endangered species are discussed under question 5 b.

In the unlikely event that construction is performed during night time hours, 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 using screening and low-impact lighting, performing construction during daylight

hours, or designing security measures for installed structural controls that do not require night lighting.

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

Answer: Less than significant

Discussion: Non-structural controls will not result in alteration of the present or planned land use of an area because none of the controls would introduce any physical effects that could impact land uses.

Implementation of structural controls may potentially cause minor alterations in present or planned land use of an area. However, municipalities are not required or expected to change present or planned land uses to comply with the TMDLs, and are encouraged to seek alternatives that would have the lowest impact on the land use and the environment. Potential conflicts between complying with the TMDLs and other land uses can be resolved by standard planning efforts under which specific projects are reviewed by local planning agencies. Applicable and appropriate mitigation measures could be evaluated when specific projects are determined, and a cost-benefit analysis of proposed compliance alternatives should be performed.

More reasonable alternatives should be evaluated and implemented, such as non-structural controls and low impact and/or small scale structural controls, before considering an alternative that would create considerable hardship for the community in the area.

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

Answer: No impact

Discussion: Non-structural and/or structural controls will not increase the rate of use of any natural resources. Implementation of non-structural and/or structural controls should not require quarrying, mining, dredging, or extraction of locally important mineral resources. Operation of street sweepers, construction, and maintenance vehicles could increase the use of fossil fuels, and some types of equipment used in structural controls may consume electricity to operate pumps, etc. However, the relative amounts of additional fossil fuel and electricity that might be used would fall well within the capacity and expectations of the region's normal rate of use of natural resources. The additional use of fossil fuels and electricity

could be offset and reduced if dischargers used alternative fuels and/or renewable energies to power their vehicles and equipment.

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

Answer: No impact

Discussion Non-structural and/or structural controls will not substantially deplete any non-renewable natural resource. Operation of street sweepers, construction, and maintenance vehicles could increase the use of fossil fuels, and some types of equipment used in structural controls may consume electricity to operate pumps, etc. However, the relative amounts of additional fossil fuel and electricity that might be used would fall well within the capacity and expectations of the region's energy supply and natural resources. The additional use of fossil fuels and electricity could be offset and reduced if dischargers used alternative fuels and/or renewable energies to power their vehicles and equipment.

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: Less than significant

Discussion: Non-structural and structural controls will not 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. The reasonably foreseeable non-structural and structural controls included in this evaluation would not be subject to explosion or the release of hazardous substances in the event of an accident because these types of substances would not be present. There is the possibility that hazardous materials (e.g., paint, oil, gasoline) may be present during construction and installation activities, 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 construction and installation activities.

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

Answer: Less than significant

Discussion: Non-structural controls will not alter the location, distribution, density, or growth rate of the human population of an area because none of the controls would introduce any physical effects that could impact these characteristics.

Implementation of structural controls may potentially alter the location, distribution, density, or growth rate of the human population of an area. However, dischargers are not required or expected to change present or planned land uses to comply with the TMDLs, and dischargers are encouraged to seek alternatives that would have the lowest impact on the existing and planned population of an area. Potential conflicts between complying with the TMDLs and planned growth can be resolved by standard planning efforts under which specific projects are reviewed by local planning agencies. Applicable and appropriate mitigation measures could be evaluated when specific projects are determined.

More reasonable alternatives should be evaluated and implemented, such as non-structural controls and low impact and/or small scale structural controls, before considering an alternative that would create the need to relocate the population of parts of the watersheds.

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

Answer: Less than significant

Discussion: Non-structural controls will not affect existing housing, or create a demand for additional housing because none of these controls would introduce any physical effects that could impact housing.

Implementation of structural controls may potentially affect existing housing. However, dischargers are not required or expected to change present or planned land uses to comply with the TMDLs, and dischargers are encouraged to seek alternatives that would have the lowest impact on land use and the environment. Potential conflicts between complying with the TMDLs and other land uses can be resolved by standard planning efforts under which specific projects are reviewed by local planning agencies. Applicable and appropriate mitigation measures could be evaluated when specific projects are determined.

More reasonable alternatives should be evaluated and implemented, such as non-structural controls and low impact and/or small scale structural controls, before considering an alternative that would create considerable hardship for the community in the area.

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

Answer: Less than significant

Discussion: Non-structural and/or structural controls will not result in generation of substantial additional long-term vehicular movement. There may be additional vehicular movement during construction of structural controls and during street sweeping and/or maintenance activities. However, vehicular movement during construction would be temporary, and vehicular movement during street sweeping and/or maintenance activities would be periodic and only as the vehicle passes through the area. This may generate minor additional vehicular movement. However, no long-term impacts are expected because any increase in maintenance vehicular activities would fall well within the present day activities in any municipality..

In order to reduce the impact of short-term 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.

The potential impact to vehicular movement can be reduced if street sweeping and/or maintenance activities are scheduled to be performed at the same time as other maintenance activities performed by municipalities, or at times when these activities have lower impact, such as periods of low traffic activity.

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

Answer: Less than significant with mitigation

Discussion: Non-structural controls may affect existing parking facilities, or create demand for new parking structures, if increased street sweeping and/or maintenance is implemented in areas with parking along roadsides. Available parking in an area could be reduced during certain times of the day, week, and/or month, depending on frequency of street sweeping and/or maintenance events. Street sweeping and 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.

Depending on the structural controls selected, alterations to existing parking facilities may occur to incorporate structural controls. This could reduce available parking in an area. However, structural controls can be designed to accommodate space constraints or be placed under parking spaces and do not have to occupy space in existing parking facilities. Available parking spaces can be reconfigured to provide equivalent number of spaces or provide functionally similar parcels for use as offsite parking to reduce potential impacts.

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

Answer: Less than significant

Discussion: Non-structural controls will not result in significant impacts upon existing transportation systems. The only foreseeable impact would come from increased street sweeping, however long-term impacts are unlikely because any increase in maintenance vehicular activities would fall well within the present day activities in any municipality, and would therefore not qualify as substantial.

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

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

Answer: Less than significant

Discussion: Non-structural controls will not result in alterations to present patterns of circulation or movement of people and/or goods, because none of the controls, including increased street sweeping, would introduce any physical effects that could impact these characteristics. No long-term impacts are expected because any increase in maintenance vehicular activities would fall well within the present day activities in any municipality.

Depending on the structural controls selected, temporary alterations to present patterns of circulation or movement of people and/or goods may be required during construction and installation activities. The potential impacts would be limited and short-term. Potential impacts could be reduced by limiting or restricting hours of construction so as to avoid peak traffic times and by providing temporary traffic signals and flagging to facilitate traffic movement.

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

Answer: No impact

Discussion: Reasonably foreseeable non-structural and/or structural controls would not be of the size or scale that would result in alterations to waterborne, rail or air traffic.

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

Answer: Less than significant

Discussion: Non-structural controls could result in an increase in traffic hazards to motor vehicles, bicyclists or pedestrians due, for example, to increased street sweeping. However, any foreseeable impact from increased street sweeping would fall well within the present day conditions in any municipality, and would therefore not present new safety concerns.

