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January 11, 2010

City Council
City of Oxnard
305 W. Third Street
Oxnard, CA 93030

VIA U.S. Certified Mail

Re: Certification of the Final Ormond Beach Specific Plan EIR

Dear City Council Members:

On behalf of Ventura Coastkeeper ("VCK"), a Program of the Wishtoyo Foundation, we respectfully submit the following comments concerning the Ormond Beach Specific Plan ("Specific Plan" or "Project") and its Environmental Impact Report ("EIR").

VCK applauds the Specific Plan's Project Objective of protecting coastal resources, including potential wetland restoration areas. However, VCK feels that the Specific Plan and its EIR do not sufficiently meet this objective. As such, the City Council ("Council") should not certify the EIR and should not approve the Specific Plan because new development proposed in the Ormond Beach Specific Plan would thwart Ormond Beach Wetland restoration plans, promote land uses in Ormond Beach that are incompatible with the public's connection to Ormond Beach wetlands, and would impair the ecological integrity and water quality of the Ormond Beach Wetlands, Mugu Lagoon, and Ventura County's coastal waters.

Notwithstanding the above stated reasons, the Council should not certify the EIR and should not approve the Specific Plan because the EIR is legally inadequate under the California Environmental Quality Act ("CEQA") as it pertains to issues concerning water quality and the ecological integrity of Mugu Lagoon and the Ormond Beach Wetlands for the following reasons:

1.) **The EIR contains an inadequate environmental setting, and fails to evaluate and consider impacts to the water quality and aquatic biological resources of Mugu Lagoon**

2.) **The EIR fails to analyze and explain how the Specific Plan's north and south subarea will obtain both an approved exception from the State Water Resources Control Board and an NPDES/WDR permit or waiver from the Los Angeles Regional Water Quality Control Board to legally and permissibly discharge stormwater into the Mugu Lagoon ASBS per the Ocean Plan**[1]

3.) **The EIR Fails to Evaluate and Identify the Significant Impacts to Water Quality and Aquatic Biological Resources from Urban Runoff Derived Pollutant Loading.**

4.) **The EIR Must Evaluate the Acute and Chronic Toxicity Aquatic Life and Human Health Impacts from Specific Constituents, from the Aggregate Effect of Pollutants, and from Emerging Contaminants that are Discharged as Urban Runoff from the North and South Subarea**

5.) **The EIR Must Evaluate and Identify the Significant Impacts that Pharmaceuticals Contained in the Sewage Generated from the Project will have on Water Quality and Biological Resources**

6.) **The EIR Fails to Adequately Evaluate the Significant Effects to the Water Quality and Aquatic Biological Resources of the Ormond Beach Wetlands, Mugu Lagoon, and Marine Waters from the Biostimulatory Substances that will be Contained in Urban Runoff Discharged from the North and South Subarea and Project Generated OWWTP Discharges**

7.) **The EIR Fails to Adequately Evaluate the Impacts to Water Quality from the Bacteria that will be Contained in the Project's Urban Runoff Discharges**

8.) **The EIR fails to present the information it relies on to predict the discharge of the pollutants in dry and wet weather urban runoff with and without mitigation measures, and thus provides no basis for the public to determine whether the mitigation measures or the BMPs (Best Management Practices) the EIR sets forth will adequately protect water quality and reduce the impacts on water quality to a less than significant effect.**

9.) **The EIR should use national urban runoff stormwater data from the Center of Watershed Protection's study "Impacts of Impervious Cover on Aquatic Ecosystems" and data from Los Angeles County's Stormwater Monitoring Reports to predict the discharge of the pollutants in dry and wet weather**

[1] See Water Quality Control Plan Ocean Waters of California 1972 ("the Ocean Plan"); California Ocean Plan, State Water Resources Control Board Resolution No. 2009-0072.

urban runoff without mitigation measures and to ensure that all pollutants commonly found in stormwater are included in the EIRs water quality analysis.

10.) **The EIR utilizes an inadequate methodology to determine significant environmental impacts to water quality because it uses an inadequate environmental baseline to determine the project's effect on water quality**

11.) **The EIR cannot be approved under CEQA, and the Regional Board cannot grant the Project a Section 401 Water Quality Certification, because the Project will discharge pollutants into 303(d) impaired waterbodies that cause or contribute to the 303(d) listed water quality impairments, and the Project has not been assigned Waste Load Allocations (WLA) from a Regional Board TMDL for the pollutants causing the 303(d) list impairment.**

12.) **The EIR does not Evaluate Whether the Specific Plan will Comply with Applicable TMDLs**

13.) **The EIR does not mitigate environmental impacts from post construction urban runoff to water quality and biological resources to a less than significant effect.**

- Compliance with the 2000 MS4 Permit is Inadequate to mitigate impacts to water quality and biological resources to a less than significant effect.

- To mitigate environmental impacts from post construction urban runoff to water quality and biological resources to a less than significant effect, the EIR must mandate compliance with the new development provisions of the Ventura County MS4 Permit, Order 09-0057, NDPES Permit No. CAS004002 dated May 7, 2009 ("2009 MS4 Permit").

- Although compliance with the General Requirements set forth in Section 3.A.3 (Storm Water Quality Management Program Implementation) of 2009 MS4 permit is necessary enhance current mitigation measures and reduce the environmental impacts of the project, substantial evidence indicates that adherence alone to Section 3.A.3 of the 2009 MS4 Permit is not enough to mitigate the impacts of the project to water quality and aquatic biological resources to a less than significant effect.

14.) **The EIR fails to analyze in its alternatives analysis an environmentally superior alternative to the project as a whole that would eliminate or reduce significant impacts to water quality and biological resources, attain the project's basic objectives, and that is potentially feasible under CEQA**

15.) **Additionally, VCK is concerned about the legal adequacy of the EIR because the EIR does not consider sea level rise impacts, consider how new development in the area will interfere with the State Coastal Conservancy's restoration plans for Ormond Beach Wetlands, and does not adequately address and mitigate other project impacts, including the considerable water demand that will be generated by the new residential and industrial development.**

Furthermore, CEQA requires that the EIR is re-circulated because new Ventura Coastkeeper Watershed Monitoring Program data generated between July and December 2009 indicates that the Ormond Beach Wetlands is impaired for trash, bacteria, and nitrate, and that the western branch of Mugu Lagoon by Arnold Road is impaired for trash, and the EIR does not evaluate or provide mitigation measures for the increase in trash loading the Specific Plan will contribute to Mugu Lagoon, the Ormond Beach Wetlands, and Oxnard's coastal marine waters.

The Ormond Beach Wetlands

The Ormond Beach Wetlands provides a home for a multitude of rare plants, hundreds of species of migratory birds including the federally endangered California least tern and Western snowy plover, and an assortment of aquatic life such as the federally endangered tidewater goby. Similarly to other degraded and shrinking Southern California wetlands, the Ormond Beach Wetlands have been fragmented and encroached upon by human development, and have been and continue to be severely impaired by: pollutants from urban runoff; discharges of pesticides and excessive loads of nutrients from agricultural fields; and toxins from the Halaco Superfund Site.

Despite these impacts, the Ormond Beach wetlands are still a vital cultural natural resource for Oxnard's residents and Chumash Native Americans, and are cherished by scientists, nature lovers, and visitors. The potential to restore the Ormond Beach Wetlands into a functioning and vibrant ecosystem is promising and achievable, and the health and wellbeing of Oxnard's residents, including its economically and politically marginalized populations, have high hopes for the economic, spiritual, health, environmental, and aesthetic benefits its restoration will bring to their community. An ecologically healthy and aesthetically beautiful Ormond Beach Wetlands is also of paramount importance to Chumash Native Americans as a cultural natural resource the Chumash People celebrate in ceremonies, songs, art, story telling, and in passing down the history of their people and ancestors. The State Coastal Conservancy's and The Nature Conservancy's purchase of Ormond Beach wetland property has already permanently protected habitat, and is providing a foundation for further restoration efforts. Aside from conducting invasive iceplant removal and construction debris removal in years past to restore the Ormond Beach wetlands, Wishtoyo and its Ventura Coastkeeper Program ("VCK") are also currently monitoring water quality in the Ormond Beach wetlands and its tributaries to locate and abate pollution inputs.

Additionally, VCK organizes and leads monthly trash cleanups, many of which are in the Ormond Beach Wetlands watershed, to prevent trash from impairing the ecological integrity of the Ormond Beach Wetlands.

Mugu Lagoon

Mugu Lagoon, located at the mouth of the Calleguas Creek and portions of Specific Plan Watershed in the Oxnard Plain, is one of the few remaining significant, highest quality, saltwater wetland habitats in Southern California. As such, its 1,474 acres has been designated by California as an Area of Special Biological Significance ("ASBS").[2] Mugu Lagoon provides habitat to several resident and migratory endangered and threatened species, supporting the greatest concentration of water-associated birds north of Anaheim Bay, provides the largest remaining natural Brown Pelican roosting area in Southern California, serves as a staging grounds for seals and birds moving to and from Anacapa Island, provides rearing and spawning habitat for numerous fish, and supports over 60,000 shorebirds each spring, up to 10,000 in winter (Page and Shuford 2000), and thousands of ducks during migration and winter.[3] Mugu Lagoon is also home to a historic traditional Chumash village site, Chumash sacred grounds, and Chumash burial sites.

It is thus of the utmost importance to Wishtoyo's Ventura Coastkeeper Program ("VCK"), that the Specific Plan adequately protects the ecological integrity, water quality, and cultural natural resources of the Ormond Beach Wetlands and Mugu Lagoon.

Discussion

I. The EIR is legally inadequate because it contains an inadequate environmental setting, and fails to evaluate and consider impacts to the water quality and aquatic biological resources of Mugu Lagoon

A. Inadequate Environmental Setting

A key component to identifying all of a project's environmental impacts, is providing an adequate description of the environment in the vicinity of the project. Thus, CEQA requires that an EIR includes a description of the existing environment in the vicinity of the project from both a local and a regional perspective. 14 Cal Code Regs §15125(a). Additionally, the EIR must emphasize discussion of any affected environmental resources that are rare or unique to the region. 14 Cal Code Regs §15125(c).

[2] Ocean and Coastal Policy Center, http://ocpc.msi.ucsb.edu/pdfs/WT4/2pp28-34.pdf; See: http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/asbs/asbs_areas/asbs_swqpa_publication03.pdf
[3] Ocean and Coastal Policy Center, http://ocpc.msi.ucsb.edu/pdfs/WT4/2pp28-34.pdf, (Page and Shuford 2000), (Jaques et al. 1996).

The Specific Plan EIR erroneously omits Mugu Lagoon from the project's environmental setting, and thus additionally fails to evaluate and consider impacts to the water quality and aquatic biological resources of Mugu Lagoon.

In describing the Specific Plan's environmental setting, the EIR acknowledges that the study area is within the Santa Clara-Calleguas Hydrological Unit, but fails to identify that that down gradient coastal features include Mugu Lagoon. EIR Section 3.3.1.1.2, states that the study:

> The Study Area watershed is located in the Oxnard Hydrologic Subarea, which is part of the Oxnard Plain Hydrologic Area of the Santa Clara-Calleguas Hydrologic Unit according to the Los Angeles Regional Water Quality Control Board (LARWQCB) Basin Plan (LARWQCB, 1994)… Coastal features (down gradient of the Study Area) identified in the Basin Plan include Ormond Beach and the Ormond Beach wetland.

Additionally, the EIR states that the Study Area is not located within the watershed of a Section 303 listed "impaired" waterbody (EIR Section 3.3-69), which incorrectly implies that the Study Area in not located in the Mugu Lagoon Watershed, as Mugu Lagoon is a Clean Water Act (CWA) California Section 303(d) listed impaired waterbody for: Chlorodane (tissue), copper, DDT (tissue, sediment), dieldrin (tissue), endosulfan (tissue), mercury, nickel, nitrate + nitrite, PCB (tissue), sediment toxicity, sedimentation/siltation, toxaphene(tissue/sediment), zinc. [4]

Furthermore, the EIR does not describe Mugu Lagoon as within the project setting, even though it is hydrologically connected to the study area and is within the similar geographic proximity to the Ormond Beach Wetlands, which is defined in the EIR as in the projects' study area and watershed.

Substantial evidence indicates that Mugu Lagoon is hydrologically connected to the Specific Plan's southern subarea and lies within the Specific Plan's southern subarea watershed.

By its own admission, the EIR incorrectly defines the Study Area Watershed and incorrectly states that the Study Area is not located within the watershed of a Section 303 listed "impaired" waterbody, by stating that flows from the project area flow into Mugu Lagoon:

> At this time the stormwater flows generated from the Southern Subarea currently flow into a farm channel located along the western boundary which flows to the Oxnard Drain. The Oxnard Drain is a large channel running along the southern of Southern Subarea. It flows south to the western leg of Mugu Lagoon. (EIR, pg 3.3

[4] 2008 CWA SECTION 303(d) LIST OF WATER QUALITY LIMITED SECTIONS, available at http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/303d/2008/Final%20303(d)/Appendix_F_08Aug09.pdf

9-2; see also EIR Section 3.3.1.6.5, Southern Subarea Drainage stating that: **"**Drainage from the Southern Subarea flows via a series of drainage ditches to an agricultural drainage channel (Oxnard Drain), which was part of the OID until sediment build-up and construction of the Reliant Energy Ormond Beach Generating Station (previously Southern California Edison) blocked the hydraulic connection. The Oxnard Drain originates along Edison Drive and is directed around the perimeter of the Study Area to the southwest and then south to the western arm of Mugu Lagoon.").

Additionally, the EIR's mitigation measures state that the stormwater generated in the southern subarea will be release into Oxnard Drainage District #2, which is hydrologically connected to and flows into Mugu Lagoon. (See EIR 3.3-114, Flood Control and Stormwater Drainage: "After storm events, stormwater will be released at the undeveloped flow rate back into the Oxnard Drainage District #2.").

Furthermore, the Amendment to the Los Angeles Region Water Quality Control Plan to Incorporate Total Maximum Daily Loads (TMDLs) for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs) and Siltation in Calleguas Creek, Its Tributaries, and Mugu Lagoon[5], adopted by the California Regional Water Quality Control Board, Los Angeles Region on July 7, 2005, identifies the Mugu Lagoon subwatershed as including Duck Pond/Agricultural Drain/Mugu/Oxnard Drain #2.[6]

Thus, because the Project's southern subarea is hydrologically connected to Mugu Lagoon, lies within Mugu Lagoon's subwatershed, and will discharge stormwater and urban runoff that will flow into Mugu Lagoon, the Study Area and environmental setting set forth in the EIR are inadequate in scope because they do not include Mugu Lagoon in a discussion of the Specific Plan's environmental setting or study area. Therefore, to adequately comply with CEQA, the scope of the EIR's study area and environmental setting must be expanded to include Mugu Lagoon, and the Specific Plan's impact on Mugu Lagoon's water quality and ecological integrity must be evaluated.

Furthermore, because Mugu Lagoon is designated as an ASBS (Area of Special Biological Significance) by the State of California, the EIR must emphasize discussion of the Specific Plan's impacts on its water quality and biological resources because Mugu Lagoon's biological resources are rare and unique to the region.[7] 14 Cal Code Regs §15125(c).

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[5] Attachment A to Resolution No. R4-2005-010, California Regional Water Quality Control Board, Los Angeles Region (July 7, 2005).

[6] Attachment A to Resolution No. R4-2005-010, California Regional Water Quality Control Board, Los Angeles Region, pages 6 and 7 (July 7, 2005).