Depending on the structural controls selected, a temporary increase in traffic hazards may occur during construction and installation activities. The specific

project impacts can be reduced and mitigated by marking, barricading, and controlling traffic flow 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.

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

Answer: Less than significant

Discussion: Non-structural controls will not have an effect upon, or result in a need for new or altered fire protection services because none of the controls would introduce any physical effects that could impact this service.

During construction and installation of structural controls, temporary delays in response time of fire vehicles due to road closure/traffic congestion during construction activities 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. In any case, the installation of structural devices would not create any more significant impediments than such other ordinary activities

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

Answer: Less than significant

Discussion: Non-structural controls will not have an effect upon, or result in a need for new or altered police protection services because none of the controls would introduce any physical effects that could impact this service.

During construction and installation of structural controls, temporary delays in response time of police vehicles due to road closure/traffic congestion during construction activities may occur. The responsible agencies could notify local police service providers of construction activities and road closures and could coordinate with local police to establish alternative routes and traffic control during construction projects. In addition, an Emergency Preparedness Plan could be developed for the 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 police 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. In any case, the installation of structural devices would not create any more significant impediments than such other ordinary activities.

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

Discussion: Reasonably foreseeable non-structural and/or structural controls will not have an effect upon, or result in a need for new or altered school services because none of the controls would introduce any physical effects that could impact this service.

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: No impact

Discussion: Non-structural controls will not have an effect upon, or result in a need for new or altered parks or other recreational facilities because none of the controls would introduce any physical effects that could impact parks or recreational facilities.

During construction and installation of structural controls, 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.

In the unlikely event that the municipalities might install facilities on a scale that could alter a park or recreational facility, the structural controls could be designed in such a way as to be incorporated into the park or recreational facility. Additionally, should an impermeable detention basin be required, this could be constructed underground to avoid the need for new or altered parks or other recreational facilities.

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: Less than significant with mitigation

Discussion: Non-structural controls may include additional road maintenance such as additional and/or increased street sweeping. Structural controls may require additional maintenance by dischargers to ensure proper operation. As discussed above for Questions 2, 6, and 13, additional or increased street sweeping and maintenance activities could affect air, noise, and transportation/circulation. The increase in air pollutants and noise levels would be no greater than typical street sweeping and maintenance activities currently performed by the municipalities. Street sweeping and 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.

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: Less than significant with mitigation

Discussion: As discussed above, non-structural and/or structural controls may include increased street sweeping and/or additional maintenance by dischargers to ensure proper operation of newly installed structural controls. However, the potential impacts to air, noise, and transportation/circulation would be no greater than typical street sweeping and maintenance activities currently performed by municipalities. Street sweeping and 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.

Implementation of the TMDLs will result in the need for increased monitoring in the watersheds and to track compliance with the TMDLs. However, no effects to the environment would be expected from these monitoring activities.

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

Answer: No impact

Discussion: Reasonably foreseeable non-structural and/or structural controls will not result the use of substantial amounts of fuel or energy. As discussed above for Question 9, operation of street sweepers, construction, and maintenance vehicles could increase the use of fossil fuels, and some types equipment used in structural BMPs may consume electricity to operate pumps, etc. The additional use of fossil fuels and electricity could be reduced if the dischargers used alternative fuels and/or renewable energies to power their vehicles and equipment.

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: No impact

Discussion: Reasonably foreseeable non-structural and/or structural controls will not result a substantial increase in demand upon existing sources of energy, or require the development of new sources of energy. As discussed for Questions 9 and 15a above, operation of street sweepers, construction, and maintenance vehicles could increase the use of fossil fuels, and some types of equipment used in structural controls may consume electricity to operate pumps, etc. The additional use of fossil fuels and electricity could be reduced if the dischargers used alternative fuels and/or renewable energies to power their vehicles and equipment.

If alternative sources of energy are used, sources of alternative energy and fuel may be needed. Equipment and components for renewable sources of energy such as solar or wind are readily available. Alternative fuels such as ethanol or biodiesel are commercially available and can be used. Sources of new energy are not required to be developed.

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

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

Installation of structural controls 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 controls. The degree of alteration depends upon local system layouts which careful placement and design can minimize. However, that the installation of structural controls will result in a substantial increased need for new systems, or substantial alterations to power or natural gas utilities, is not reasonably foreseeable, because none of these controls 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.

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

Discussion: Reasonably foreseeable non-structural controls will not result in a need for new or substantial alterations to communications systems because none of the controls would introduce any physical effects that could impact these utilities.

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

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

Answer: No impact

Discussion: Reasonably foreseeable non-structural and/or structural controls will not result in a need for new or substantial alterations to water lines. The need for new municipal or recycled water to implement these TMDLs 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: Less than significant

Discussion: Non-structural and/or structural controls will not result in a need for new systems or alterations to sewer or septic tanks because none of the controls would introduce any physical effects that could impact these utilities.

Depending on the structural controls selected, a portion or all of the surface water runoff may be diverted to wastewater collection system and treatment facilities. If stormwater is diverted for treatment at a wastewater collection system and treatment facility, new connections to existing sanitary sewer lines may be required, but no new major sewer trunks or substantial alterations to sewer system would be expected because controls utilizing the sewer would likely contribute small amounts of first flush storm water. Any environmental affects from associated construction activities would be small scale and short-term and similar to typical municipal capital improvement projects.

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

Answer: Less than significant

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

In order to achieve compliance with the TMDLs, the stormwater drainage systems may need to be reconfigured and/or retrofitted with structural controls 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 discharger at each location where structural controls might be installed. Impacts from construction activities to retrofit or reconfigure the storm drain system as part of installation, and mitigation measures have been considered and discussed in the previous responses to the questions.

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

Answer: Less than significant

Discussion: Most non-structural controls will not result in a need for new systems, or substantial alterations to the solid waste and disposal systems because none of the controls would introduce any physical effects that could impact these utilities. In urbanized areas, increased street sweeping would generate additional solid waste, but this additional waste is not expected to exceed the maintenance capacity of normal city operations. No new solid waste or disposal systems would be expected.

The installation of structural controls may generate construction debris. Additionally, installed structural controls 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.

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

Answer: Less than significant with mitigation

Discussion: As discussed above for Questions 2 and 13, non-structural controls such as street sweeping and maintenance vehicles could have an effect on air and transportation/circulation. Non-structural controls could increase the amount of pollutants emitted into the atmosphere above ambient conditions. Non-structural controls could also increase traffic, which could potentially decrease the safety of pedestrians. In both cases, potential impacts can be reduced or eliminated if street sweeping and/or maintenance activities are scheduled to be performed at the same time as other maintenance activities performed by the dischargers, or at times when these activities have lower impact, such as periods of low traffic activity.

As discussed above for questions 1, 2, 3, 5, and 13, the installation of structural controls could have an effect on earth, air, water, animal life, and transportation/circulation. Structural controls 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 controls could increase the amount of pollutants the air, which could have an effect on health. Structural controls could potentially result in additional habitat and/or standing water which can attract pests, such as flies, mosquitoes and/or rodents, which can be carriers of disease. Maintenance of structural controls 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 controls 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 controls are not employed in areas subject to unstable soil conditions. Potential health hazards attributed to installation and maintenance of structural controls can be mitigated by use of OSHA construction and maintenance health and safety guidelines. Potential health hazards attributed to maintenance activities can be mitigated through OSHA industrial hygiene guidelines. Installation of non-vector producing structural controls can help mitigate vector production from standing water. Netting can be installed over structural controls to further mitigate vector production. Structural controls 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 controls 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 controls.

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

Answer: Less than significant with mitigation

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

That dischargers would comply with this TMDL by installing structural controls that would adversely affect a scenic vista or view open to the public is not reasonably foreseeable. Most structural controls that will likely be used can be constructed as subsurface devices, such as sand filters. Once completed, structural controls would not foreseeably obstruct scenic vistas or open views to the public. In the unlikely event that the dischargers might install facilities on a scale that could obstruct scenic views, such impacts could be reduced or eliminated with appropriate planning, design, and siting of the structural controls. Additionally, many structural controls can, if necessary, be constructed underground to eliminate aesthetic issues

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

Answer: Less than significant with mitigation

Discussion: Non-structural controls will not result in the creation of an aesthetically offensive site open to public view because none of the controls would introduce any physical effects that could impact this characteristic.

The installation of structural controls could potentially create an aesthetically offensive site open to public view. Structural controls may create an aesthetically offensive site to the public during construction and installation, but this would be temporary until construction is completed. Once installation of the structural controls is complete, the site may continue to be aesthetically offensive to the public. However, many structural controls can be designed to provide wildlife habitat, recreational areas, and green spaces in addition to improving stormwater quality. Appropriate architectural and landscape design practices can be implemented to reduce adverse aesthetic effects. Screening and landscaping may also be used to mitigate adverse aesthetic effects. The adverse aesthetic effects could be reduced or eliminated and possibly improved with appropriate planning and design of the structural controls. Additionally, many structural controls can, if necessary, be constructed underground to eliminate aesthetic issues.

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

Answer: Less than significant with mitigation

Discussion: Non-structural controls will not result in impact on the quality or quantity of existing recreational opportunities because none of the controls would introduce any physical effects that could impact these characteristics.

During construction and installation of structural controls, parks or other recreational areas could be temporarily affected. Construction activities could potentially be performed near or within a park or recreational area. Potential impacts would be limited and short-term, and could be avoided through proper siting, design, and scheduling of construction activities.

In the event that the municipalities might install facilities on a scale that could alter a park or recreational area, the structural controls could be designed in such a way as to be incorporated into the park or recreational area. Additionally, any structural controls can, if necessary, 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.

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

Answer: Less than significant with mitigation

Discussion: Non-structural controls will not result in the alteration of a significant archeological or historical site, structure, object or building because none of the controls would introduce any physical effects that could impact these characteristics.

In the unlikely event that dischargers might install facilities on a scale that could result in significant adverse effects on a significant archeological or historical site, structure, object or building, a project level, site-specific environmental assessment should be performed to identify the mitigation measures that could be employed to minimize the potential effects on archeological or historical sites and identify alternatives that could potentially be used that would have less impact. The agencies responsible for implementing this TMDL could consult the relevant local archeological or historical commissions or authorities to identify these types of sites and determine ways to avoid significant adverse impacts. The potentially adverse effects on archeological or historical sites that might be present could be reduced or eliminated with appropriate planning, design, and siting of the structural controls.

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?

Answer: Less than significant with mitigation

Discussion: Non-structural controls will not result in the substantial degradation of the environment for plant and animal species because none of the controls would introduce any physical effects that could impact these characteristics.

As discussed above in Questions 4 and 5, plant and animal species could potentially be adversely affected by the installation and operation of structural controls. Mitigation measures could be implemented to ensure that unique, rare or endangered plant and/or animal species and their habitats are not taken or destroyed. When specific projects are developed and sites identified, a focused protocol plant and/or animal survey and/or a search of the California Natural Diversity Database should be performed to confirm that any potentially sensitive or special status plant and/or animal species in the site area are properly identified and protected as necessary. If sensitive plant and/or animal species occur on the project site, mitigation is required in accordance with the Endangered Species Act. Mitigation measures should be developed in consultation with the CDFG and the USFWS. Dischargers should avoid installing structural BMPs that could adversely affect any unique, rare or endangered species of plants and/or animals, and instead opt for non-structural controls and/or identify and install structural controls that will have little or no impact such as underground structural controls.

Taken all together, the potential impacts of the project will not cause a significant cumulative impact in the environment. In any case, the implementation of this TMDL will result in improved water quality in the waters of the Region and the environment over the long term.

21.Mandatory Findings of Significance - 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.)

Answer: No impact

Discussion: There are no short-term beneficial effects on the environment from the implementation of non-structural and/or structural controls that would be at the expense of long-term beneficial effects on the environment. The implementation of non-structural and/or structural controls to comply with the proposed waiver conditions will result in improved water quality in the waters of the Region and the environment over the long term.

21.Mandatory Findings of Significance - Cumulative: Does the project have impacts which are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Answer: Less than significant with mitigation

Discussion: 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 bacteria TMDLs, but also the impacts from other TMDL, municipal, and private projects, which have occurred in the past, are presently occurring, and may occur in the future, in the watershed during the period of implementation.

Past and present projects may be regarded as the general construction (development and maintenance) which has brought several regional creeks from a natural, pristine condition, to the urban, developed setting which is present today. This provides a baseline level of construction with which to compare all water quality project requirements. The past and present baseline of construction in the urbanized watersheds will probably remain constant in the future. The increment of increased construction proposed by the cumulative requirements of all water quality requirements can be mitigated through scheduling, and is insignificant compared to the past and on-going baseline of typical municipal construction.

Present and future impacts will come from all of the water quality control programs

and pollutant load reduction projects being implemented in the watershed or planned for the near future. This includes waterbodies for which other TMDLs are to be developed, and projects to comply with the WDRs in Order Nos. R9-2007-0001 and R9-2002-0001 (the San Diego County and Orange County municipal stormwater requirements).

Cumulative impacts of these bacteria TMDLs and other water quality control programs are not expected to be significant because effective non-structural controls, that have no identified significantly adverse impacts, will most likely be an initial strategy for implementation of the bacteria TMDLs. For example, the bacteria TMDLs can be implemented through education and outreach, and enforcement of ordinances requiring pet owners to properly dispose of pet waste, ordinances prohibiting disposal of grease, food products, and other bacteria-laden waste products into the storm drain, and ordinances curbing nuisance flows into the stormdrain system. Another important bacteria load reduction program is to find and fix illegal cross-connections between the sanitary sewer system and the stormdrain system. Fixing cross connections between the storm drain and sanitary sewer systems may increase the overall number of construction projects needed in the watershed to implement TMDLs. However, estimating the number of cross-connections that might exist is purely speculative. Further, these types of construction projects are on a small scale and fall well within typical municipal capital improvement and maintenance activities. Additionally, some of these practices, such as curbing nuisance flows, will be effective at addressing other pollutants in addition to bacteria. Therefore the cumulative effects will not be considerable, and can be mitigated, if necessary, through scheduling.