[7] See 14 Cal Code Regs §15125(c): (An EIR must emphasize discussion of any affected environmental resources that are rare or unique to the region)

B. Failure to Evaluate and Consider the Specific Plan's Significant Environmental Impacts to Mugu Lagoon's Water Quality and Aquatic Biological Resources

An EIR should, when looked at as a whole, provide a reasonable, good faith disclosure and analysis of environmental impacts. *Laurel Heights Improvement Ass'n v Regents of Univ. of Cal.* (1988) 47 C3d 376, 253 CR 426..Accordingly, CEQA requires an EIR to identify and focus on the "significant environmental effects" of the proposed project. Pub Res C §21100(b)(1); 14 Cal Code Regs §§15126(a), 15126.2(a), 15143. A significant effect on the environment is defined as a substantial or potentially substantial adverse change in the environment. Pub Res C §§21068, 21100(d); 14 Cal Code Regs §15382. The "environment" refers to the physical conditions "existing within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, objects of historic or aesthetic significance." Pub Res C §21060.5. The environment affected by a project includes both natural and man-made conditions. 14 Cal Code Regs §15360. The CEQA Environmental Checklist provided in Appendix G of the Specific Plan states that a project would have significant impacts on hydrology and water quality if it would:

1.) Violate any water quality standards or waste discharge requirements.

2.) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

3.) Otherwise substantially degrade water quality.

Furthermore, as Section 3.3.3.2.2 of the Final Specific Plan indicates, water resource impacts would be identified as significant if they degrade surface or groundwater quality in violation of the LARWQCB Basin Plan objectives or water quality regulations, and result in substantial degradation of water quality conditions that could affect beneficial uses of receiving waters, including sensitive estuary and marine environments.

An indirect environmental impact is a change in the physical environment that is not immediately related to the project but that is caused indirectly by the project. 14 Cal Code Regs §15064(d)(2). An indirect impact should be considered only if it is a reasonably foreseeable impact caused by the project. 14 Cal Code Regs §§15064(d)(3); 15358(a)(2). An EIR must identify and describe the significant indirect environmental impacts that will result from the project. 14 Cal Code Regs §15126.2(a).

Because Mugu Lagoon is not located on the project site, any impact to Mugu Lagoon would be considered an indirect impact of the Specific Plan.

As discussed in Section I.A. above, Mugu Lagoon lies within the Specific Plan's watershed, and thus currently does, and will continue to receive, stormwater runoff from

the land located in the Specific Plan's southern subarea. Therefore, water quality impacts to Mugu Lagoon from the stormwater runoff generated from the Specific Plan's north and south subarea are reasonably foreseeable impacts caused by the project and must be considered in the EIR. However, the EIR's environmental setting and study area erroneously omits Mugu Lagoon, and accordingly the EIR does not evaluate or consider the Specific Plan's significant environmental impacts to Mugu Lagoon's water quality and aquatic biological resources. While the EIR analysis of impacts touches on impacts to water quality from the north and south subarea, the impacts do not discuss the reasonably foreseeable water quality impacts that the north and south subarea will have or could potentially have on the beneficial uses of Mugu Lagoon set forth in the Water Quality Control Plan for the Los Angeles Region ("Basin Plan").

Stormwater and dry weather urban runoff from the Specific Plan's north and south subareas will forseeably contain metals, bacteria, oil, grease, herbicides, emerging contaminants, and nutrients (see Appendix A: Pollutants Commonly Found in Stormwater Runoff) that may result in a potentially substantial change in the ecological integrity and water quality of Mugu Lagoon and violate applicable water quality standards[8] if adequate urban runoff mitigation measures are not incorporated into the Specific Plan. These contaminants commonly found in urban runoff may also adversely impact Mugu Lagoon's beneficial uses set forth in The Water Quality Control Plan for the Los Angeles Region ("Basin Plan") which are EST(E), MAR(E), WILD(Eo), BIOL(E), RARE(e,p), MIGR(Ef), SPWN (Ef), SHELL, WET (E), REC-1(Pn), REC-2 (E).[9]

Even if the EIR sets forth mitigation measures to treat the stormwater and dry weather runoff from Specific Plan's north and south subarea to comply with the 2000 Stormwater Permit, the EIR still must evaluate and consider the Specific Plan's impact to Mugu Lagoon. Potentially, mitigation measures designed merely to comply with the old Stormwater Permit and outdated best management practices, may not be sufficient to protect the ecological integrity of the Mugu Lagoon Estuary, its unique Basin Plan

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[8] The beneficial uses of Mugu Lagoon, in combination with their water quality objectives from the Basin Plan, and water quality standards from the California Toxics Rule for aquatic life and human uses are serve as the water quality standards used to determine the Specific Plan's significant effects on water quality and to determine the adequacy of the mitigation measures to mitigate significant impacts to a less than significant effect.

[9] See Attachment A: Water Quality Control Plan for Los Angeles Region, Chapter 2: Beneficial Uses, Table 2.1; See Basin Plan Chapter 2: Beneficial Use Definition (WILD = wildlife habitat; EST = Estuarine Habitat; MAR – Marine Habitat, WARM = Warm Freshwater Habitat; RARE = Rare Threatened or Endangered Species under state or fed regs; SPWN = Spawning, Reproduction, and or early development; MIGR = Migration of Aquatic Organisms); E=existing beneficial use, P=Potential beneficial use, I=intermittent beneficial use; e= One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging or nesting; f=aquatic organism utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.

beneficial uses and applicable water quality standards, and its water quality protections as an ASBS under the Ocean Plan.

As the rest of VCK's comments indicate, the EIR's mitigation measures do not mitigate the Specific Plan's impacts to Mugu Lagoon's water quality, ecological integrity, and Basin Plan beneficial uses to a less than significant effect.

II. The EIR fails to analyze and explain how the Specific Plan's north and south subarea will obtain both an approved exception from the State Water Resources Control Board and an NPDES/WDR permit or waiver from the Los Angeles Regional Water Quality Control Board to legally and permissibly discharge stormwater into the Mugu Lagoon ASBS per the Ocean Plan[10].

In the 1970's California designated thirty-four regions along its coast as Areas of Special Biological Significance ("ASBS") to preserve biologically unique and sensitive marine ecosystems for future generations.[11] Mugu Lagoon is a coastal area designated as an ASBS.[12]

Since 1983, the California Ocean Plan (Ocean Plan) has prohibited the discharge of both point and nonpoint source waste to Areas of Special Biological Significance (ASBS), unless the State Water Resources Control Board (State Water Board) grants an exception.[13] The Ocean Plan allows the State Water Board to grant exceptions to plan requirements where the State Water Board determines that the exception "will not compromise protection of ocean waters for beneficial uses, and, [t]he public interest will be served."[14] Prior to granting an exception, the State Water Board must hold a public hearing and comply with the California Environmental Quality Act, Public Resources Code §21000 et seq. (CEQA). In addition, the United States Environmental Protection Agency must concur. ASBS are also accorded special protection under the Marine Managed Areas Improvement Act (Act), Public Resources Code §36600 et seq. Under the Act, ASBS are a subset of state water quality protection areas and, as such, "require special protection as determined by the [State Water Board]" pursuant to the Ocean Plan. (Pub. Resources Code §36700(f).) In all state water quality protection areas, waste

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[10] See Water Quality Control Plan Ocean Waters of California 1972 ("the Ocean Plan"); California Ocean Plan, State Water Resources Control Board Resolution No. 2009-0072.

[11] http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/asbs/asbs_areas/asbs_swqpa_publication03.pdf

[12] See:http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/asbs/asbs_areas/asbs_swqpa_publication03.pdf

[13] See Water Quality Control Plan Ocean Waters of California 1972 ("the Ocean Plan"); California Ocean Plan, State Water Resources Control Board Resolution No. 2009-0072; Water Quality Control Plan Ocean Waters of California (2005) available at http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/oplans/oceanplan2005.pdf.; Water Quality Control Plan Ocean Waters of California (2009), available at: http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2009/rs2009_0072_appxa.pdf

[14] Id.

discharges must be prohibited or limited by special conditions, in accordance with state water quality law, including the Ocean Plan (*Id.* §36710(f).)"[15]

Therefore, in accordance with the requirements set forth in the Ocean Plan, the EIR must detail how the Specific Plan's north and south subarea will obtain both an approved exception from the State Water Resources Control Board and an NPDES/WDR permit or waiver from the Los Angeles Regional Water Quality Control Board to legally and permissibly discharge stormwater into the Mugu Lagoon ASBS under the Ocean Plan[16]. Thus, the EIR must detail the mitigation measures the Specific Plan's north and south subarea developments will implement to ensure the north and south subarea will not compromise protection of ocean waters (Mugu Lagoon ASBS) for beneficial uses and will serve the public interest.

III. The EIR Fails to Evaluate and Identify the Significant Impacts to Water Quality and Aquatic Biological Resources from Urban Runoff Derived Pollutant Loading[17]

The EIR lacks an analysis of the Project's pollutant loading into the Ormond Beach Wetlands, Mugu Lagoon, the coastal marine waters in the Specific Plan's watersheds derived from urban runoff and the Oxnard Wastewater Treatment Plant's (OWWTP) sewage effluent. Even if the EIR's mitigation measures treat urban runoff to comply with water quality concentration based water quality standards, it is reasonably foreseeable that the aggregate of the pollutants discharged and loaded into the Ormond Beach Wetlands, Mugu Lagoon, and marine waters will cause significant environmental impacts. Furthermore, the EIR must analyze whether pollution loading into inland and coastal receiving waterbodies will increase or decrease as a result of Specific Plan approval, in addition to an analysis as to whether the concentrations of pollutants from the projects in receiving waters will decrease or increase from approval of the Specific Plan.

Effects of Pollutant Loading: Bioaccumulation

Pollutant loading into the Ormond Beach Wetlands, Mugu Lagoon, and the marine waters in the Specific Plan's watersheds from urban runoff and the Oxnard Wastewater Treatment Plant's (OWWTP) sewage effluent, can cause bioaccumulation of toxic contaminants such as metals and pesticides in aquatic organisms, especially amongst benthic organisms and organisms that live and feed off of ocean, river, or estuary substrate. Pesticides, cadmium, nickel, lead, chromium, zinc, copper, mercury, and other heavy and trace metals found in urban runoff, stormwater discharges, and sewage

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[15] http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/asbs/draft_special_protections.pdf

[16] See Water Quality Control Plan Ocean Waters of California 1972 ("the Ocean Plan"); California Ocean Plan, State Water Resources Control Board Resolution No. 2009-0072.

[17] VCK would like to acknowledge Heal the Bay's work on pollutant loading for its contribution to this section of VCK's comment letter.

treatment plant effluent, bioaccumulate in the tissue of aquatic life and contaminate aquatic ecosystem sediment.[18] When aquatic organisms are exposed to these loaded pollutants and consumed by other aquatic or terrestrial organisms, the pollutants can biomagnify and end up in increased concentrations in organisms higher up in the food chain. Therefore, the EIR must identify the significant impacts to water quality and aquatic biological resources in the Ormond Beach Wetlands, Mugu Lagoon, the marine waters in the Specific Plan's watersheds from urban runoff, and the marine waters receiving the Oxnard Wastewater Treatment Plant's (OWWTP) sewage effluent from pollutant loading, such as loading from metals, pesticides, and herbicides. Additionally, the EIR must thus provide for adequate mitigation measures to reduce the effect of pollutant loading to a less than significant effect.

Effects of Pollutant Loading: Eutrophication

> "Eutrophication is increased nutrient loading into a waterbody and the resulting increased growth of biota, phytoplankton, and other aquatic species. Phosphorous and nitrogen are key nutrients for phytoplankton growth in lakes and are often responsible for eutrophication of surface waters… The excessive plant biomass may cause increased turbidity, altered planktonic food chains, algal blooms, reduced oxygen concentrations, and increased nutrient recycling. These changes can lead to a cascade of biological responses culminating in impaired beneficial uses…Low dissolved oxygen levels can be stressful for fish and other organisms and may in fact lead to fish kills."[19]

Eutrophication of coastal waters and estuaries is a global environmental issue that is demonstrated to be linked to anthropogenic watershed changes, the increased in nutrient loading of waterbodies, and impairing algal blooms, hypoxia, and impacts on aquatic food webs (Valiela et al. 1992). Eutrophication of coastal areas can lead to devastating ecological consequences, including fish-kills and lowered productivity of fisheries, (Glasgow and Burkholder, 2000), loss or degradation of seagrass and kelp bed habitat (Twilley 1985, Burkholder et al. 1992, McGlathery 2001), smothering of bivalves and other benthic organisms (Rabalais and Harper 1992), nuisance odors, and impacts on human and marine mammal health from poorer water quality and the increased frequency and extent of harmful algal blooms (Bates et al. 1991, Trainer et al. 2002). In 2001, the U.S. EPA listed eutrophication as one of the top three leading causes of impairments of the nation's waters (US EPA 2001).[20]

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[18] See Regional Board, Toxic Hotspot Clean Up Plan, available at: http://www.swrcb.ca.gov/publications_forms/publications/general/docs/finalfed_appb_vol2_b.pdf.)

[19] Resolution NO. R08-006, Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Eutrophic, Algea, Ammonia, and Odors (Nutrient) for Machado Lake, Los Angeles Regional Water Quality Control Board

[20] Southern California Bight 2008 Regional Marine Monitoring Survey (Bight'08), Coastal Wetlands and Estuaries Eutrophication Assessment Workplan, Bight'08 Estuaries and Coastal Wetlands Committee,

Additionally, the Regional Board Staff, in its 2008 update of the Los Angeles Regional Integrated Report for Clean Water Act Section 305(b) Report and Section 303(d) List of Impaired Waters, issued these finding in regards to eutrophication:

> "Eutrophication and nutrient enrichment problems rank as the most widespread water quality problems nationwide; for example, more lake acres are affected by nutrients than any other pollutant or stressor (EPA 2000). Eutrophication is defined by increased nutrient loading to a waterbody and the resulting increased growth of phytoplankton and other aquatic plants. Additionally, other parameters such as decreased dissolved oxygen and water clarity can also indicate eutrophic conditions. Phosphorus and nitrogen are recognized as key nutrients for the growth of phytoplankton, algae, and aquatic plants and are responsible for the eutrophication of surface waters."[21]

Nutrient loading in the Ormond Beach Wetlands, Mugu Lagoon, the marine waters in the Specific Plan's watersheds from urban runoff, and the marine waters receiving the Oxnard Wastewater Treatment Plant's (OWWTP) sewage effluent can cause eutrophication that can deprive aquatic ecosystems of dissolved oxygen, which in turn can kill aquatic organisms. Therefore, the EIR must identify the significant impacts to water quality and aquatic biological resources from nutrient loading and provide for adequate mitigation measures to reduce the effect of nutrient loading to a less than significant effect.

IV. The EIR Must Evaluate the Acute and Chronic Toxicity Aquatic Life and Human Health Impacts from Specific Constituents, from the Aggregate Effect of Pollutants, and from Emerging Contaminants that are Discharged in Urban Runoff from the North and South Subarea

The EIR does not include an analysis on the acute and chronic toxicity impacts to Ormond Beach Wetlands, Mugu Lagoon, and the coastal marine waters in the Specific Plan's watersheds from the north and south subarea's urban runoff. Additionally, the EIR does not include an analysis on the acute and chronic toxicity impacts to marine life from the effluent generated from the north and south subareas that will discharge into marine waters by the OWWTP.