The dischargers may opt to use structural controls to reduce bacteria and other pollutants to the watersheds, which would increase the likelihood of environmental effects that are cumulatively considerable. The City of San Diego funded an assessment of best management practice (BMP) strategies that would lessen the anticipated impacts and allow an integrated TMDL strategy that address both current and anticipated TMDLs in Chollas Creek. In this study,²¹ the authors recommended a strategy that used a tiered approach that reduces the impact to the environment, and allows for more cost effective implementation of lower-impact BMPs. The tiered approach consists of three major components:

- Tier 1 – Control of Pollutants at the Source and Prevent Pollutants from Entering Runoff
- Tier 2 – Conduct Design Studies and Implement Aggressive Street Sweeping and Runoff and Treatment Volume Reduction BMPs
- Tier 3 – Infrastructure Intensive Treatment BMPs

Implementation of this BMP strategy, because it emphasizes BMPs with the least adverse impacts to the environment, should reduce cumulative impacts to less than

²¹ Weston Solutions, 2006. *Chollas Creek TMDL Source Loading, Best Management Practices, and Monitoring Strategy Assessment*, September, 2006.

significant levels. Although this study was specific to Chollas Creek, the recommended strategy is applicable to reducing pollutants in all watersheds.

Present and future specific TMDL projects may include construction of structural controls which must be environmentally evaluated for potential cumulative impacts by the implementing municipality. Present and future specific TMDL projects and other construction activities may result in short-term cumulative impacts as described below. However, appropriate and available mitigation measures, including scheduling, are available to reduce adverse environmental impacts associated with construction to less than significant levels.

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 installation sites, and in the context of other related projects, are not likely to be cumulatively considerable due to the temporary nature of noise increases and the small scale of the projects. Noise mitigation methods including scheduling of construction are discussed above, and should be used to keep cumulative noise and vibration affects to acceptable levels.

Air Quality - Implementation of the bacteria TMDL program may cause additional emissions of air pollutants and slightly elevated levels of carbon monoxide during construction activities. Emission of air pollutants resulting from installation of TMDL compliance devices may exceed certain regulatory thresholds, and therefore the TMDL, in conjunction with all other construction activity, may contribute to the region's overall exceedance of certain regulatory thresholds during the installation period. However, because these installation-related emissions are temporary, compliance with the TMDL would not result in long-term cumulatively considerable air quality impacts. Short-term impacts can be avoided through scheduling.

Transportation and Circulation - Compliance with the bacteria TMDLs could involve installation activities occurring simultaneously at a number of sites within the watersheds included in this project. Installation of bacteria reduction structural controls may occur in the same general time and space as other related or unrelated projects. In these instances, construction activities from all projects could produce cumulative traffic effects depending upon a range of factors including the specific location involved and the precise nature of the conditions created by the numerous construction activities. Special coordination efforts may be necessary to reduce the combined effects to an acceptable level. Overall, cumulatively considerable impacts are not anticipated because coordination can occur and because transportation mitigation methods are available.

Public Services - The cumulative effects on public services due to the bacteria TMDLs would be limited to traffic inconveniences. These effects are not likely to be cumulatively considerable as long as alternative traffic route are available around construction sites.

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 elevated adverse visual effects. However, these effects are not cumulatively considerable in the long-term because the effects will cease with the completion of construction. Short-term impacts can be avoided through scheduling.

As analyzed above, the construction of structural controls, along with other construction and maintenance projects, could have short-term cumulative effects; however, these effects can be mitigated through proper construction scheduling. In addition, these effects are not cumulatively considerable in the long-term because the effects will cease with the completion of construction. In summary, appropriate and available mitigation measures, including scheduling, are available to reduce adverse environmental impacts associated with construction to less than significant levels.

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

Answer: Less than significant with mitigation

Discussion: All of the potentially significant impacts to human beings, such as air quality, noise, aesthetics, alterations to utilities, fire protection, police protections etc., are either short-term in nature, or can be mitigated to acceptable levels as previously discussed.

M.5.1 Alternative Means of Compliance

The CEQA requires an analysis of reasonably foreseeable alternative means of compliance with the rule or regulation, which would avoid or eliminate the identified impacts.²² The dischargers can use the non-structural and/or structural controls described in section D.3, or other non-structural and structural controls, to control and prevent pollution, and meet the TMDLs' required wasteload reductions. However, the non-structural and structural controls provided in section D.3 are by no means a complete and exhaustive list. The controls described in section D.3 simply provide a reasonable range of reasonably foreseeable method of compliance that may be used by the dischargers to meet the TMDLs' required load reductions.

The potential means of compliance with this TMDL Basin Plan amendment may consist of any combination of non-structural and structural controls that the dischargers might select to use. Because there are many additional controls that may be implemented, and innumerable ways to combine non-structural and/or structural controls, there are

²² California Code of Regulations Title 14 section 15187(c)(3)

also innumerable alternative means on compliance. Therefore, all of the possible alternative means of compliance cannot be discussed here. However, because most of the adverse environmental effects are associated with the construction and installation of structural controls, in order for dischargers to avoid or eliminate potential impacts to the environment, compliance alternatives should minimize the use of structural controls, maximize the use of non-structural controls, and site, size, and design any structural controls that may be used in ways to minimize or eliminate any potential environmental effects.

M.6 Reasonably Foreseeable Methods of Compliance at Specific Sites

The San Diego Water Board analyzed various reasonably foreseeable methods of compliance at specific sites within the subject watersheds. Because this project includes multiple watersheds, the specific sites analysis was focused on reviewing potential compliance methods within various land uses. The land uses cited below correspond to the land uses that were utilized for watershed model development (the watershed models are discussed extensively in section 6 of the Technical Report and Appendix F). Land uses in this analysis include: residential, parks/recreation, commercial/institutional, and industrial/transportation. These land uses represent a range of population densities and geographical settings found in the subject watersheds.

In this discussion of potential compliance methods, the San Diego Water Board assumed that, generally speaking, the methods suitable for the control of bacteria generated from a specific land use within a given watershed are also suitable for the control of bacteria generated from the same land use category within a different watershed. For example, a method used to control the discharge of bacteria from a residential area in the Baby Beach watershed is likely suitable to control the discharge of bacteria from a residential area in the Shelter Island Shoreline Park watershed. However, in addition to land use, selection of control methods includes considering site-specific geographical factors such as average rainfall, soil type, and the amount of impervious surfaces, and non-geographical factors such as available funding. Such factors vary between watersheds. The most suitable controls for a particular site must be determined by the dischargers in a detailed, project-specific environmental analysis.

The following discussion involves a programmatic level review of specific site compliance methods, or combination of compliance methods that have been or may be implemented in the subject watersheds, as well as other BMP examples that could potentially be implemented at additional sites. The dischargers are in no way limited to using the controls included here to comply with achieve TMDL compliance, and may choose not to implement these particular BMPs.

In order to meet TMDL requirements, dischargers will determine and implement the actual compliance method(s) after a thorough analysis of the specific sites suitable for BMP implementation within each watershed. In most cases, the San Diego Water Board anticipates a potential strategy to be the use of management measures, or other

non-structural controls as a first step in controlling bacteria discharges, followed by installation of structural controls if necessary.