Acute toxicity occurs when the mortality of an aquatic organism results from mere exposure to water with a given concentration of pollutant. Chronic toxicity occurs when the morality or detrimental physiological effects, such as effects on development, reproduction, or growth, result from prolonged exposure to a contaminant at a given concentration in a sample of water.

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available at: ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/BightPlanningDocuments/Bight08/Bight08_CoastalWetlandsEstuaries_Workplan.pdf

[21] Please see Attachment B

The California Toxics Rule (40 C.F.R. § 131.38) provides acute and chronic water quality criteria for toxic pollutants in inland surface waters, enclosed bays, and estuaries with human health or aquatic life designated uses in California. Acute criteria represent the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects; chronic criteria equal the highest concentration to which aquatic life can be exposed for an extended period of time (four days) without deleterious effects. The Basin Plan's narrative water quality objective applicable to protect the beneficial uses of the Ormond Beach Wetlands and Mugu Lagoon for toxicity states that:

> "All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life... There shall be no acute toxicity in ambient waters, including mixing zones. The acute toxicity objective for discharges dictates that the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test having less than 70% survival when using an established USEPA, State Board, or other protocol authorized by the Regional Board... There shall be no chronic toxicity in ambient waters outside mixing zones. To determine compliance with this objective, critical life stage tests for at least three species with approved testing protocols shall be used to screen for the most sensitive species. The test species used for screening shall include a vertebrate, an invertebrate, and an aquatic plant. The most sensitive species shall then be used for routine monitoring."[22]

The Basin Plan designates REC 1 (E), REC 2 (E), EST(E), WILD (E), RARE (Ee), and WET (E) beneficial uses for Ormond Beach Wetlands and designates EST(E), MAR(E), WILD(Eo), BIOL(E), RARE(e,p), MIGR(Ef), SPWN (Ef), SHELL, WET (E), REC-1(Pn), REC-2 (E) beneficial uses for Mugu Lagoon. [23]

The EIR does not utilize the CTR's acute criteria to analyze the toxicity of the urban runoff from the Specific Plan as it impacts aquatic life and human health. Nor does the EIR utilize the CTR's acute and chronic criteria to analyze the toxicity of the sewage effluent generated from the Specific Plan and discharge into marine waters by the

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[22] See Basin Plan Chapter 3: Water Quality Objectives.

[23] (Attachment A); See Basin Plan Chapter 2: Beneficial Uses, Table 2.1; See Basin Plan Chapter 2: Beneficial Use Definition (WILD = wildlife habitat; EST = Estuarine Habitat; MAR – Marine Habitat, WARM = Warm Freshwater Habitat; RARE = Rare Threatened or Endangered Species under state or fed regs; SPWN = Spawning, Reproduction, and or early development; MIGR = Migration of Aquatic Organisms); E=existing beneficial use, P=Potential beneficial use, I=intermittent beneficial use; e= One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging or nesting; f=aquatic organism utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs.

OWWTP on marine aquatic life and human health. Therefore, the EIR must evaluate the acute toxicity impacts from the Project's dry weather and wet weather urban runoff using the criteria set forth under the CTR. Additionally, the EIR must evaluate the acute and chronic toxicity impacts from the sewage effluent generated from the Specific Plan that will be discharged into marine waters using the criteria set forth under the CTR. Furthermore, if applicable, the EIR must set forth adequate mitigation measures to mitigate these impacts to a less than significant effect.

Additionally, build out of the north and south subarea in the Specific Plan will result in the discharge of urban runoff and additional discharge of sewage effluent from the OWWTP into marine waters, with unknown and emerging contaminants and a mix of pollutants which in the aggregate may cause acute and chronic impacts to aquatic organisms. Thus, because these discharges may violate the Basin Plan's and the CTR's water quality standards for toxicity, or may otherwise substantially degrade water quality, they may have a significant effect on water quality and their toxicity must be evaluated and adequately mitigated for under the EIR.

V. The EIR Must Evaluate and Identify the Significant Impacts that Pharmaceuticals Contained in the Sewage Generated From the Project will have on Water Quality and Biological Resources

The EIR fails to evaluate and identify the significant environmental effect that the discharges of pharmaceuticals contained in Project generated OWWTP sewage effluent discharged into marine waters, applied to agricultural fields, applied to urban environments, and discharged into ground water for recharge purposes may have on water quality and aquatic life. On average, Americans fill more than 12 prescriptions annually.[24] As much as 40% of prescription drugs dispensed are never used, and 50% of consumers dispose of unused drugs in the trash, while over one 33% flush them down the toilet.[25] When unused pharmaceuticals are flushed down the toilet or the drain, they enter the public sewer system directly, contaminating the drinking water supply and local waterways. Pharmaceuticals also reach the water supply when unabsorbed medication is excreted by humans directly into the sewer system or by livestock indirectly into nearby waterways. Wastewater treatment facilities are not designed to remove pharmaceuticals from the water supply. As a result, over 80% of waterways tested in the United States show traces of common medications such as acetaminophen, hormones, blood pressure medication, codeine, and antibiotics.[26]

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[24] Kaiser Family Foundation, *Prescription Drug Trends*, September 2008.
[25] Based on figures from the National Unused and Expired Medicine Registry; J. Bound & N. Voulvoulis, *Household disposal of pharmaceuticals as a pathway for aquatic contamination in the United Kingdom,* Environmental Health Perspectives, 113(12), pp. 1705-1711, 2005.
[26] Robin Shalinsky, *Taking the Initiative to Take-Back Medications*, America's Pharmacist, March 2009.

In 1999-2000 United States Geological Survey (USGS) conducted a "national reconnaissance" of organic wastewater contaminants looking for 95 compounds including pharmaceuticals; steroids and reproductive hormones; caffeine; and hormone disrupting chemicals commonly found in plastics, insecticides, fragrances, fire retardants and solvents.[27] Eighty percent of the water samples researchers took from 139 streams in 30 states contained at least one of the 95 contaminants under study, and there was an average of seven contaminants in each water sample.[28] The USGS concluded that the wastewater treatment steps intended to return clean water to the nation's waterways do not effectively control pharmaceuticals.[29]

While concentrations of pharmaceutical in surface waters are typically low, pharmaceuticals are showing up in fish tissue and studies are emerging that suggest exposure to pharmaceuticals and combinations of pharmaceuticals in surface waters are adversely impacting aquatic organisms and aquatic ecosystems.[30] Additionally, because conventional wastewater treatment systems do not have the ability to remove all pharmaceuticals, water supplies downstream of municipal wastewater treatment discharges may be impacted, as many studies have found the widespread presence of pharmaceuticals in public drinking water at very low levels.[31] While the low concentrations of pharmaceuticals in water supplies and surface waters are low and some pharmaceuticals may degrade under certain conditions, the human health consequences of ingestion may be severe and are beginning to be investigated.[32] For instance, researchers have reported that human cells fail to grow normally in the laboratory when exposed to trace concentrations of certain drugs commonly found in the water supply.[33]

Because pharmaceuticals from the north and south subarea's OWWTP treated sewage effluent discharges are discharged directly into the ocean, the EIR must evaluate the impacts of pharmaceuticals contained in the OWWTP effluent to marine aquatic life and propose mitigation measures that will mitigate these impacts to a less than significant effect. Additionally, the EIR should also evaluate the water quality, aquatic life, and human health impacts from pharmaceuticals contained in the OWWT effluent that could be re-used for agricultural or urban use, or injected into Oxnard's drinking water supply, and provide mitigation measures that will mitigate these impacts to a less than significant effect.

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[27] (Barnes, K.K., Kolpin, D.W., Meyer, M.T., Thurman, E.M., Furlong, E.T., Zaugg, S.D., and Barber, L.B., 2002, Water-quality data for pharmaceuticals, hormones, and other organic wastewater contaminants in U.S. streams, 1999-2000: U.S. Geological Survey Open-File Report 02-94, available at: http://toxics.usgs.gov/regional/emc/streams.html); more studies available at http://toxics.usgs.gov/regional/emc/streams.html).
[28] *Id*.
[29] *Id*..
[30] (See Attachment C).
[31] *Id*.
[32] *Id*.
[33] Jeff Donn, Martha Mendoza, and Justin Pritchard, SF Chronicle, *Tons of drugs dumped into wastewater*, San Francisco Chronicle, September 21, 2008.

VI. The EIR fails to Adequately Evaluate the Significant Effects to the Water Quality and Aquatic Biological Resources of the Ormond Beach Wetlands, Mugu Lagoon, and Marine Waters from the Biostimulatory Substances that will be Contained in Urban Runoff Discharged from the North and South Subarea and Project Generated OWWTP Discharges[34]

The EIR fails to evaluate the significant environmental effect that the discharges of biostimulatory substances from the OWWTP to marine waters and from urban runoff to the Ormond Beach Wetlands, Mugu Lagoon, and Oxnard's coastal marine waters may have on water quality and aquatic life.

The Basin Plan Water Quality Objective that applies to Total Phosphorous and Total Nitrogen states that "water shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses." Excessive amounts of biostimulatory substances leads to eutrophication, which can lead to devastating ecological consequences in Mugu Lagoon, the Ormond Beach Wetlands, and in Oxnard's marine waters. As set forth in the Machado Lake Nutrient TMDL:

> "Eutrophication is increased nutrient loading into a waterbody and the resulting increased growth of biota, phytoplankton, and other aquatic species. Phosphorous and nitrogen are key nutrients for phytoplankton growth in lakes and are often responsible for eutrophication of surface waters… The excessive plant biomass may cause increased turbidity, altered planktonic food chains, algal blooms, reduced oxygen concentrations, and increased nutrient recycling. These changes can lead to a cascade of biological responses culminating in impaired beneficial uses…Low dissolved oxygen levels can be stressful for fish and other organisms and may in fact lead to fish kills."[35]

Eutrophication of coastal waters and estuaries is a global environmental issue that is demonstrated to be linked to anthropogenic watershed changes, the increased in nutrient loading of waterbodies, and impairing algal blooms, hypoxia, and impacts on aquatic food webs (Valiela et al. 1992). Eutrophication of coastal areas can lead to devastating ecological consequences, including fish-kills and lowered productivity of fisheries, (Glasgow and Burkholder, 2000), loss or degradation of seagrass and kelp bed habitat (Twilley 1985, Burkholder et al. 1992, McGlathery 2001), smothering of bivalves and other benthic organisms (Rabalais and Harper 1992), nuisance odors, and impacts on human and marine mammal health from poorer water quality and the increased frequency

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[34] VCK would like to acknowledge Heal the Bay's work on Biostimulatory substances for its contribution to this section of VCK's comment letter.

[35] Resolution NO. R08-006, Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Eutrophic, Algea, Ammonia, and Odors (Nutrient) for Machado Lake, Los Angeles Regional Water Quality Control Board, pg 3.

and extent of harmful algal blooms (Bates et al. 1991, Trainer et al. 2002). In 2001, the U.S. EPA listed eutrophication as one of the top three leading causes of impairments of the nation's waters (US EPA 2001).[36] Additionally, the Regional Board Staff, in its 2008 update of the Los Angeles Regional Integrated Report for Clean Water Act Section 305(b) Report and Section 303(d) List of Impaired Waters, issued these finding in regards to eutrophication:

> "Eutrophication and nutrient enrichment problems rank as the most widespread water quality problems nationwide; for example, more lake acres are affected by nutrients than any other pollutant or stressor (EPA 2000). Eutrophication is defined by increased nutrient loading to a waterbody and the resulting increased growth of phytoplankton and other aquatic plants. Additionally, other parameters such as decreased dissolved oxygen and water clarity can also indicate eutrophic conditions. Phosphorus and nitrogen are recognized as key nutrients for the growth of phytoplankton, algae, and aquatic plants and are responsible for the eutrophication of surface waters."[37]

In the adopted Machado Lake TMDL, the Regional Board appropriately included a numeric target for total phosphorus of .1mg/l that was based of the EPA Nutrient Criteria Technical Guidance Manual Lakes and Reservoirs (2000), which does not recommend setting a numeric target for total phosphorus greater than 0.1 mg/L.[38] Additionally, to maintain a balance of nutrients for biomass growth and prevent limitation by one nutrient or another, a ratio of total nitrogen to total phosphorus of 10 is used to derive the total nitrogen numeric target of 1.0 mg/L as a monthly average concentration (Thomann, Mueller, 1987)" (Regional Board Staff Report for Machado Lake TMDL at pg 35).

While, the Basin Plan's water quality objective for nitrogen is that "Waters shall not exceed 10 mg/l nitrogen as nitrate-nitrogen plus nitrite-nitrogen, 45 mg/l as nitrate, 10 mg/l as nitrate-nitrogen, or 1 mg/l as nitrite-nitrogen or as otherwise designated in Table 3-8," during the promulgation of the Machado Lake TMDL, the Regional Board determined that the Basin Plan's water quality objective for nitrogen as applied to aquatic life:

> "is not supportive of the narrative biostimulatory substance water quality objective. The nitrogen objective (10 mg/L) in the Basin Plan is based on criteria acceptable for drinking water and not appropriate to address eutrophic conditions in the lake. A review of available data and scientific literature demonstrates that

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[36] Southern California Bight 2008 Regional Marine Monitoring Survey (Bight'08), Coastal Wetlands and Estuaries Eutrophication Assessment Workplan, Bight'08 Estuaries and Coastal Wetlands Committee, available at: ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/BightPlanningDocuments/Bight08/Bight08_CoastalWetlandsEstuaries_Workplan.pdf

[37] See Attachment B.

[38] Resolution NO. R08-006 and Attachment A to Resolution NO. R08-006, Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a Total Maximum Daily Load for Eutrophic, Algea, Ammonia, and Odors (Nutrient) for Machado Lake, California Regional Water Quality Control Board, Los Angeles Region.

> the numeric objective of 10 mg/L for nitrogen is not sufficiently protective for controlling excessive algal/macrophyte growth and the symptoms of eutrophication in the lake. Therefore, the numeric target for total nitrogen will be more stringent than the existing numeric nitrogen objective in the Basin Plan to ensure attainment of the narrative biostimulatory substances water quality objective. The TMDL and its numeric targets must be developed to ensure protection of all the beneficial uses and attainment of nutrient related water quality objectives specified in the Basin Plan."[39]

The Regional Board Staff, in its 2008 update of the Los Angeles Regional Integrated Report for Clean Water Act Section 305(b) Report and Section 303(d) List of Impaired Waters, verified its determinations in their comment for the Machado Lake TMDL by stating:

> "The Basin Plan contains a specific nitrogen (nitrate nitrite) water quality objective, which is established at 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen. This objective is specifically set to protect drinking water beneficial uses and is consistent with the California Department Public Health nitrate drinking water standard. This nitrogen water quality objective does not protect waterbodies from impairments related to biostimulatory substances and eutrophication."[40]

Thus, this assessment resulted in the Machado Lake Nutrient TMDL including a total nitrogen numeric target of 1.0 mg/L as a monthly average concentration. In addition the current Nutrient TMDL for Malibu Creek, adopted by USEPA in 2003, provides summer season water quality objectives of 1.0 mg/l total nitrogen and 0.1 mg/l total phosphorous.[41] Other established nitrogen criteria for protection of aquatic life are much lower. For instance, USEPA established a guidance value for CWA section 304(a) nutrient criteria specific to the Los Angeles Region (Ecoregion III) of 0.38 mg/l total nitrogen and 0.022 mg/l total phosphorus for protection of aquatic life and recreation uses.[42]

By omission of analysis, the EIR indicates that the projected estimated total phosphorous and total nitrogen concentrations in stormwater from the Specific Plan's north and south subarea would be lower than existing conditions, and thus would not cause a significant environmental impact. This implies that the Specific Plan assumes that the project-related discharges would not promote (i.e. increase) algal growth and would comply with the narrative objective for biostimulatory substances in the Basin Plan. However, the EIR does not provide projections of total nitrogen and total phosphorous projected to be discharged from urban runoff into receiving waters, and thus the public has no means to

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[39] Regional Board Staff Report for Machado Lake TMDL at 32, emphasis added.
[40] See Attachment B.
[41] Total Maximum Daily Loads for Nutrients Malibu Creek Watershed, U.S. EPA Region 9, 2003, Pg 18-19, available at: http://www.epa.gov/region09/water/tmdl/malibu/final_nutrients.pdf
[42] USEPA, *Ambient Water Quality Criteria Recommendations: Rivers and Streams in Nutrient Ecoregion III* (2000) (EPA 822-B-00-016).

determine if the discharge of urban runoff from the north and south subarea violate the narrative objective for biostimulatory substances and established nitrogen and phosphorous criteria for protection of aquatic life, and therefore if the Project's discharge of urban runoff will have a significant effect on the environment under significance criteria 1 and significance criteria 3 set forth in the Water Quality Section of the EIR. To adequately comply with CEQA, the EIR must adequately evaluate whether the discharge of urban runoff from the project will violate the narrative objective for biostimulatory substances in the Los Angeles Basin Plan.

VII. The EIR Fails to Adequately Evaluate the Significant Impacts to Water Quality from the Bacteria that will be Contained in the Project's Urban Runoff

The EIR provides no numerical projections as to the Projects' projected bacteria (total coliform, e-coli, and enterococci) concentrations with and without stormwater BMPs ("Best Management Practices"), and must do so to adequately evaluate the Project's effect on water quality. While the EIR indicates that for the north subarea, "Water quality modeling was performed to predict the potential pollutant concentrations in the discharge from the proposed lake as a result of the 85th percentile storm (PACE, December 2006)," the pollutants modeled included total suspended solids, total phosphorus, total nitrogen, copper, lead, zinc, total petroleum hydrocarbons, oil/grease and total dissolved solids, but did not include bacteria (EIR 3.3-87). Considering that EIR projects that Lake Southshore from the north subarea and portions of the south subarea will discharge to the Oxnard Drain that empties into the Ormond Beach Wetlands and Ormond Beach, and that Ormond Beach is listed on the Clean Water Act 303(d) impairment list for indicator bacteria, the EIR must provide an analysis of the Specific Plan's impact to water quality as it pertains to bacteria.

Furthermore, the stormwater BMPs the EIR sets forth for the north and south subarea do not utilize LID standards with a 5% Effective Impervious Area ("EIA") requirement to prevent stormwater from sweeping pathogens into the north and south subareas receiving waterbodies. While the EIR is not clear on the matter, it appears from the EIR that the south subarea, because it does not incorporate adequate LID standards to protect water quality by ensuring a 5% EIA standard is achieved, will result in the discharge of more acre feet of water per year into receiving water bodies from runoff than the current land uses.[43] Data compiled in 2003 by University of Alabama and Center for Watershed Protection for USEPA MS4 NPDES Phase 1 Data, indicates the median fecal concentrations from 65 stormwater programs in 17 states range from 4,500 to 7,700 MPN/100 ml for residential and commercial uses. [44] Additionally, urban runoff stormwater data from the Center of Watershed Protection's study "Impacts of Impervious Cover on Aquatic Ecosystems" ("Center's Study") presented in Tables F.5.-F.7. in

[43] EIR at 3.3-113,114

[44] Pitt, Robert et. al., 2003. MS4 NPDES Phase 1 Data. Prepared by University of Alabama and Center for Watershed Protection.

Appendix VCK A[45], indicates that the median nation wide concentration of fecal coliform in stormwater is roughly 15038 MPN/100 ml. It is thus fair to assume that fecal coliform concentrations in the north and south subarea urban dry and wet weather runoff will contain fecal concentrations ranging from 4,500 to 15,000 MPN/100 ml, thus impairing Ormond Beach, Mugu Lagoon, the Ormond Beach Wetlands, and Oxnard's coastal waters for the recreational based human uses set forth in the Basin Plan.[46]

VIII. The EIR fails to present the information it relies on to predict the discharge of the pollutants in dry and wet weather urban runoff with and without mitigation measures, and thus provides no basis for the public to determine whether the mitigation measures or the BMPs the EIR sets forth will adequately protect water quality and reduce the impacts on water quality to a less than significant effect.

EIRs should be organized and written in a manner that will make them "meaningful and useful to decision-makers and to the public." Pub Res C §21003(b). Thus, the data in an EIR must be presented in a manner that is designed to adequately inform the public and decision-makers; an EIR cannot rely on information that is not either included in the document or described and referenced. *Vineyard Area Citizens for Responsible Growth v City of Rancho Cordova* (2007) 40 C4th 412, 442, 53 CR3d 821. An EIR should be written in a way that readers are not forced "to sift through obscure minutiae or appendices" to find important components of the analysis. *San Joaquin Raptor Rescue Ctr. v County of Merced* (2007) 149 CA4th 645, 659, 57 CR3d 663; see also *California Oak Found. v City of Santa Clarita* (2005) 133 CA4th 1219, 1239, 35 CR3d 434. Technical data should be summarized. 14 Cal Code Regs §15147. Use of charts or tables to present components of the analysis is acceptable. *City of Fremont v San Francisco Bay Area Rapid Transit Dist.* (1995) 34 CA4th 1780, 1787, 41 CR2d 157.

The Specific Plan's EIR not only does not contain the water quality data and estimates used to project the concentrations and loading of pollutants in stormwater and dry weather discharges with and without mitigation measures from the northern and southern subarea, but it does not adhere to the CEQA guidelines by either placing this data in the EIR appendix per 14 Cal Code Regs §15147, by citing to technical information per 14 Cal Code Regs §15148, or by incorporating this data by reference per 14 Cal Code Regs

[45] National stormwater data are compiled from the Nationwide Urban Runoff Program (NURP), with additional data obtained from the U.S.Geological Survey (USGS), as well as initial stormwater monitoring conducted for EPA's National Pollutant Discharge Elimination System (NPDES) Phase I stormwater program. In most cases, stormwater pollutant data is reported as an event mean concentration (EMC), which represents the average concentration of the pollutant during an entire stormwater runoff event.

[46] Water Quality Control Plan Los Angeles Region, Chapter 3: Water Quality Objectives pg 3-3: "In waters designated for water contact recreation (REC-1), the fecal coliform concentration shall not exceed a log mean of 200/100 ml (based on a minimum of not less that four samples for any 30 day period), nor shall more that 10 percent of total samples during any 30 day period exceed 400/100ml. In waters designated for non-water contact recreation (REC-2) and not designated for water contact recreation (REC-1), the fecal coliform concentration shall not exceed a log mean of 2000/100 ml..nor shall more than 10 percent of samples collected during any 30 day period exceed 4000/100ml).

§15150. While the EIR cites that "impact of development of the Northern Subarea on water quality has been addressed in the Hydrology Report (RBF Consulting, 2004) and Project Description (Hearthside Homes, 2004) for the Northern Subarea project" and that "A draft stormwater quality and lake BMP analysis has been developed, incorporating water quality modeling of stormwater pollutant loads and BMP treatment effectiveness for Lake SouthShore (PACE, December 2006)," these reports are not available to the public in the EIR appendix, and even if they were, the technical data that forms the basis of the water quality projections from the north subareas urban runoff should be summarized (EIR 3.3-105,106). Additionally, The EIR fails to cite studies or otherwise include any water quality data or estimates used to project stormwater and dry weather discharges from the southern subarea with and without mitigation measures.

Because the EIR fails to present the information it relies on to predict the discharge of the pollutants in dry and wet weather urban runoff with and without mitigation measures from the Specific Plan's north and south subareas, the EIR thus provides no basis for the public to determine whether the mitigation measures or the BMPs the EIR sets forth will adequately protect water quality and reduce the impacts on water quality to a less than significant effect.

Therefore, to comply with CEQA, the EIR must provide an adequate basis for the public to determine whether the mitigation measures or the stormwater BMPs the EIR sets forth will adequately protect water quality and reduce the impacts on water quality to a less than significant effect, by including, in summary form, the post construction water quality data and estimates used to project stormwater and dry weather discharges from the north and south subarea absent mitigation measures/ stormwater BMPs and with mitigation measures/ stormwater BMPs. Not only must the EIR provide this data, but it must summarize and present this data in a table or other manner that is meaningful and useful to decision-makers and to the public.

While the EIR must evaluate the Specific Plan's water quality impacts from pollutant loading, biostimulatory substances, acute and chronic toxicity, and concentrations of contaminants commonly found in dry and wet weather urban runoff, to adequately evaluate these impacts, the EIR must also provide projections of the water quality projected to be discharged from the north and south subarea before and after mitigation measures, and these projections must be supported by substantial evidence.

IX. The EIR should use national urban runoff stormwater data from the Center of Watershed Protection's study "Impacts of Impervious Cover on Aquatic Ecosystems" and data from Los Angeles County's Stormwater Monitoring Reports to predict the discharge of the pollutants in dry and wet weather urban runoff without mitigation measures and to ensure all pollutants commonly found in stormwater are included in the EIRs water quality analysis.

Los Angeles County's ("County's") violations of water quality standards at mass emission stations from urban runoff, as reported in Stormwater Monitoring Reports ("SMRs"), submitted in compliance with the Los Angeles County MS4 Permit, should be used to predict the discharge of the pollutants in dry and wet weather urban runoff without mitigation measures and to ensure all pollutants commonly found in stormwater are included in the EIR's stormwater water quality analysis. For ease of reference, a list of the County's violations at the mass emission stations as detailed in its SMRs are included in Tables F.1-F.4 found in Appendix VCK A.[47] These SMRs indicate the Los Angeles County MS4 urban runoff discharges violated water quality standards for: total aluminum, fecal coliform, total copper, total cadmium, total antimony, total cyanide, total zinc, total lead, total silver, sulfate, total dissolved solids, dissolved aluminum, dissolved copper, total boron, pH, chloride, dissolved oxygen, and nitrite.

Likewise, national urban runoff stormwater data from the Center of Watershed Protection's study "Impacts of Impervious Cover on Aquatic Ecosystems" ("Center's Study") presented in Tables F.5.-F.7. in Appendix VCK A[48], should also be used in conjunction with the Los Angeles County stormwater date to predict/model the discharge of the pollutants in dry and wet weather urban runoff without mitigation measures and to ensure all pollutants commonly found in stormwater are included in the EIRs stormwater water quality analysis. Comparisons should be made to stormwater data for the semi-arid San Diego, CA region with similar geology and rainfall patterns to Oxnard.

Additionally, it is apparent from the findings in the Los Angeles MS4 SMRs above and the Center's Study, that the EIR failed to analyze the Project's environmental effects from pollutants that are commonly found in stormwater including: bacteria, total cadmium, total antimony, total cyanide, total silver, sulfate, total boron, pH, and chromium. Therefore, the EIR must include these water quality constituents in its analysis of water quality impacts from the north and south subareas's stormwater runoff.

X. The EIR utilizes an inadequate methodology to determine significant environmental impacts to water quality because it uses an inadequate environmental baseline to determine the project's effect on water quality

[47] Also available at http://dpw.lacounty.gov/wmd/NPDES/2007-08tc.cfm, http://dpw.lacounty.gov/wmd/NPDES/2006-07tc.cfm, http://dpw.lacounty.gov/wmd/NPDES/2005-06tc.cfm, and http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/stormwater/municipal/los_angeles_ms4/lams4annualreport.shtml.

[48] National stormwater data are compiled from the Nationwide Urban Runoff Program (NURP), with additional data obtained from the U.S.Geological Survey (USGS), as well as initial stormwater monitoring conducted for EPA's National Pollutant Discharge Elimination System (NPDES) Phase I stormwater program. In most cases, stormwater pollutant data is reported as an event mean concentration (EMC), which represents the average concentration of the pollutant during an entire stormwater runoff event.

For the north subarea, the EIR states that: "Existing stormwater pollutant concentrations were compared to the predicted pollutant concentrations in lake water after dilution and BMP treatment. The results from the water quality modeling based on the proposed lake properties indicated that concentrations of all pollutants modeled would be reduced with the exception of zinc." (EIR 3.3-87).

Comparing the existing stormwater pollutant concentrations to the predicted stormwater pollutant concentrations after mitigation measures (BMP treatment), and finding that the Specific Plan would not have a significant impact on water quality if the concentrations of pollutants discharged from north and south subarea are predicted to be reduced when compared to existing conditions, is flawed. This approach is flawed because not only is a comparison to natural, non developed conditions more appropriate to determine the environmental footprint of the project, but at least a comparison to existing conditions should require the existing conditions (existing land uses) to comply with all applicable water quality regulations. Thus, comparison to "existing conditions", which consist of agricultural properties that are not using BMPs, not complying with water quality standards, and/or not complying the Waste Load Allocations prescribed by the TMDLs for the Mugu Lagoon Watershed as required by the Clean Water Act, California Toxics Rule, Porter-Cologne Water Quality Control Act, Basin Plan, and Endangered Species Act to mitigate and prevent the discharge of sediment, pathogen, metals, pesticide, and nutrients into Mugu Lagoon is inadequate for determining the significant effect of the project on water quality and biological resources, because the existing discharges violate State and Federal water quality standards and regulations. By analogy, if the south subarea were to encompass the Halaco Superfund Site, would environmental impacts from urban runoff be mitigated to a less than significant effect if it discharged pollutants equal to or just below the concentration of toxic pollutants discharged from the Halaco Superfund Site?

Therefore, the EIR methodology for determining if the Project may have a significant impact on water quality, as required under CEQA and NEPA, must instead be that:

> *"if the loads or concentrations of pollutants discharged from the Project are predicted to stay the same or to be reduced when compared to existing loads or concentrations of pollutants in project area discharges that are either permitted to be discharged from the project area under applicable state and federal regulations or that are in compliance with applicable state and federal regulations and water quality standards, it is concluded that the proposed Project or alternatives would not cause a significant adverse impact to the ambient water quality of the receiving waters for the pollutant."*

Accordingly, the impacts from the north and south subarea's urban runoff must be re-evaluated using this correct and legal baseline criteria for existing water quality conditions to determine if the impacts from the north and subarea's urban runoff discharges will be significant.

X. The EIR cannot be approved under CEQA, and the Regional Board cannot grant the Project a Section 401 Water Quality Certification, because the Project will discharge pollutants into 303(d) impaired waterbodies that cause or contribute to the 303(d) listed water quality impairments, and the Project has not been assigned Waste Load Allocations (WLA) from a Regional Board TMDL for the pollutants causing the 303(d) list impairment.

A 401 Water Quality Certification or issuance of a Waste Discharge Requirement or NPDES permit for the north subarea would authorize the discharge of pollutants to impaired water bodies from "new sources" or "new dischargers" in violation of the Clean Water Act ("CWA"). 40 C.F.R. § 122.4(i) explicitly prohibits discharges from these sources, stating that:

> No permit may be issued:
>
> (i) To a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards … and for which the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the public comment period, that:
>
>> (1) There are sufficient remaining pollutant load allocations to allow for the discharge; and (2) The existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards.