M.6.1 Potential Controls for Residential Areas

Residential areas in the San Diego Region tend to have the highest population densities as compared to other land use categories. Thus, residential areas have the highest potential for producing human pathogens that can contaminate surface waters. Most of the residential areas are in urbanized areas.

In order to achieve TMDL compliance, residential land use areas, like the area shown in Figure M-1, may only require non-structural controls; however, structural controls could be retrofitted, if appropriate. Potential non-structural controls at this specific site include increased street sweeping, and development and enforcement of municipal ordinances prohibiting the discharge of bacteria and nuisance flows to stormwater and stormwater drainage pathways. Other potential controls include adoption and enforcement of ordinances to pick up pet waste, and regular inspections of storm drains for cross connections with the sanitary sewers.

Potential structural controls include the installation of storm drain filter sacks, which require routine maintenance. Residential areas should be designed with vegetative strips to control the velocity of runoff, increase infiltration, and prevent pollutants from entering stormwater drainage pathways, as shown in Figure M-1.

For a complete discussion of possible adverse effects of the types of controls discussed above, see section M.5.



Figure M-1. Buffer Strips in Residential Area, Santa Clara Avenue in Dana Point within Baby Beach Watershed

M.6.2 Potential Controls for Park and Recreational Areas

Park and recreational areas typically do not have housing or industrial units, thus population densities in these areas are low. However, parks and recreational areas may have significant use as dog walking areas, and be at risk for accumulating pet wastes.

In order to achieve TMDL compliance, park and recreational areas, may only require non-structural controls to encourage responsible actions by pet owners, and efficient irrigation practices that do not result in runoff leaving the site. Potential non-structural controls at this specific site include the availability of pet waste plastic bags and garbage cans, like the examples shown in Figures M-2 and M-3. Other non-structural controls include the enforcement of pet waste ordinances (see Figure M-3). No adverse environmental effects are expected from such measures.

Many park and recreation areas are used by animals, which can be a significant source of pollution if not properly managed. Another example of non-structural controls includes education of animal owners. Animal owners should be educated about proper management of their animal's wastes. For example, as shown in Figure M-3 a sign has been posted to encourage responsible actions by dog owners. Signs could also be posted so owners of larger pets, such as horses, are educated about how to properly manage their animals and animal wastes.



Figure M-2. Plastic Bag Dispenser at Shelter Island Shoreline Park in San Diego within Shelter Island Shoreline Park Watershed.



Figure M-3. Plastic Bag Dispenser and Sign at Dana Cove Park in Dana Point within Baby Beach Watershed.



Figure M-4. Buffer Strip at Shelter Island Shoreline Park, San Diego, Shelter Island Shoreline Park Watershed.

In some cases, structural controls may be required. Park and recreation areas can also be used to treat pollutants like a vegetated swale or buffer strip, as shown above in Figure M-4. These types of areas can provide wildlife habitat, are visually pleasing, and

are successful at reducing or removing a number of pollutants from surface runoff before reaching creek and stream channels.

For a complete discussion of possible adverse effects of the types of controls discussed above, see section M.5.

M.6.3 Potential Controls for Commercial/Institutional Areas

Population densities in commercial and institutional areas vary on an hourly basis but are relatively high in these areas, compared to other land uses. Commercial and institutional areas are located primarily in urbanized areas.

A potential strategy to achieve TMDL compliance includes non-structural controls, which may be sufficient to limit bacteria discharges. Commercial businesses and keepers of school grounds should use cleaning practices that contain pollutants instead of allowing them to enter conveyance systems. For example, debris and other waste should be swept up and disposed of properly, and trash receptacles should be available and properly maintained so access to trash by people and animals is limited, as shown in Figure M-5.



Figure M-5. Trash Receptacle Storage Area behind Business on Del Prado in Dana Point within Baby Beach Watershed.



Figure M-6. Vegetative Strip around Strip Mall on Del Prado in Dana Point within Baby Beach Watershed.

Potential structural controls include the installation of vegetative strips and grassy areas as part of landscaping to control the velocity of runoff, increase infiltration, and prevent pollutants from entering stormwater drainage pathways, as shown above in Figure M-6. Another potential structural BMP that could be utilized in areas where storm drains discharge directly into receiving waters with high recreational use is a dry weather diversion, which are widely used near popular swimming beaches. Dry weather diversions are effective at reducing or removing urban runoff, or nuisance flows, from reaching receiving waters by directing them into sewer systems. These structural controls are suitable in land use categories where the specific site has similar hydrologic settings (dry weather nuisance flows discharging directly into receiving waters).

For a complete discussion of possible adverse effects of the types of controls discussed above, see section M.5.

M.6.4 Potential Controls for Industrial and Transportation Areas

Population densities in industrial and transportation areas vary depending on time of day and also day of week, but are relatively high in these areas, compared to other land uses. Industrial and transportation areas are located primarily in urbanized areas.

Several industrial parks and roadways have adjacent landscaped areas where both management areas and structural controls could be designed to help reduce bacteria discharges to surface waters. Non-structural controls can include using manure fertilizers sparingly, and efficient irrigation practices that minimize the amount of runoff leaving the site. Landscaping can be designed to capture and control the velocity of runoff, increase infiltration, and prevent pollutants from entering stormwater drainage pathways. Additionally, pervious surfaces near transportation areas often have steep

slopes. To prevent erosion and the transport of sediment and bacteria to stormwater drainage pathways, various structural controls can be used. Some examples are fiber rolls, netting, and compost blankets.

For a complete discussion of possible adverse effects of the types of controls discussed above, see section M.5.

M.7 Economic Factors

This section presents the San Diego Water Board's economic analysis of the most reasonably foreseeable methods of compliance with the Basin Plan amendment to incorporate TMDLs for bacteria indicators at the impaired shoreline segments of Baby Beach and Shelter Island Shoreline Park.

M.7.1 Legal Requirement for Economic Analysis

The San Diego Water Board must comply with CEQA when amending the Basin Plan.²³ The CEQA process requires the San Diego Water Board to analyze and disclose the potential adverse environmental impacts of a Basin Plan amendment that is being considered for approval. TMDL Basin Plan amendments typically include "performance standards."²⁴ TMDLs normally contain a quantifiable numeric target that interprets the applicable WQO. TMDLs also include WLAs for point sources and LAs for both nonpoint sources and natural background. The quantifiable target together with the allocations may be considered a performance standard.

CEQA has specific provisions governing the San Diego Water Board's adoption of regulations such as the regulatory provisions of Basin Plans that establish "performance standards" or treatment requirements.²⁵ These provisions require that the San Diego Water Board perform an environmental analysis of the reasonably foreseeable methods of compliance with the WLAs and LAs prior to the adoption of the TMDL Basin Plan amendment. The San Diego Water Board must consider the economic costs of the methods of compliance in this analysis.²⁶ The proposed Basin Plan amendment does not include new WQOs but implements existing objectives to protect beneficial uses. The San Diego Water Board is therefore not required to consider the factors in Water Code section 13241 (a) through (f).