(40 C.F.R. § 122.4(i).) Thus, the Regional Board cannot grant a CWA Section 401 Water Quality Certification ("401 Certification") or waste discharge requirement to a new source or new discharger if runoff or direct discharge from the new discharge adds any pollutant to discharges from the MS4 or adds any pollutant directly to a waterbody that "will cause or contribute to the violation of water quality standards" for a waterbody listed on the CWA 303(d) list as specifically impaired for that pollutant.[49] The only exception to this rule is when a TMDL has been finalized and then approved by the USEPA, and the "new source can demonstrate that, under the TMDL, the plan is designed to bring the waters into compliance with applicable water quality standards." [50]

Therefore, if a TMDL has not been completed and approved by the U.S. EPA for a specified water body and pollutant listed as impaired on the CWA 303(d) list, new discharges that add pollutants that will cause or contribute to the 303(d) impairment

[49] Friends of Pinto Creek v. U.S. E.P.A., 504 F.3d 1007, 1011 (2007).
[50] *Id.*

violate water quality standards, and thus are absolutely prohibited. Additionally, unless a TMDL explicitly provides that existing discharges into the impaired waterbody are "subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards," issuance of a permit or water quality certification for the new discharge of the pollutant listed on the CWA 303(d) list as impaired to the 303(d) waterbody listed for that impairment, is also prohibited under 40 C.F.R. § 122.4(i).[51]

Thus, the Regional Board is prohibited from approving a permit or water quality certification that allows new sources or discharges of any pollutant to waterbodies already impaired by that pollutant, unless the permit applicant can show that an existing TMDL specifically provides sufficient waste load allocations for the discharge, and the TMDL provides a compliance schedule designed to bring the segment into compliance with applicable water quality standards.

As shown in Table III.A below, a TMDL with WLAs and compliance schedules has not been completed or approved for the CWA Section 303(d) List of Water Quality Limited Sections for Indicator Bacteria at Ormond Beach.

Table III.A

Los Angeles Regional Water Quality Control Board 2008 CWA SECTION 303(d) LIST OF WATER QUALITY LIMITED SECTIONS[52]					
Waterbody Name	Estimated Size Affected	Pollutant	TMDL Requirement Status	Expected TMDL Completion Date	Date USEPA Approved TMDL
Ormond Beach	3.1 miles	Indicator Bacteria	A	2015	
Mugu Lagoon (Calleguas Creek Reach 1)	343.8 Acres	Chlorodane (tissue)	B		1/1/2005
		Copper	B		3/23/2007
		DDT (tissue, sediment)	B		1/1/2005
		dieldrin (tissue)	B		3/14/2006
		endosulfan (tissue)	A	1/1/2005	
		Mercury	B		3/26/2007
		Nickel	B		3/23/2007
		nitrate + nitrite	B		6/20/2003
		PCB (tissue)	B		1/1/2005

[51] *Id*. at 1013.
[52] Available at http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/303d/2008/Revised%20303(d)/Revised_Appendix_F_08July09.pdf

	sediment toxicity	B	1/1/2005
	sedimentation/siltation	B	approved
	toxaphene(tissue/sediment)	B	3/14/2006
	Zinc	B	3/23/2007

** TMDL requirement status definitions for listed pollutants are: A= TMDL still required, B= being addressed by USEPA approved TMDL, C= being addressed by action other than a TMDL
*** Dates relate to the TMDL requirement status, so a date for A= TMDL scheduled completion date, B= Date USEPA approved TMDL, and C= Completion date for action other than a TMDL

Urban runoff from wet weather events will discharge from the north subarea[53] directly to the OID and into the Ormond Beach Wetlands and Ormond Beach. Because the EIR does not analyze the bacteria water quality impacts from the north subarea Lake South Shore stormwater discharge, and because bacteria is a pollutant commonly found in stormwater as demonstrated in VCK Appendix A, the EIR does not demonstrate that urban runoff discharges will not cause or contribute to impairments for Indicator Bacteria at Ormond Beach. Therefore, because the discharge of urban runoff from the north subarea as proposed in the EIR without mitigation measures will cause or contribute to a 303(d) impairment for indicator bacteria at Ormond Beach, the north subarea cannot receive a CWA Section 401 Certification or NPDES discharge permit for its discharge from Lake Southshore, and the EIR cannot be approved under CEQA.

Additionally, Section 3.3.2.1.4 of the EIR incorrectly states that "The Study Area is not located within the watershed of a Section 303 listed "impaired" waterbody. Ormond Beach lies within the watershed of the Specific Plan, is a Section 303(d) listed impaired waterbody, and the project indirectly impacts Ormond beach from its discharge of urban runoff with pollutants, including indicator bacteria.

XI. <u>The EIR does not Evaluate Whether the Specific Plan will Comply with Applicable TMDLs</u>

The CEQA Environmental Checklist provided in Appendix G of the Specific Plan states that a project would have significant impacts on hydrology and water quality if it would:

1.) Violate any water quality standards or waste discharge requirements.

[53] As the EIR indicates, the north subarea will need to obtain an NPDES Section 402 Permit: However, the lake surcharge capacity of 54 AF may not be adequate to retain the runoff from a 25-year storm without discharge. The discharge from the lake to the OID of any stormwater resulting from runoff up to the 25-year storm event would require an individual stormwater discharge permit. (EIR 3.3-105)

2.) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

3.) Otherwise substantially degrade water quality.

Furthermore, as Section 3.3.3.2.2 of the Final Specific Plan indicates, water resource impacts would be identified as significant if they degrade surface or groundwater quality in violation of the LARWQCB Basin Plan objectives or water quality regulations, and result in substantial degradation of water quality conditions that could affect beneficial uses of receiving waters, including sensitive estuary and marine environments.

TMDLs have been incorporation into the Basin Plan for Mugu Lagoon that allocate Waste Load Allocations for pollutants found in urban runoff. These TMDLs include:

- A Toxicity, Chlorpyrifos, and Diazinon TMDL (Regional Water Quality Control Board Resolution No:2005-009) that Stormwater Co-Permittees that allocates a wasteload of 1.0 TUc is allocated to urban stormwater co-permittees (MS4) discharges to the Calleguas Creek Watershed[54];

- A Nutrients TMDL (Regional Water Quality Control Board Resolution No. : 2009-0052) for total Ammonia as Nitrogen, Nitrate – Nitrogen, Nitrate + Nitrite[55];

- A Metals (Copper, Nickel, mercury) and Selenium TMDL (Regional Water Quality Control Board Resolution 2006-012);[56]

- And a TMDL for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs) and Siltation in Calleguas Creek, Its Tributaries, and Mugu Lagoon (Regional Water Quality Control Board Resolution 2005-010)[57]

Because the north and south subareas will discharge urban runoff into Mugu Lagoon as set forth in the Specific Plan's EIR, the EIR must evaluate whether the urban runoff discharged from the north and south subarea into Mugu Lagoon will comply with the waste load allocations set forth by the TMDLs, and thus whether discharges from the specific plan will have a significant environmental effect. Further, provisions of the new Ventura County MS4 Stormwater Permit requires compliance with TMDLs. Thus, the EIR must demonstrate that the Specific Plan will comply with all applicable TMDLs.

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[54] avail. at http://63.199.216.6/larwqcb_new/bpa/docs/2005-009/2005-009_RB_BPA.pdf
[55] avail at http://63.199.216.6/larwqcb_new/bpa/docs/2008-009/2008-009_RB_BPA.pdf
[56] avail at http://63.199.216.6/larwqcb_new/bpa/docs/2006-012/2006-012_RB_BPA.pdf
[57] avail at: http://63.199.216.6/larwqcb_new/bpa/docs/2005-010/2005-010_RB_BPA.pdf

Additionally, the EIR does indicate that concentrations of zinc in stormwater runoff will increase from the Specific Plan's north sub area as a result of Specific Plan approval. (EIR 3-3 87). While the EIR must provide an analysis of projections from the south subarea, it can be reasonably assumed that zinc concentrations in stormwater runoff will also increase from the Specific Plan's South subarea, which drains into Mugu Lagoon. Thus, the EIR must demonstrate that the development will comply with the Mugu Lagoon/Calleguas Creek Watershed metals TMDL and that zinc discharged in urban runoff will otherwise not impair water quality or aquatic life.

XII. The EIR does not mitigate environmental impacts from post construction urban runoff to water quality and biological resources to a less than significant effect.[58]

To mitigate environmental impacts from post construction urban runoff to water quality and biological resources to a less than significant effect, the EIR indicates that the north and south subarea's compliance with the Ventura County Municipal Stormwater permit (NPDES Permit No. CAS004002 issued July 27, 2000) ("2000 MS4 Permit") is sufficient.

As discussed below, compliance with the 2000 MS4 permit is insufficient to adequately mitigate the environmental impacts from post construction urban runoff to water quality and biological resources of Mugu Lagoon, Ormond Beach Wetlands, and Oxnard's coastal marine waters to a less than significant effect.

Instead, to mitigate environmental impacts from post construction urban runoff to water quality and biological resources to a less than significant effect, the EIR must mandate compliance with the new development provisions contained in Part 4.E's Planning and Land Development Program of the Ventura County MS4 Permit, Order 09-0057, NDPES Permit No. CAS004002 dated May 7, 2009 ("2009 MS4 Permit"), that will apply to new development plans approved or otherwise deemed complete for processing by the local agency (or that have "Vested Tentative Maps" or Tentative Maps with a valid time extension) approximately around August 2010. Although compliance with the General Requirements set forth in Section 3.A.3 (Storm Water Quality Management Program Implementation) of 2009 MS4 permit is at the very least required under CEQA to enhance current mitigation measures and reduce the environmental impacts of the project, substantial evidence indicates that they alone are not enough to mitigate the impacts of the project to water quality and aquatic biological resources to a less than significant effect.

A. The EIR inadequately mitigates impacts to water quality and aquatic resources to a less than significant effect because the EIR's mitigation

[58] VCK would like to acknowledge NRDC's and Heal the Bay's work and comment letters on the 2009 Ventura County MS4 permit that informed and provided much of the content for this section.

measures merely require compliance with the 2000 MS4 Permit to Protect Water Quality

The EIR does not mitigate, to a less than significant effect, impacts to water quality and aquatic resources of Mugu Lagoon, Ormond Beach Wetlands, and the coastal marine waters in the watershed of the project because the mitigation measures merely require compliance with the 2000 MS4 Permit to Protect Water Quality.

Despite ten years of the 2000 Ventura County MS4 Permit requiring runoff volume control and erosion control measures to treat stormwater, significant stormwater derived water quality problems persist in Ventura County. Like the Los Angeles County Storm Water Monitoring Reports ("SMRs") and nation wide urban stormwater data reports presented in VCK Appendix A, in 2006, Ventura County's SMRs indicate that: [e]levated pollutant concentrations were observed at all monitoring sites during one or more monitored wet weather storm events, and at [specific sites] during one or more dry weather events.[59] Ventura County waterbodies that will be effected by urban stormwater discharged from the Specific Plan area include the Ormond Beach Wetlands, Mugu Lagoon, and Ventura County's coastal marine waters. Ventura County waterbodies that will be effected by urban stormwater discharged from the Specific Plan area, that are listed on the State of California 303(d) impairment list include Ormond Beach for indicator bacteria and Mugu Lagoon for Chlorodane (tissue), copper, DDT (tissue, sediment), dieldrin (tissue), endosulfan (tissue), mercury, nickel, nitrate + nitrite, PCB (tissue), sediment toxicity, sedimentation/siltation, toxaphene (tissue/sediment), and zinc. Additionally, Ventura Coastkeeper's Watershed Monitoring Program data indicates that the Ormond Beach Wetlands Lagoon is impaired for trash, bacteria, and nitrate, and that the western branch of Mugu Lagoon off of Arnold Road is impaired for trash (Section XIV, Table 1 of this letter).

The reason why the 2000 MS4 permit has been ineffective in adequately preventing urban stormwater runoff from impairing Ventura County's inland and coastal waterbodies is that the 2000 MS4 permit sets forth "numerical design criteria" for stormwater best management practices (BMPs) (also called Standard Urban Stormwater Mitigation Plan (SUSMP) sizing criteria), that only require the treatment or infiltration of a volume of stormwater without any associated performance standards. Thus, the SUSMP sizing criteria is ineffective in treating stormwater runoff because it does not require BMPs to effectively reduce pollution, but merely to treat a volume of runoff. Specifically, under the 2000 MS4 permit, BMPs are only required to treat runoff from the 85% percentile storm event, but are not required to actually achieve specific amounts of pollution treatment the BMP should be able to obtain through reference to a particular BMPs pollutant removal effectiveness. Thus, under SUSMP criteria mandated by the 2000 MS4 permit, developers can install BMPs such as filters, separation devices, or dysfunctional treatment wetlands that fail to remove significant quantities of pollutants

[59] 2005-2006 Annual Report, Ventura County Wide Stormwater Quality Management Program, pg E-2 (Available at: http://www.vcstormwater.org/publications.html#publications_2007midyear).

from stormwater and that do not reduce erosive peak flows resulting from impervious surfaces to pre-development levels. For example, under the new Permit, a wet pond can not discharge stormwater with a total lead concentration higher than 21.6µ/L, but the 2000 MS4 permit would allow the wet pond to discharge any concentration of lead with no specification of permitted effluent concentrations that the wetpond must achieve. Therefore, new development or redevelopment projects that merely comply with the 2000 MS4 permit criteria, still can impair receiving waterbodies with the pollutants contained in their stormwater discharges.

To be protective of water quality, the Specific Plan must require compliance with the 2009 MS4 Permit provisions for new development found in Part 4.E's Planning and Land Development Program Section III on New Development / Redevelopment Performance Criteria, and must require that treatment control BMPs achieve specific BMP performance criteria protective for storm water pollutants likely to be discharged from urban runoff for an 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area using a 48 to 72-hour draw down time (the 85th percentile 24 hour runoff event is the amount of stormwater the BMP must treat, which is the same volume treatment standards as the 2000 permit). This would ensure that installed BMPs effectively treat pollutants in stormwater and that the right combination and amount of BMPs will be utilized to treat all pollutants of concern in stormwater.

The lack of performance standards for BMPs in the 2000 MS4 Permit, the lack of adequate new development provisions in the 2000 MS4 permit and its inadequate SUSMP requirements to curb pollution from urban runoff, studies supporting the adoption of the 2009 MS4 permit, and the adoption of the 2009 MS4 Permit by the Los Angeles Regional Water Quality Control Board that requires performance standards for BMPs and adequately protective new development regulations, serves as substantial evidence that the mitigation measures in the EIR to protect water quality that only mandate compliance with the 2000 MS4 permit are insufficient under CEQA to mitigate the impacts to the water quality and biological resources of Mugu Lagoon, the Ormond Beach Wetlands, and Ventura County's coastal waters to a less than significant effect.

To comply with CEQA and to mitigate environmental impacts from post construction urban runoff to water quality and biological resources to a less than significant effect, the EIR must mandate compliance with the new development provisions of the Ventura County MS4 Permit, Order 09-0057, NDPES Permit No. CAS004002 dated May 7, 2009 ("2009 MS4 Permit"). To approach mitigating environmental impacts from post construction runoff to water quality and biological resources to a less than significant effect, the EIR must at least mandate compliance with the General Requirements set forth in Section 3.A.3 (Storm Water Quality Management Program Implementation) of 2009 MS4 permit.

B. The EIR's Water Quality Mitigation Measures for Post Construction Runoff must adhere to the 2009 MS4 Permit General Requirements set forth in Section 3.A.3 (Storm Water Quality Management Program Implementation)

to approach mitigating impacts to water quality and aquatic biological resources of Mugu Lagoon, Ormond Beach, and Oxnard's coastal waters to a less than significant effect.

2009 MS4 Permit General Requirements set forth in Section 3.A.3 (Storm Water Quality Management Program Implementation) state that:

> Each Permittee shall require that treatment control BMPs being implemented under the provisions of this Order shall be designed, at a minimum, to achieve the BMP performance criteria for storm water pollutants likely to be discharged as identified in Attachment "C", Table 3 for an 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area using a 48 to 72-hour draw down time, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998). Expected BMP pollutant removal performance for effluent quality was developed from the WERF-ASCE/ U.S. EPA International BMP Database. Permittees shall select Treatment BMPs based on the primary class of pollutants likely to be discharged from the site/facility (e.g. metals from an auto repair shop). Permittees may develop guidance for appropriate Treatment BMPs for project type based on Attachment "C". For the treatment of pollutants causing impairments within the drainage of the impaired waterbody, permittees shall select BMPs from the top three performing BMP categories or alternative BMPs that are designed to meet or exceed the performance of the highest performing BMP for the pollutant causing impairment.

ATTACHMENT C
Treatment BMP Performance Standards

Table 3 - Effluent Concentrations as Median Values

BMP Category	Total Suspended Solids mg/L	Total Nitrate-Nitrogen mg/L	Total Copper, ug/L	Total Lead, ug/L	Total Zinc, ug/L
Detention Pond	27	0.48	15.9	14.6	58.7
Wet Pond	10	0.2	5.8	3.4	21.6
Wetland Basin	13	0.13	3.3	2.5	29.2
Biofilter	18	0.36	9.6	5.4	27.9
Media Filter	11	0.66	7.6	2.6	32.2
Hydrodynamic Device	23	0.29	11.8	5	75.1

Expected BMP pollutant removal performance for effluent quality was developed from the WERF-ASCE/ U.S. EPA International BMP Database, 2007.

See subpart 4.A.3 (Storm Water Quality Management Program Implementation- General Requirements).

The provision of 2009 MS4 Permit General Requirements set forth in Section 3.A.3 (Storm Water Quality Management Program Implementation) are currently effective. Thus, the EIR's mitigation measures for water quality must at least be amended to comply with Section 3.A.3 (Storm Water Quality Management Program Implementation) of the 2009 stormwater permit to approach reducing the Specific Plan's effect on water quality and aquatic biological resources to a less than significant effect.

C. The EIR Must Require Adherence to the New Development Provisions of the 2009 MS4 Permit to Adequately Mitigate the Effect of Stormwater Runoff from the north and south subarea to a less than significant effect because substantial evidence indicates that these New Development provisions are financially feasible and necessary to mitigate the pollutants in stormwater runoff to a less than significant effect.

1.) Stormwater from Urban Development with Greater that 3% Impervious Surfaces Harms the Water Quality and Ecological Integrity of Waterbodies

The reason why the water quality and ecological integrity of the Ormond Beach Wetlands and Mugu Lagoon are threatened by the north and south subarea's proposed in the Specific Plan, can, in part, be linked to urban development and its accompanying impervious surfaces. "Development and urbanization increase pollutant loads," and "urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants."[60] These conclusions are also voiced by the U.S. EPA, which in emphasizing the significant role impervious surfaces found in traditional development play in creating urban runoff that pollutes and degrades out waterways states that:

> "Most stormwater runoff is the result of the man-made hydrologic modifications that normally accompany development. The addition of impervious surfaces, soil compaction, and tree and vegetation removal result in alterations to the movement of water through the environment. As interception, evapotranspiration, and infiltration are reduced and precipitation is converted to overland flow, these modifications affect not only the characteristics of the developed site but also the watershed in which the development is located. Stormwater has been identified as one of the leading sources of pollution for all waterbody types in the United States. Furthermore, the impacts of stormwater pollution are not static; they usually increase with more development and urbanization."[61]

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[60] Ventura County MS4 Stormwater Permit Tentative Order, February 24, 2009, at 5.
[61] U.S. Environmental Protection Agency (December 2007) Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices, at v. (available at: http://www.epa.gov/owow/nps/lid /costs07/).

The Regional Board's 2009 MS4 Permit details how the impervious surfaces accompanying traditional development alter the natural flow of water and increases pollutant loading in runoff by stating that:

> "Development and urbanization increase pollutant loads, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces (paved) such as highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, impervious surfaces (such as pavement and concrete) can neither absorb water nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may become significant in a particularly sensitive environment. These environmentally sensitive areas (ESAs) designated by the State in the Ventura County watershed are defined in Part 7 (Definitions)."[62]

For urban development to increase the volume, velocity, and discharge duration of stormwater runoff from developed area as to accelerate downstream erosion, and impair stream habitat and water quality in natural drainages, the total impervious cover of the development only has to equal 3-10%.[63] The Los Angeles Regional Water Quality Control Board in Ventura County's MS4 Permit ("Permit") findings, found that:

> "Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters.[64] Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 3-10 percent conversion from natural to impervious surfaces in a subwatershed. Percentage impervious cover is a one indicator and predictor of potential water quality degradation expected from new development."[65]

Thus, as detailed by the Regional Board, when there is a 3%-10% conversion of natural surfaces to impervious surfaces in a subwatershed, as allowed under the 2000 MS4

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[62] *Id*. at Finding B.16
[63] Ventura County MS4 Permit, May 7, 2009, at Finding B.12.
[64] Managing Runoff to Protect Natural Streams: The Latest Development on Investigation and Management of Hydromodification in California; Stein, E. et aI, December 2005; Effect of Increase in Peak Flows and Imperviousness on the Morphology of Southern California Streams; Coleman, D., April 2005.
[65] Ventura County MS4 Permit, May 7, 2009, at Finding B.12.

Permit SUSMP requirements, significant declines in the biological integrity, water quality, and physical habitat of streams and other receiving waters have been found to occur.

2.) LID practices with a 3-5% EIA requirement, are a feasible, cost-effective, and necessary to reduce the effect of pollutants on water quality and the ecological integrity of waterbodies in stormwater runoff to a less than significant effect.

i. LID practices with a 3-5% EIA requirement are necessary to adequately reduce pollutants in stormwater to protect the water quality and ecological integrity of inland and coastal waterbodies

LID urban stormwater best management practices are designed to capture and retain, and not discharge, stormwater runoff through infiltrating water into the soil, vaporizing it to the atmosphere via evaporation and transpiration from plants, and harvesting stormwater to for reuse or other beneficial uses.[66] By capturing and retaining stormwater onsite, LID strives to restore natural environmental conditions and results in the discharge of significantly less polluted stormwater runoff in comparison to conventional BMPs. Implementation of LID practices can thus reduce site runoff volume and pollutant loading to zero during storm events. Even the treatment of stormwater with the best-performing conventional BMPs is drastically less effective than utilizing LID practices to retain water with a low Effective Impervious Area ("EIA") requirement.[67]

Dr. Horner's study, "Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County", presented a thorough analysis of the need for and viability of a strict EIA standard to protect the water quality of Ventura County's waterbodies. Dr. Horner's findings indicated that in almost all stormwater case studies, "all storm water discharges could be eliminated at least under most meteorological conditions by dispersing runoff from impervious surfaces to pervious areas."[68] He also found that "effective Impervious Area (EIA) can practicably be capped at three percent" for a development, and that a 3 percent EIA standard is warranted: "[i]n order to protect the biological habitat, physical integrity, and other beneficial uses of the water bodies in Ventura County, effective impervious area should be capped at no more than three percent."[69] As set forth in Dr. Horner's Ventura Study:

> "[B]y retaining water from the site to meet a 3% EIA standard, LID practices result in drastically less polluted runoff compared to conventional BMPs (reducing site runoff volume and pollutant loading to zero in many typical rainfall

[66] See Letter from Richard Horner to Regional Board (April 10, 2009).
[67] *Id*. at 1.
[68] Dr. Horner, Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County, at 15
[69] See Letter from Dr. Richard Horner to Regional Board at pg 1 (April 10, 2009).

scenarios). Even treating stormwater with the best-performing conventional BMPs is much less effective than using LID practices to retain water with a strong numeric requirement like 3% EIA."[70]

Many sources of information bolster Dr. Horner's conclusion and provide more than substantial evidence that LID, and an EIA standard of 3%-5% is needed to protect the ecological integrity and water quality of rivers and streams (See, e.g. Center for Watershed Protection (March 2003) Impacts of Impervious Cover on Aquatic Systems; Southern California Coastal Water Research Project (December 2005) Managing Runoff to Protect Natural Streams: The Latest Developments on Investigation and Management of Hydromodification in California("Physical degradation of stream channels . . . in the semi-arid portions of California appears to occur between 3% and 5% impervious cover.").

Further, many California government agencies and government agencies around the United States have come to the same conclusions about the need for LID. A December 2007 EPA report noted that "LID approaches can be used to reduce the impacts of development and redevelopment activities on water resources."[71] Similarly, a study completed for the California State Water Resources Control Board found that retention-based LID implementation standards (like the 5% EIA limitation) are "appropriate models" for urbanized areas where most projects will involve redevelopment.[72] The study further recommended LID retrofits as "a critical need" for existing development.[73] Additionally, the California Ocean Protection Council, recommends that, "Regulated development projects shall reduce the percentage of effective impervious area to less than five percent of total project area by draining stormwater into landscaped, pervious areas."[74] In 2008, The Ocean Protection Council also strongly endorsed LID by "resolv[ing] to promote the policy that new developments and redevelopments should be designed consistent with LID principles" because "LID is a practicable and superior approach . . . to minimize and mitigate increases in runoff and runoff pollutants and the resulting impacts on downstream uses, coastal resources and

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[70] Dr. Horner April 10 Letter, at 1.

[71] U.S. Environmental Protection Agency (December 2007) Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices, at 2. (available at: http://www.epa.gov/owow/nps/lid/costs07/).

[72] California State Water Resources Control Board Stormwater Program And The Water Board Academy A REVIEW OF LOW IMPACT DEVELOPMENT POLICIES:REMOV:/ING INSTITUTIONAL BARRIERS TO ADOPTION, at pp.22-23 (Dec. 2007) (available at: http/www.waterboards.ca.gov/water_issues/programs/low_impact_development/docs/ca_lid_policy_review.pdf).

[73] Id. at p.23.

[74] Ocean Protection Council of California (January 2008) State and Local Policies Encouraging or Requiring Low Impact Development in California, at 27. The report found that "the importance of imperviousness cannot be under-stated and is well known as an indicator of watershed health . . . limiting effective impervious surface coverage on individual sites has emerged as the preferred regulatory instrument for limiting the effects of impervious surfaces." (Id. at 6.)

communities."[75] The Pollution Control Hearings Board in Washington has found LID techniques to be technologically and economically feasible, and therefore that they must be required in MS4 permits.[76] The 2008 National Academy of Sciences report set forth similar recommendations stormwater management programs: "Municipal permittees would be required under general state regulations to make [LID] techniques top priorities for implementation in approving new developments and redevelopments, to be used unless they are formally and convincingly demonstrated to be infeasible."[77]

ii. LID practices with a 3-5% EIA requirement are economically feasible, cost effective, and economically advantageous.

"The implementation of Low Impact Development (LID) techniques across the United States and Canada has demonstrated that the proper implementation of LID techniques not only results in water quality protection benefits and in a reduction in the cost of land development and construction, but also bears other positive attributes that go beyond economic benefits such as enhanced property values, improved habitat, aesthetic amenities, and improved quality of life" (Ventura County MS4 Permit Findings B17 (May 2009); Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices, USEPA Doc No. EPA 841-F-07-2006, December 2007). Additionally, properly implemented LID techniques reduce the volume of runoff leaving a newly developed or re-developed area thereby lowering the peak runoff rate, and thus minimizing the adverse affects of hydromodification on stream habitat (Ventura County MS4 Permit Findings B17).

The feasibility of onsite retention standards, like the Ventura County MS4 Permit's EIA limitation, has been recognized and implemented by other regulatory agencies within California and throughout the country. The widespread implementation of onsite retention standards (several of which are more stringent than the Permit's provisions) to reduce polluted stormwater runoff indicates the broad feasibility of such standards. The following jurisdictions provide examples of standards similar to those in the Permit:

1. Anacostia, Washington, D.C.: Retain onsite the first one inch of rainfall and provide water quality treatment for rainfall up to the two-year storm volume;[78]

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[75] California Ocean Protection Council (May 15, 2008) *Resolution of the California Ocean Protection Council Regarding Low Impact Development*, at 2.
[76] *Puget Soundkeeper Alliance et al. v. State of Washington, Dept. of Ecology et al.* (2008) Pollution Control Hearings Board, State of Washington, No. 07-021, 07-026, 07-027, 07-028, 07-029, 07-030, 07-037, Phase I Final, at 6, 46, 57-58.
[77] National Academy of Sciences, Committee on Reducing Stormwater Discharge Contributions to Water Pollution, National Research Council (2008) *Urban Stormwater Management in the United States*, at 500.
[78] Anacostia Waterfront Corporation (June 1, 2007) Final Environmental Standards, at 16; See also, State Water Resources Control Board (December 2007) A Review of Low Impact Development Policies: Removing Institutional Barriers to Adoption, at 20-21.

2. Central Coast, California (RWQCB, Phase II): Limit EIA at development projects to no more than 5% of total project area (interim criteria); establish an EIA limitation between 3% and 10% in local stormwater management plans (permanent criteria);[79]

3. Pennsylvania: Capture at least the first two inches of rainfall from all impervious surfaces and retain onsite at least the first one inch of runoff (through reuse, evaporation, transpiration, and/or infiltration); at least 0.5 inch must be infiltrated;[80]

4. Philadelphia, PA: Infiltrate the first one inch of rainfall from all impervious surfaces; if onsite infiltration is infeasible, the same performance must be achieved offsite; and[81]

5. West Virginia: Retain onsite the first one inch of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation.[82]

Additionally, LID is not only economically feasible, but economically beneficial. A study analyzing a existing redevelopment site that had implemented LID, found that not only was the LID implementation possible, but that "[t]he LID option produced a better return on initial investment, as measured by improvements to water quality, than did investments in conventional controls."[83] Additionally, as EPA has noted in an LID study:

> "In most cases, LID practices were shown to be both fiscally and environmentally beneficial to communities. …[I]n the vast majority of cases, significant savings were realized due to reduced costs for site grading and preparation, stormwater infrastructure, site paving, and landscaping. Total capital cost savings ranged from 15 to 80 percent when LID methods were used." (Tentative Fact Sheet at 53-54.)[84]

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[79] Central Coast Regional Water Quality Control Board, Letter from Roger Briggs re Notification to Traditional, Small MS4s on Process for Enrolling under the State's General NPDES Permit for Storm Water Discharges (Feb. 15, 2008) ("Central Coast Phase II Letter").
[80] Pennsylvania Department of Environmental Protection (December 30, 2006) Pennsylvania Stormwater Best Management Practices Manual, Chapter 3, at 7.
[81] City of Philadelphia, Philadelphia Stormwater Regulations § 600.5; City of Philadelphia (2006) Philadelphia Stormwater Management Guidance Manual: Version 2.0, at 1-1, Appendix F.4.1.
[82] State of West Virginia (June 22, 2009) Department of Environmental Protection, Division of Water and Waste Management, General National Pollution Discharge Elimination System Water Pollution Control Permit, NPDES Permit No. WV0116025, at 13-14 ("West Virginia Permit").
[83] The Economics of Low-Impact Development: A Literature Review, ECONorthwest study at 14 (Nov. 2007) (See Attachment D).
[84] U.S. Environmental Protection Agency (December 2007) Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices, at iv. (available at: http://www.epa.gov/owow/nps/lid/costs07/).