The most reasonably foreseeable methods of compliance with this Basin Plan amendment is for dischargers to implement structural and non-structural controls to reduce bacteria loads in their discharges to surface waters. Additionally, dischargers

²³ Public Resources Code section 21080

²⁴ The term "performance standard" is defined in the rulemaking provisions of the Administrative Procedure Act (Government Code sections 11340-11359). A "performance standard" is a regulation that describes an objective with the criteria stated for achieving the objective. [Government Code section 11342(d)].

²⁵ Public Resources Code sections 21159 and 21159.4

²⁶ See Public Resources Code section 21159(c)

will need to conduct surface water monitoring to evaluate the effectiveness of the controls they implement.

M.7.2 Project Implementation Costs

The specific controls to be implemented will be chosen by the dischargers after adoption of this TMDL Basin Plan amendment. All costs are preliminary estimates because particular elements of a control, such as type, size, and location, would need to be developed to provide a basis for more accurate cost estimations. Identifying the specific controls that dischargers will choose to implement is speculative at this time and the controls presented in this section serve only to demonstrate potential costs. Therefore, this section discloses typical costs of conventional controls for urban runoff, as well as monitoring program costs.

M.7.3 Cost Estimates of Typical Controls for Urban Runoff Discharges

Approximate costs associated with reasonably foreseeable non-structural and structural controls that might be implemented in order to comply with the requirements of this TMDL project are provided below. The controls are divided into non-structural and structural BMP classes. Cost estimates for structural BMPs cited from “*Stormwater Best Management Practice Handbook – New Development and Redevelopment, January 2003*” are for new construction costs only (CASQA, 2003). These estimates generally do not take into account retrofit of existing structures or the potential purchase on land needed for the BMP. Cost estimates provided by Caltran’s *BMP Pilot Retrofit Pilot Program* were from BMPs retrofitted on existing State owned land (Caltrans, 2004). Annual maintenance costs estimates are based on a percentage of the construction cost estimate (USEPA, 1999).

Non-Structural Controls

Education and Outreach: Education and outreach to residents, businesses and industries can be a very effective tool. These efforts can include methods to reduce sources of pathogens like pet waste in residential areas and methods aimed at reducing excessive irrigation that will flow into the storm drain system. The cost of educational programs will vary with the scope of efforts and are estimated to range up to \$210,900. Educational materials can cost from 10¢ per flyer to \$1,750 for household surveys (USEPA, 1999). Because education and outreach efforts are typically a component of water quality programs, the cost to develop educational programs and materials to comply with the TMDL project requirements are expected to be less than estimated because the programs and materials addressing storm water and urban runoff related issues may already exist.

Road and Street Maintenance: Another effective BMP to prevent pollutants, trash, and organic material from entering the storm drain is proper maintenance and cleaning of the sidewalks, streets, and gutters. The largest expenditures for street sweeping programs are in staffing and equipment. The capital cost for a street sweeper is between \$60,000 and \$180,000 and the average useful life of a sweeper is about four to eight years (USEPA, 1999). Operation and maintenance costs are estimated to range

from \$15 to \$30 per curb mile. This particular BMP may prove to be more cost-effective than certain structural controls, especially in more urbanized areas with greater areas of pavement.

Illicit Connection Identification: Illicit connections of sanitary sewer line and infiltration from leaking sewer lines to the storm water drain system can be a source of pathogens in urban runoff. Identification of illegal connections can be done through visual inspection or through the use of dye and smoke tests. Visual inspection of the storm drain system can cost from \$1,250 to \$1,750 per square mile (USEPA, 1999).

Land Use Modifications: Land Use Modifications can be used to minimize the degradation of water resources caused by storm water run-off by directing urban growth and development away from environmentally sensitive areas and waterways. Sensitive areas can be protected through open space preservation and rezoning of development rights. Costs for new development will be lower if the site is adjacent to existing urban areas because the infrastructure and public services should already exist. Savings can also be realized if the development site is modified to reduce the impacts from urban run-off caused by impervious surfaces by reducing street widths, clustering housing developments, smaller parking lots, and incorporating vegetative BMPs into the site design. Savings come through the reduction of costs associated with clearing and grading, road paving, and storm water drainage systems. See Table M-1 for an example of capital cost savings (CASQA, 2003).

Table R-1. Summary of Potential Savings by Land Use Modifications

| Development Pattern | Capital Costs (2005 Dollars) ⁴ |
|---|---|
| Compact Growth ¹ | \$31,000 |
| Low-Density Growth (3 units/acre) ² | \$60,100 |
| Low-Density Growth, 10 miles from Existing Development ³ | \$82,500 |

¹Costs include streets (full curb and gutter), central sewage and water supply, storm drainage and school construction.

²Assumes housing mix of 30 percent single-family units and townhouses; 70 percent apartments.

³Assumes housing is located 10 miles from major concentration of employment, drinking water plant and sewage treatment plant.

⁴ Adjusted for inflation from 1987 dollars (Sahr, 2006).

Structural Controls

Vegetated Buffer or Filter Strips: Vegetated buffer strips are vegetated surfaces that are designed to treat sheet flow from adjacent surfaces, such as parking lots, highways, and rooftops (CASQA, 2003). The costs associated with vegetated buffer strips vary and are dependent of the costs associated with establishing the vegetation. Cost estimates range from \$13,000 to \$30,000 per acre. Additional costs could include the purchase of land for the buffer strip (CASQA, 2003). Maintenance of the buffer strip consists mainly of irrigation, mowing, weeding, and litter removal. Costs are estimated to be \$350/acre/year (CASQA, 2003). Caltrans reported actual construction costs of a

buffer strip for Carlsbad Maintenance Station to be \$81,000 with average annual maintenance cost of \$1,900 (Caltrans, 2004).

Bioretention: Bioretention systems are designed to mimic the functions of a natural ecosystem for treating storm water runoff (USEPA, 1999). Pollutants are removed by a number of processes including adsorption, filtration, volatilization, ion exchange, and decomposition (USEPA, 1999). Bioretention construction costs in residential areas are estimated to be \$3 to \$4 per square foot depending on the soil conditions and plant selection. Commercial and industrial costs range from \$10 to \$40 per square foot depending on the design and need for storm drains (CASQA, 2003). Maintenance activities conducted on bioretention facilities were not found to be very different from maintenance of a landscaped area (CASQA, 2003).

Sand Filters: Media filters are commonly used to treat runoff from small sites such as parking lots and small developments, in areas with high pollution potential such as industrial areas, or in highly urbanized areas where land availability or costs preclude the use of other BMP types (USEPA, 1999). An Austin Sedimentation-Filtration System (a type of surface sand filter) is estimated to cost \$18,500 (CASQA, 2003). A sand filter constructed at the La Costa Park and Ride for a 2.7-acre watershed area cost \$226,000 with an average annual maintenance cost of \$870 (Caltrans, 2004).