Furthermore, as found by the Regional Board and stated earlier in this letter:

> "The implementation of Low Impact Development (LID) techniques across the United States and Canada has demonstrated that the proper implementation of LID techniques not only results in water quality protection benefits and in a reduction of the cost of land development and construction, but also bears other positive attributes that go beyond economic benefits such as enhanced property values, improved habitat, aesthetic amenities, and improved quality of life. *Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices*, USEPA Doc No. EPA 84I-F-07-006, December 2007. Further, properly implemented LID techniques reduce the volume of runoff leaving a newly developed or re-developed area thereby lowering the peak rate of runoff, and thus minimizing the adverse affects of hydromodification on stream habitat. *A Review of Low Impact Development Policies: Removing Institutional Barriers to Adoption*, Low Impact Development Center and State of California, State Water Resources Control Board, December 2007.[85]

3. Adherance to the LID requirements in the 2009 Stormwater Permit is required to mitigate the impacts of stormwater runoff from the north and south subarea to a less than significant effect.

Substantial evidence supports that the Specific Plan's north and south subareas' implementation of "LID" practices as set forth in the Ventura County MS4 permit are feasible, cost-effective, and necessary means of reducing pollutants in stormwater runoff so that the impacts of stormwater from the Specific Plan's north and south subarea on Mugu Lagoon, Ormond Beach Wetlands, and Ventura County's coastal waters are mitigated to a less than significant effect.

The adoption of the new LID provisions in the 2009 MS4 Permit alone serves as substantial evidence that adherence to the 2000 MS4 permit is insufficient to protect the water quality and ecological integrity of Mugu Lagoon and the Ormond Beach wetlands from the Specific Plan's stormwater runoff. The purpose of the 2009 MS4 Stormwater Permit's new LID standards for new and redevelopments, that function to update the ineffective and outdated 2000 MS4 Permit LID standards, are to:

> "(b) Minimize the adverse impacts from storm water runoff on the biological integrity of Natural Drainage Systems and the beneficial uses of waterbodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100; (c) Minimize the percentage of effective impervious surfaces on land developments to mimic predevelopment water balance through infiltration, evapotranspiration, and reuse; (d) Minimize pollutant loadings from impervious surfaces such as roof-tops, parking lots, and roadways through the use of properly

[85] Ventura County MS4 Permit, May 7, 2009, Finding B.17.

designed, technically appropriate BMPs (including Source Control BMPs such as good housekeeping practices), Low Impact Development Strategies, and Treatment Control BMPs" (Part 4.E. Planning and Land Development Program, Section III: New Development / Redevelopment Performance Criteria, pg 65, Order 09-0057, NDPES Permit No. CAS004002 dated May 7, 2009).

Furthermore, in comparison to the SUSMP BMPs required under the 2000 MS4 permit set forth in the Specific Plan's EIR, LID as set forth in the Ventura County 2009 MS4 Permit[86] will result in the substantial pollutant loading reductions needed to reduce the effect of stormwater runoff on Mugu Lagoon, the Ormond Beach Wetlands, and Ventura County's coastal marine waters to a less than significant effect. The 2009 MS4 Stormwater Permit Provisions on new Development and Redevelopment (Part 4.E. Planning and Land Development Program, Section III: New Development / Redevelopment Performance Criteria, pg 65, Order 09-0057, NDPES Permit No. CAS004002 dated May 7, 2009) must be adopted as mitigation measures to adequately mitigate the effect of stormwater runoff from the north and south subarea to a less than significant effect, because unlike the New Development and Redevelopment SUSMP sizing criteria provisions in the 2000 MS4 Permit, as set forth in this Section XII of this letter, the 2009 MS4 new development provisions adequately protect the water quality of receiving waterbodies.

The LID provisions and standards set forth in Planning and Land Development Program (Part 4 E) ("New and Re-Development Provisions") in the May 2009 Ventura County MS4 Permit[87]: require the design storm volume (the 85th percentile storm; the .75 inch storm event; or 80% of the total annual runoff volume) to be retained onsite via evapotranspiration, infiltration, or harvest and re-use through limiting the effective impervious area (EIA) of the site to 5% of a site's area. Impervious surfaces are considered ineffective or effective pervious areas if BMPs are implemented that do not allow a discharge to the MS4. For sites where retaining the storm design volume is determined to be infeasible, alternative compliance via offsite same sub-watershed mitigation is allowed that achieves the stormwater volume and pollutant treatment that would have been achieved under the Permit's onsite LID requirements. However, all new development or re-development sites must at least achieve an EIA of 30% or less.

The 2009 MS4 Permit's principal advance beyond the SUSMP sizing criteria in the 2000 MS4 permit to ensure adequate protection of water quality from stormwater runoff, is to mandate the use of LID practices that will reduce polluted runoff through onsite retention of the design storm volume. This volume is equivalent to the SUSMP sizing criteria (i.e., the 85th percentile storm, 80% of the total annual volume, or the 0.75 inch storm event) (RWQCB 2009). Therefore, the critical difference between the SUSMP standard and the

[86] Ventura County MS4 Permit Part 4.E. Planning and Land Development Program, Section III: New Development / Redevelopment Performance Criteria, Order 09-0057, NDPES Permit No. CAS004002 dated May 7, 2009 pg 61-83.
[87] *Id*.

Permit's standard is that the Permit requires the design storm volume not to be merely treated (with no guarantee of performance), but rather to be retained onsite through infiltration, evapotranspiration, or harvest and reuse, without any surface discharge to receiving waters. Through this onsite-retention standard, stormwater pollution will be entirely eliminated for all volumes of rainfall up to the design storm. Thus, by requiring the infiltration, evapotranspiration, and/or harvest and reuse of the design storm, the Permit should ensure better results than permits that merely require the treatment of stormwater without any associated performance standards.

For example, Dr. Richard Horner, on behalf of the Natural Resources Defense Council during the Permit drafting process, demonstrated that on a typical restaurant site, conventional stormwater treatment BMPs required to be implemented under the 2000 MS4 permit would reduce total suspended solids loading by 22.0% to 80.6%, total copper loading by 0.0% to 78.2%, total zinc loading by 22.9% to 84.3%, and total phosphorus loading by 40.7% to 69.1% (Horner 2007). On the other hand, a comprehensive LID approach, as required by the 2009 MS4 Permit's New and Re-Development Provisions would yield reductions of 99.5%, 98.0%, 98.9%, and 98.8%, respectively, which constitute improvements of 14.5% to 98.0% over conventional BMPs (Horner 2007). Additionally, Dr. Richard Horner demonstrated in his Ventura County-based study that using basic "treat-and release" BMPs (e.g., drain inlet filters, CDS units), for instance as required under the 2000 MS4 permit, would result in pollutant loading reductions of between 0% and 46%, whereas LID techniques required under the 2009 MS4 permit would create reductions mostly in the 97% to 99% range.[88]

4. **The EIR thus must require adherence to the New Development Provisions of the 2009 MS4 Permit to adequately mitigate the effect of stormwater runoff from the north and south subarea to a less than significant effect because the substantial evidence presented in this letter indicates that adherence to the 2009 MS4 Permit New Development Low Impact Development ("LID") provisions are financially feasible and necessary to mitigate the pollutants in stormwater runoff to a less than significant effect.**

Ample evidence in this letter demonstrates that The Standard Urban Stormwater Mitigation Plan (SUSMP) requirement in the 2000 MS4 Permit adopted in the Specific Plan EIR are inadequate to mitigate the Project's impacts on water quality and aquatic resources to a less than significant level. Instead, substantial evidence indicates that the Project must utilize LID Standards as required by the 2009 Ventura County MS4 Permit for all new developments to mitigate the Specific Plan's impacts on quality to a less than significant effect. Accordingly, to comply with CEQA, the EIR must mandate that the New Development provisions of the 2009 MS4 permit are adopted as mitigation measures in the Specific Plan's EIR.

[88] Dr. Richard Horner, Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County at 12 and 16.

XIII. The EIR excludes an environmentally superior alternative to the project as a whole that would eliminate or reduce significant impacts to water quality and biological resources, attain project's basic objectives, and that is potentially feasible under CEQA.

To implement the policy of reducing significant environmental impacts, CEQA requires that an EIR identify both feasible mitigation measures and feasible alternatives that could avoid or substantially lessen the project's significant environmental effects. Pub Res C §§21002, 21002.1(a), 21100(b)(4), 21150. As discussed above applying the LID Standards for new development in the 2009 Ventura County MS4 Permit should be analyzed as a project wide alternative because it is an environmentally superior alternative to the project as a whole, it substantially reduce the probability of the project's urban discharges having a significant impacts to water quality and biological resources, it would attain project's basic objectives, and it is potentially feasible under CEQA because it is economically feasible.[89]

XIV. Additionally, CEQA requires that the EIR is re-circulated because new Ventura Coastkeeper Watershed Monitoring Program data generated between July and December 2009 indicates that the Ormond Beach Wetlands is impaired for trash, bacteria, and nitrate, and that the western branch of Mugu Lagoon by Arnold Road is impaired for trash, and the EIR does not evaluate or provide mitigation measures for the increase in trash loading the Specific Plan will contribute to Mugu Lagoon, the Ormond Beach Wetlands, and Oxnard's coastal marine waters. Accordingly the EIR must be revised to provide mitigation measures to reduce the impacts to the Ormond Beach Wetlands, Mugu Lagoon, and Ventura County's coastal waters from trash, bacteria, and nutrients discharged in the Specific Plan's north and south subarea's urban runoff to a less than significant effect.

CEQA requires that Specific Plan EIR is re-circulated because 1.) new Ventura Coastkeeper Watershed Monitoring Program data generated between July and December 2009 indicates that Oxnard's storm drains, streets, rivers, estuaries, and coastal waters/beaches (including the Ormond Beach Wetlands and the Western Branch of Mugu Lagoon) are polluted with trash that impairs Oxnard's inland and coastal waterbodies and the human health, property value, and wellbeing of its residents, and because 2.) the Specific Plan and its EIR will intensify this trash pollution and its environmental impacts.

The purpose of recirculation is to give the public and other agencies an opportunity to evaluate the new data and the validity of conclusions drawn from it. *Save Our Peninsula Comm. v Monterey County Bd. of Supervisors* (2001) 87 CA4th 99, 131, 104 CR2d 326; *Sutter Sensible Planning, Inc. v Board of Supervisors* (1981) 122 CA3d 813, 822, 176 CR 342. While there is no provision in CEQA or the CEQA Guidelines directing how lead

[89] See section XII of this comment letter.

agencies should handle new environmental information that surfaces before the EIR is certified but that is not added to the EIR, court decisions have filled the gap. If new information is significant, recirculation is required (*Western Placer Citizens for an Agric. & Rural Env't v County of Placer* (2006) 144 CA4th 890, 899, 50 CR3d 799; *Save Our Peninsula Comm. v Monterey County Bd. of Supervisors* (2001) 87 CA4th 99, 131, 104 CR2d 326; *Chaparral Greens v City of Chula Vista* (1996) 50 CA4th 1134, 1146, 58 CR2d 152).

In *Laurel Heights II*, the court gave four examples of situations in which new information is significant, and thus recirculation is required (6 C4th at 1130). Two of these examples are: 1.) When the new information shows a new, substantial environmental impact resulting either from the project or from a mitigation measure; 2.) When the new information shows a substantial increase in the severity of an environmental impact, except that recirculation would not be required if mitigation that reduces the impact to insignificance is adopted.

The data in Table 1 below generated by VCK's Watershed Monitoring Program pursuant to VCK's Quality Assurance Project Plan ("QAPP")[90] that is certified and approved by the Los Angeles Regional Water Quality Board, demonstrates a newly documented significant and persistent presence of trash 1.) in the Western Branch of Mugu Lagoon off of Arnold Road; and 2.) in the Ormond Beach Wetlands; and that the Ormond Beach Wetlands is impaired for Nitrate and total coliform.

Table 1: Ventura Coastkeeper Watershed Monitoring Program Oxnard Trash Data

Monitoring Date	VCK Site	Location	Longitude	Latitude	Pieces of Trash	Recorders
11/1/2009	OB-1	Ormond Beach Wetlands	-119.182	34.13716	10 to 50	Art Flynn, Mike Smith, Jason Weiner

[90] A QAPP's purpose is to assure that appropriate methods of data collection are used and that documentation of the quality assurance approach is available for users of the data. Data collected under VCK's QAPP is certified to be provide as information to the Regional and State Boards for their use, if they so choose, in Clean Water Act Section 305(b) reporting, which sets forth a list of State's impaired waterbodies. Components of a QAPP include Quality Assurance and Quality Control. Quality Assurance includes activities that ensure that data collected are of adequate quality given the monitoring objectives. Quality Assurance consists of two separate but interrelated activities: Quality Control and Quality Assessment. Quality control refers to the technical activities employed to ensure that the data collected are adequate given the monitoring objectives to be tested. Quality Assessment activities are implemented to quantify the effectiveness of the quality control procedures.

10/22/2009	OB-1	Ormond Beach Wetlands	-119.182	34.13716	50+	Jason Weiner, Mike Smith
9/24/2009	OB-1	Ormond Beach Wetlands	-119.182	34.13716	1 to 10	Erick Burres, Jason Weiner
7/17/2009	OB-1	Ormond Beach Wetlands	-119.182	34.13716	50+	Jim Hensley, Paul Smith, Trevor Smith, Jason Weiner

11/1/2009	O-2 Ag Culvert*	Western Branch Mugu Lagoon by Arnold Road Drain	-119.156	34.12328	100+	Art Flynn, Mike Smith, Jason Weiner
8/27/2009	O-2 Ag Culvert*	Western Branch Mugu Lagoon by Arnold Road Drain	-119.156	34.12328	100+	Trevor Smith, Art Flynn, Jason Weiner
7/28/2009	O-2 Ag Culvert*	Western Branch Mugu Lagoon by Arnold Road Drain	-119.156	34.12328	100+	Jason Weiner
7/17/2009	O-2 Ag Culvert*	Western Branch Mugu Lagoon by Arnold Road Drain	-119.156	34.12328	50+	Jim Hensley, Paul Smith, Trevor Smith, Jason Weiner

*Samples taken from agriculture culvert just before discharge into Western Branch of Mugu Lagoon, but trash count is of trash in the Western Branch of Mugu Lagoon, taken visually from bridge extending over the Western Branch of Mugu Lagoon

Site #	Site Description	Longitude	Latitude	Date	Total Coliform (cfu/100ml)	E.Coli (cfu/100ml)	NO3 (mg/l)	Recorders
OB-1	Ormond Beach Wetlands Lagoon	-119.18202	34.137156	9/24/2009	> 48384	82	6.25	Erick Burres, Jason Weiner
OB-1	Ormond Beach Wetlands Lagoon	-119.18202	34.137156	11/1/2009	11199	52	6.38	Art Flynn, Mike Smith, Jason Weiner
OB-1 Rep	Ormond Beach Wetlands Lagoon	-119.18202	34.137156	11/1/2009	14136	30	6.38	Art Flynn, Mike Smith, Jason Weiner
OB-3(b)	Ormond Beach Wetlands (J-St. outlet)	n.a.	n.a.	12/5/2009	2851	52	16.57	RESTOR, Jason Weiner
OB-4 (b)	Ormond Beach Wetlands (OID outlet)	n.a.	n.a.	12/5/2009	2489	121	12.42	RESTOR, Jason Weiner
OB-5	Ormond Beach Wetlands (TNC Prop)	-119.17871	34.139847	12/5/2009	3873	41	0.10	RESTOR, Jason Weiner

As Stated in the Revised Draft: July 27, 2007 Los Angeles River Watershed Trash TMDL:

> "Trash in waterways causes significant water quality problems. Small and large floatables can inhibit the growth of aquatic vegetation, decreasing spawning areas and habitats for fish and other living organisms. Wildlife living in rivers and in riparian areas can be harmed by ingesting or becoming entangled in floating trash. Except for large items such as shopping carts, settleables are not always obvious to the eye. They include glass, cigarette butts, rubber, construction debris and more. Settleables can be a problem for bottom feeders and can contribute to sediment contamination. Some debris (e.g. diapers, medical and household waste, and chemicals) are a source of bacteria and toxic substances. Floating debris that is not trapped and removed will eventually end up on the beaches or in the open ocean, repelling visitors away from our beaches and degrading coastal waters."