Infiltration Trench: Infiltration systems are designed to capture a volume of storm water runoff, retain it, and infiltrate that volume into the ground (USEPA, 1999). Infiltration trench is estimated to cost \$45,000 for a 5-acre commercial site (USEPA, 1999). An infiltration trench constructed at the Carlsbad Maintenance Station for a 0.7-hectare watershed area cost \$180,000 with an average annual maintenance cost of \$723 (Caltrans, 2004).

Diversion/Treatment Systems: If no other on-site treatment options are available, diverting the polluted runoff to the sanitary sewer system or other treatment plant may be considered. An individual diversion structure is likely to cost over one million dollars, which does not include maintenance costs.

For example, the City of Dana Point recently put into operation a diversion and ozone treatment system targeting Salt Creek and Monarch Beach. The system has a capacity of 1,000 gallons per minute. According to the Orange County Register (October 18, 2005), the system cost \$6.7 million. These costs include \$1 million in architectural features, and \$1 million for design and administration of the project. Operation and maintenance is contracted out at a cost of \$90,000 per year. In another example, the City of Encinitas has constructed a diversion and ultraviolet radiation treatment system to kill bacteria in runoff to Moonlight Beach. The system has a capacity of 150 gallons per minute, and cost \$1 million for testing, design and construction. Operation and maintenance costs are \$10,000 per year (Jeremy J. Clemmons, PBS&J, personal communication, October 26, 2005).

M.7.4 Cost Estimate Summary for Urban Runoff Controls

Table M-2 summarizes the estimated costs of non-structural urban runoff controls. Tables M-3 summarizes for each watershed the estimated costs of the specific structural urban runoff BMPs that were evaluated for each watershed. The cost estimates for the structural controls are based on sizing the control to treat 10 percent of the urbanized area of each watershed. For example, using the 10 percent cost estimates provided in Table M-3, a cost estimate for 100 percent land treatment could easily be calculated by multiplying the 10 percent cost estimate by 10, or by 5 for 50 percent, or 8 for 80 percent, etc. Additionally, the estimated cost of one diversion structure is provided and can be scaled upward depending on the individual needs in any given watershed.

Table M-2. Summary of Cost Estimates for Non-Structural Controls

| BMP | Estimated Cost ¹ |
|-----------------------------------|---|
| Education and Outreach | \$0 to \$210,900 per program |
| Road and Street Maintenance | \$60,000 to \$180,000 |
| Illicit Connection Identification | \$1,250 to \$1,750 per square mile |
| Land Use Modifications | Potential cost reduction to developers and local government |

¹ USEPA, 1999.

Table M-3. Cost Estimates for Structural Controls for 10 Percent of Urbanized Areas

| BMP | Estimated Total Cost to Treat 10 Percent of an Urbanized Area (in acres) ^{1, 2, 3} | Estimated Yearly Maintenance Cost ² |
|--|---|--|
| Baby Beach Modeled Watershed | | |
| Vegetated Buffer Strip | \$339,690 - \$783,900 | \$8,362 |
| Bioretention | \$817,978 - \$10,906,432 | \$57,258 - \$762,450 |
| Sand Filters | \$1,149,720 - \$4,546,620 | \$149,464 - \$591,061 |
| Infiltration Trench | \$45,989 - \$108,701 | \$9,198 - \$21,740 |
| Diversion | > \$1 million per diversion structure | > \$10,000 per structure |
| Shelter Island Shoreline Park Modeled Watershed | | |
| Vegetated Buffer Strip | \$6,630 - \$15,300 | \$163 |
| Bioretention | \$15,965 - \$212,870 | \$1,118 - \$14,901 |
| Sand Filters | \$22,440 - \$88,740 | \$2,917 - \$11,536 |
| Infiltration Trench | \$898 - \$2,122 | \$180 - \$424 |
| Diversion | > \$1 million per diversion structure | > \$10,000 per structure |

¹ CASQA, 2003.

² USEPA, 1999.

³ Assumes 100 percent of modeled watershed is urbanized area.

M.7.5 Cost Estimates for Surface Water Monitoring

The Health and Safety Code already requires a monitoring and reporting program for indicator bacteria at ocean beaches throughout California during dry weather.²⁷ Thus, the dischargers will incur no additional costs for monitoring water quality at beaches from April 1 through October 31 (the required monitoring period). Water quality and flow monitoring for inland surface water and storm drains will be required to measure the effectiveness of controls implemented by the dischargers to reduce bacteria loads. This additional monitoring will add to the costs of implementing these TMDLs.

The TMDLs do not specify the locations and frequencies of sampling of inland surface waters, storm drains, and beaches outside the Health and Safety Code requirements, to measure the effectiveness of bacteria load reduction controls. Each watershed is different in terms of size, flow, land uses, existing bacteria load, and reductions needed. Thus, a different monitoring plan individually tailored for each watershed must be formulated and implemented by the dischargers.

This analysis discloses the costs of collecting, transporting, and analyzing a water sample for the four indicator bacteria for which there are inland surface water WQOs. The costs disclosed are that of a two-person team, day-long sampling effort. The laboratory analytical costs were taken from the San Diego Water Board's Laboratory Services Contract cost tables. Where different analytical methods were available, the more expensive method was used in the estimate. Staff costs were estimated based on a two person sampling team in the field for an 8-hour day. The staff costs were estimated based on a billing rate of \$95 per hour per person, the rate used for billing San Diego Water Board staff costs in the Cost Recovery Programs. This rate includes overhead costs. The vehicle costs were estimated assuming a distance traveled of 100 miles per day, and a vehicle cost of \$0.51 per mile, the per diem reimbursement rate for San Diego Water Board staff when they use their own cars for State business. This analysis assumes that the dischargers possess basic field monitoring equipment, including meters to measure temperature, conductivity, and pH, and equipment to measure flow in the field. No additional costs were computed for these items. Surface water monitoring costs are summarized in the Table M-4 below. Assuming that a two-person sampling team can collect samples from 4 locations in one 8-hour day, the total cost for one day of sampling would be \$3,291.

²⁷ Health and Safety Code section 15880 (Assembly Bill 411, Statutes of 1997, Chapter 765).

Table M-4. Cost Estimates for Surface Water Monitoring

| Expenditure | Cost per Unit |
|---------------------|------------------|
| Laboratory Analyses | |
| Total Coliform | \$95 per sample |
| Fecal Coliform | \$95 per sample |
| Enterococci | \$120 per sample |
| <i>E. Coli</i> | \$120 per sample |
| | |
| Staff Costs | \$190 per hr |
| Vehicle Costs | \$51 per 100 mi |

M.8 Reasonable Alternatives to the Proposed Activity

The environmental analysis must include an analysis of reasonable alternatives to the proposed activity.²⁸ The proposed activity is a Basin Plan Amendment to incorporate bacteria TMDLs for the impaired shoreline segments of Baby Beach and Shelter Island Shoreline Park. The purpose of this analysis is to determine if there is an alternative that would feasibly attain the basic objective of the rule or regulation (the proposed activity), but would lessen, avoid, or eliminate any identified impacts. The alternatives analyzed include taking no action and modifying water quality standards. The alternatives are discussed in the subsections below.

M.8.1 No Action

Under the “no action” alternative, the San Diego Water Board would not adopt the proposed TMDL Basin Plan amendment, and bacteria loading would likely continue at current levels. The “no action” alternative 1) does not comply with the Clean Water Act; 2) is inconsistent with the mission of the San Diego Water Board; and 3) does not meet the purpose of the proposed TMDL Basin Plan Amendment. Under Clean Water Act section 303(d), the San Diego Water Board is obligated to adopt a TMDL project for waters that do not meet water quality standards.²⁹ Therefore the “no action” alternative is not viable and cannot be considered an acceptable alternative.

M.8.2 Water Quality Standards Action

Another alternative to adopting the TMDL Basin Plan amendment is the modification of water quality standards. If the applicable standards are not appropriate, a plausible regulatory response may be to correct the standards through mechanisms such as a use attainability analysis (UAA) or a site-specific objective (SSO). If the REC-1 beneficial use has been improperly designated for any of the shoreline segments included in this project, or if SSOs for total coliform, fecal coliform, and *Enterococcus* would be less stringent than what is reported in the Ocean Plans and Basin Plan, the TMDLs might not be necessary, or the required pollutant load reductions might be

²⁸ California Code of Regulations Title 23 section 3777

²⁹ Water quality standards are comprised of designated beneficial uses, the applicable numeric and/or narrative WQOs to protect those uses, and the SWRCB’s anti-degradation policy provisions (Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*).

lower. This alternative might lessen or eliminate the adverse impacts associated with constructing structural controls by eliminating the need for structural controls or reducing the number of structural controls necessary. This alternative should not be construed as implying that standards may be changed as a convenient means of “restoring” waterbodies. To the contrary, federal and state law contain numerous detailed requirements that in many cases would prevent modifications of the standards, especially if modifications would result in less stringent waste discharge requirements. However, modification of standards may be appropriate to make uses more specific, to manage conflicting uses, to address site-specific conditions, and for other such reasons.³⁰

As a first step in developing TMDLs, the San Diego Water Board confirmed the impairment status of the shoreline segments and determined, from the available evidence, that bacteria densities exceeded water quality objectives that support the REC-1 beneficial use. At this time, the San Diego Water Board has no evidence that the REC-1 beneficial use was inappropriately designated for the shoreline segments. Therefore based on the available information, an action to de-designate these beneficial uses may be harmful to the environment, and this option is not preferred.

Developing SSOs for total coliform, fecal coliform, and *Enterococcus* may be appropriate at specific sites if epidemiology or other scientific studies demonstrate that less stringent water quality objectives would still be protective of human health, or if better indicator(s) are identified. SSOs should be (1) based on sound scientific rationale; (2) protective of the designated beneficial uses of the beaches and creeks; and (3) adopted by the San Diego Water Board in a Basin Plan amendment.

There are no efforts currently underway or planned by interested persons to fund the scientific studies needed to develop SSOs for bacteria at the shoreline segments. Furthermore, the development of SSOs for bacteria at the shoreline segments, including the scientific and epidemiological studies necessary to support them, would be costly, time consuming, and resource intensive.

Even in the event that scientific studies were initiated and SSOs developed and adopted, the need for a TMDL likely would not be eliminated. If SSOs for bacteria were developed in the future and adopted, this TMDL Basin Plan Amendment would be modified accordingly. If interested parties were willing to fund and oversee development of scientific studies to investigate SSOs, the most effective and expeditious means to improve water quality would be to conduct these studies concurrent with actions necessary to achieve compliance with the current TMDL.

M.8.3 Preferred Alternative

Because the alternatives discussed above are not expected to attain the basic objective of the proposed activity at this point in time, the preferred alternative is the proposed activity itself, which is the Basin Plan amendment incorporating the bacteria TMDLs.

³⁰ State Water Board, 2005. *A Process for Addressing Impaired Waters in California*, June 2005

M.9 Preliminary Staff CEQA Determination

The implementation of these TMDLs will result in improved water quality in the San Diego region, but it may result in temporary or permanent localized significant adverse impacts to the environment. Specific projects employed to implement the TMDLs may have significant impacts, but these impacts are expected to be limited, short-term, or may be mitigated through careful design and scheduling. The Technical Report, the draft Basin Plan amendment, and the Environmental Checklist and associated analysis provide the necessary information pursuant to state law³¹ to conclude that properly designed and implemented structural or non-structural methods of compliance will not have a significant adverse effect on the environment, and all agencies responsible for implementing the TMDLs should ensure that their projects are properly designed and implemented. Any of the potential impacts need to be mitigated at a subsequent project level because they involve specific sites and designs not specified or specifically required by the Basin Plan amendment to implement the TMDLs. At this stage, any more particularized conclusions would be speculative.

Specific projects that may have a significant impact would 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 structural controls with adequate margins of safety.

Furthermore, implementation of the TMDLs is both necessary and beneficial. If at some time, it is determined that the alternatives, mitigation measures, or both, are not deemed feasible by those local agencies, the necessity of implementing the federally required TMDLs and removing the indicator impairment from the San Diego Region (an action required to achieve the express, national policy of the Clean Water Act) remains.

The benefits of meeting water quality standards to achieve the expressed, national policy of the Clean Water Act far outweigh the potential adverse environmental impacts that may be associated with the projects undertaken by persons responsible for reducing discharges of bacteria to beaches and creeks of the San Diego Region. Meeting water quality standards and the national policy of the Clean Water Act is a benefit to the people of the state because of their paramount interest in the conservation, control, and utilization of the water resources of the state for beneficial use and enjoyment (Water Code section 13000). Furthermore, the health, safety and welfare of the people of the state requires that the state be prepared to exercise its full power and jurisdiction to protect the quality of waters in the state from degradation, particularly including degradation that unreasonably impairs the water quality necessary for beneficial uses.

Water quality that supports the beneficial uses of water are necessary for the survival and well being of people, plants, and animals. Water contact recreational use (REC-1) is a beneficial uses of water that serve to promote the social and environmental goals of

³¹ Public Resources Code, section 21159

the people of the San Diego Region and require water quality suitable for the protection of human health, aquatic life and aquatic dependent wildlife.

In addition, implementation of the TMDLs will have substantial benefits to water quality and will enhance beneficial uses. Enhancement of the REC-1 beneficial use will have positive, indirect social and economic effects by increasing the natural habitat and aesthetic value of the shoreline segments. These substantial benefits outweigh any unavoidable temporary adverse environmental effects.

In accordance with state law,³² the San Diego Water Board finds that, although the proposed project could have significant effect on the environment, revisions in the project to avoid or substantially lessen the impacts, can and should be made or agreed to by the project proponents. This finding is supported by the evidence provided in the impact evaluation section of this document, which indicates that all foreseeable impacts are either short-term or can be readily mitigated.

On the basis of the initial environmental review checklist and analysis, and Technical Report for this Basin Plan amendment, which collectively provide the required information:

- The proposed project COULD NOT have a significant effect on the environment, and, therefore, no alternatives or mitigation measures are proposed.
- The proposed project MAY have a significant or potentially significant effect on the environment, and therefore alternatives and mitigation measures have been evaluated.



Signature

JOHN H. ROBERTUS
Printed Name

11 June 2008
Date

³² Public Resources Code section 15091