Not only does trash significantly impair the ecological integrity and water quality of Mugu Lagoon, the Ormond Beach Wetlands, and Oxnard's coastal marine waters, but trash in the quantities recorded by VCK, on and originating from Oxnard's urban streets and neighborhoods, is 1.) a public health threat because it is a source of and is a conduit for bacteria growth, can be laden with toxic substances or sharp objects, and can provide breeding grounds for mosquitoes; 2.) decreases property values; 3.) decreases resident well being and enjoyment of their communities; 4.) detracts from resident's and visitor's aesthetic enjoyment of Oxnard's waterbodies and environment; 5.) is a safety hazard to people who recreate in or on waterways, beaches, or waterbodies; 6.) and drives away visitors and tourists from Oxnard's beaches, neighborhoods, commercial establishments, and wildlife sanctuaries.

Furthermore, trash entering the ocean from Oxnard's storm drains and waterways impacts the ecological integrity of our oceans, and our ocean's marine mammals and fishes. Its is estimated that suspended in the North Pacific Gyre in between North America and Asia is a mass of trash twice the size of Texas.[91] Plastic trash is particularly alarming, not only due to its presence and toxicity, but because it does not biodegrade, but photodegrades and exponentially multiplies into smaller and smaller pieces the size of zooplankton. According to Algalita Fish Research, "broken, degraded plastic pieces outweigh surface zooplankton in the central North Pacific by a factor of 6-1. That means six pounds of plastic for every single pound of zooplankton." (see http://www.algalita.org/pelagicplastic.html). Fish ingest plastic, mistaking it for food, and consume other hydrophobic contaminants sorbed to the plastic along with the pollutants contained in plastic and plastic's additives. Marine mammals and fish also die from trash entanglement and suffocation. Additionally, researchers are investigating the effect that plastics and trash may have on the water chemistry of our oceans.

Adoption of the Specific Plan and Certification of its EIR will increase the amount of trash generated in the Specific Plan area and that ends up in stormdrains around and discharging from the Specific Plan site due to the land change of agriculture to residential in the Specific Plan's north and south subarea that will attract more residents, visitors, and traffic to the Specific Plan area and its surrounding neighborhoods. Its reasonable to assume that a change of land use from agriculture to the dense residential development that the Specific Plan proposes will significantly increase the amount people residing in, visiting, and driving through the Specific Plan's area as forecasted by the EIR, and thus that there will be an increase in the amount of trash generated in the Specific Plan area that ends up in stormdrains around and discharging from the Specific Plan site. Without specific adequate mitigation measures incorporated in the Specific Plan and its EIR to curb the increase in trash pollution that ends up in streets and storm drains that will occur if the Specific Plan is adopted and its EIR certified, the Specific Plan will significantly contribute to and increase trash pollution.

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[91]http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2007/10/19/SS6JS8RH0.DTL; http://www.reuters.com/article/idUSTRE5730ET20090804

In summary, new information generated and provided by VCK publically documents for the first time, trash pollution that originates in Oxnard's streets, residential neighborhoods, and commercial and industrial areas, ends up in the Western Branch of Mugu Lagoon, the Ormond Beach Wetlands, and in Oxnard's coastal marine waters, open storm drains, and beaches. This trash has a significant impact on the water quality, ecological integrity, and wildlife of Mugu Lagoon, the Ormond Beach Wetlands, and the coastal ecosystems in Oxnard. Additionally, this trash has a significant impact on the health, wellbeing, community development, and economic condition of Oxnard's visitors and residents. The increased development, population growth, and visitors enabled by the Specific Plan will intensify trash pollution and its associated environmental impacts in Oxnard and in Oxnard's surrounding communities. Accordingly, the EIR must be revised to analyze the impacts the Specific Plan and its land use changes have on trash pollution, and must provide mitigation measures to reduce the significant impacts of trash to a less than significant effect.

VCK thus requests that the EIR is re-circulated for public comment after adequate mitigation measures are incorporated into the EIR and Specific Plan that will prevent trash pollution generated from the Specific Plan's site from causing adverse environmental impacts.

Thank you for considering our comments. Please feel free to contact us with any questions.

Sincerely,

Jason Weiner, M.E.M.
Associate Director & Staff Attorney
Wishtoyo's Ventura Coastkeeper

Appendix VCK A

Table F.1. Violations of Water Quality Standards Reported in the 2003 – 2004 Storm Water Monitoring Reports

Watershed	Constituent	Date	Measurement	Units
SANTA CLARA RIVER	Fecal Coliform	10/28/2003	500	MPN/100 ml
	Fecal Coliform	10/31/2003	80,000	MPN/100 ml
	Fecal Coliform	12/25/2003	50,000	MPN/100 ml
	Fecal Coliform	1/1/2004	50,000	MPN/100 ml
	Total Aluminum	12/25/2003	7,800	µg/L
	Total Aluminum	1/1/2004	1,500	µg/L
	Total Copper	10/28/2003	13.50	µg/L
	Total Copper	10/31/2003	30.40	µg/L
	Total Copper	12/25/2003	53.30	µg/L
	Total Zinc	12/25/2003	353	µg/L
LOS ANGELES RIVER	Fecal Coliform	10/28/2003	28,000	MPN/100 ml
	Fecal Coliform	10/31/2003	170,000	MPN/100 ml
	Fecal Coliform	12/25/2003	240,000	MPN/100 ml
	Fecal Coliform	1/1/2004	1,300,000	MPN/100 ml
	Dissolved Oxygen	10/31/2003	2.5	mg/L
	pH	1/1/2004	6.3	
	Total Aluminum	10/31/2003	14,600	µg/L
	Cyanide	10/28/2003	0.057	mg/L
	Cyanide	10/31/2003	0.062	mg/L
	Cyanide	1/13/2004	0.036	mg/L
	Total Cadmium	10/31/2003	4.7	µg/L
	Total Lead	10/31/2003	1,070	µg/L
	Total Copper	10/28/2003	19.9	µg/L
	Total Copper	10/31/2003	295	µg/L
	Total Copper	12/25/2003	20.7	µg/L
	Total Copper	1/1/2004	16.2	µg/L
	Total Zinc	10/31/2003	1,030	µg/L
	Total Zinc	1/13/2004	133	µg/L
SAN GABRIEL RIVER	Fecal Coliform	10/31/2003	500	MPN/100 ml
	Fecal Coliform	12/25/2003	130,000	MPN/100 ml
	Nitrite	10/28/2003	1.93	mg/L
	Cyanide	10/28/2003	0.023	mg/L
MALIBU CREEK	Sulfate	10/28/2003	1,090	mg/L
	Sulfate	12/25/2003	701	mg/L
	Total Dissolved Solids	10/28/2003	2,060	mg/L
	Total Copper	10/28/2003	13.3	µg/L

Table F.2. Violations of Water Quality Standards Reported in the 2004 – 2005 Storm Water Monitoring Reports

Watershed	Constituent	Date	Measurement	Units
SANTA CLARA RIVER	Fecal Coliform	10/17/2004	300,000	MPN/100 ml
	Fecal Coliform	10/26/2004	240,000	MPN/100 ml
	Fecal Coliform	1/7/2005	16,000	MPN/100 ml
	Fecal Coliform	3/9/2005	500	MPN/100 ml
	Dissolved Aluminum	1/7/2005	3,680	µg/L
	Total Aluminum	10/26/2004	10,343	µg/L
	Total Aluminum	1/7/2005	19,650	µg/L
	Total Aluminum	3/9/2005	7,500	µg/L
	Total Boron	11/16/2004	1,860	µg/L
	Dissolved Copper	10/26/2004	22.6	µg/L
	Dissolved Copper	1/7/2005	17.2	µg/L
	Total Copper	10/17/2004	15.7	µg/L
	Total Copper	10/26/2004	28	µg/L
	Total Copper	11/16/2004	14.4	µg/L
	Total Copper	1/7/2005	19.5	µg/L
	Total Copper	3/9/2005	18.5	µg/L
LOS ANGELES RIVER	Fecal Coliform	10/17/2004	240,000	MPN/100 ml
	Fecal Coliform	10/26/2004	50,000	MPN/100 ml
	Fecal Coliform	12/5/2004	500,000	MPN/100 ml
	Fecal Coliform	1/7/2005	160,000	MPN/100 ml
	Fecal Coliform	3/17/2005	16,000	MPN/100 ml
	Cyanide	10/26/2004	1.2	mg/L
	Cyanide	11/16/2004	0.055	mg/L
	Cyanide	3/17/2005	0.024	mg/L
	pH	11/16/2004	9.4	
	pH	12/5/2004	6.16	
	Total Aluminum	10/17/2004	1,440	µg/L
	Total Aluminum	10/26/2004	5,768	µg/L
	Total Aluminum	12/5/2004	1,790	µg/L
	Total Aluminum	1/7/2005	2,840	µg/L
	Total Copper	10/17/2004	41.5	µg/L
	Total Copper	10/26/2004	50.6	µg/L
	Total Copper	11/16/2004	25.5	µg/L
	Total Copper	12/5/2004	35.2	µg/L
	Total Copper	1/7/2005	31.1	µg/L
	Total Copper	3/17/2005	14.5	µg/L
	Total Zinc	10/17/2004	135	µg/L
	Total Zinc	10/26/2004	200	µg/L
	Total Zinc	12/5/2004	150	µg/L
SAN GABRIEL RIVER	Fecal Coliform	10/17/2004	140,000	MPN/100 ml
	Fecal Coliform	10/26/2004	17,000	MPN/100 ml
	Fecal Coliform	12/5/2004	90,000	MPN/100 ml
	Fecal Coliform	1/7/2005	2,800	MPN/100 ml
	Chloride	6/21/2005	220	mg/L
	Nitrite	10/17/2004	1.04	mg/L
	Total Aluminum	12/5/2004	1,240	µg/L
	Total Aluminum	1/7/2005	16,100	µg/L
	Total Copper	10/17/2004	22.5	µg/L
	Total Copper	12/5/2004	32.2	µg/L
	Total Copper	1/7/2005	37.9	µg/L
MALIBU CREEK	Sulfate	10/17/2004	838	mg/L
	Sulfate	10/26/2004	519	mg/L
	Sulfate	12/5/2004	515.8	mg/L
	Total Aluminum	1/11/2005	18,100	µg/L
	Total Cadmium	1/11/2005	7.9	µg/L
	Total Copper	10/17/2004	17.3	µg/L
	Total Copper	10/26/2004	15.9	µg/L
	Total Copper	11/16/2004	17.2	µg/L
	Total Copper	12/5/2004	24.2	µg/L
	Total Copper	1/11/2005	38.9	µg/L

Table F.3.: Violations of Water Quality Standards Reported in the 2005 – 2006 Storm Water Monitoring Reports

Watershed	Constituent	Date	Measurement	Units
SANTA CLARA RIVER	Cyanide	10/17/2005	0.594	mg/L
	Fecal Coliform	10/17/2005	300,000	MPN/100 ml
	Fecal Coliform	12/31/2005	90,000	MPN/100 ml
	Fecal Coliform	1/14/2006	3,000	MPN/100 ml
	Fecal Coliform	2/17/2006	1,300	MPN/100 ml
	Total Aluminum	10/17/2005	3,410	µg/L
	Total Aluminum	12/31/2005	1,530	µg/L
	Total Aluminum	1/14/2006	1,845	µg/L
	Total Aluminum	2/17/2006	3,340	µg/L
	Total Antimony	10/17/2005	1,363	µg/L
	Total Copper	10/17/2005	37.3	µg/L
	Total Copper	4/25/2006	33.5	µg/L
	Total Zinc	10/17/2005	149	µg/L
LOS ANGELES RIVER	Cyanide	1/24/2006	0.04	mg/L
	Cyanide	2/17/2006	0.035	mg/L
	Cyanide	4/25/2006	0.057	mg/L
	Fecal Coliform	10/17/2005	24,000,000	MPN/100 ml
	Fecal Coliform	12/31/2005	50,000	MPN/100 ml
	Fecal Coliform	1/14/2006	2,400	MPN/100 ml
	Fecal Coliform	1/24/2006	500	MPN/100 ml
	Fecal Coliform	2/17/2006	16,000	MPN/100 ml
	Fecal Coliform	4/25/2006	9,000	MPN/100 ml
	Dissolved Copper	1/14/2006	14.6	µg/L
	Total Copper	10/17/2005	51.2	µg/L
	Total Copper	1/14/2006	16.4	µg/L
	Total Copper	2/17/2006	43.8	µg/L
	Total Copper	4/25/2006	19.3	µg/L
	Total Zinc	10/17/2005	249	µg/L
	Total Zinc	1/14/2006	129	µg/L
	Total Zinc	2/17/2006	178	µg/L
SAN GABRIEL RIVER	Fecal Coliform	10/17/2005	16,000,000	MPN/100 ml
	Fecal Coliform	12/31/2005	240,000	MPN/100 ml
	Fecal Coliform	1/14/2006	800	MPN/100 ml
	Fecal Coliform	1/24/2006	3,000	MPN/100 ml
	Total Aluminum	10/17/2005	2,140	µg/L
	Total Copper	10/17/2005	34.5	µg/L
	Total Copper	4/25/2006	17.6	µg/L
	Total Zinc	10/17/2005	175	µg/L
MALIBU CREEK	Sulfate	10/17/2005	658	mg/L
	Sulfate	11/9/2005	749	mg/L
	Sulfate	12/31/2005	573	mg/L
	Sulfate	1/24/2006	589	mg/L
	Sulfate	2/17/2006	507	mg/L
	Total Aluminum	10/17/2005	2,770	µg/L
	Total Copper	10/17/2005	32.6	µg/L
	Total Copper	11/9/2005	73	µg/L
	Total Copper	2/17/2006	15	µg/L
	Total Copper	4/25/2006	14.9	µg/L

Table F.4.: Violations of Water Quality Standards Reported in the 2006 – 2007 Storm Water Monitoring Reports

Watershed	Constituent	Date	Measurement	Units
SANTA CLARA RIVER	Fecal Coliform	12/9/2006	5,000	MPN/100 ml
	Fecal Coliform	1/30/2007	1,700	MPN/100 ml
	Fecal Coliform	2/19/2007	800	MPN/100 ml
	Fecal Coliform	2/22/2007	5,000	MPN/100 ml
	Total Aluminum	12/9/2006	6,500	µg/L
	Total Aluminum	1/30/2007	3,400	µg/L
	Total Aluminum	2/19/2007	17,800	µg/L
	Total Aluminum	2/22/2007	18,000	µg/L
	Total Copper	12/9/2006	50.3	µg/L
	Total Copper	12/16/2006	28.3	µg/L
	Total Copper	1/30/2007	38.2	µg/L
	Total Copper	2/19/2007	31.9	µg/L
	Total Copper	2/22/2007	50.5	µg/L
	Total Copper	10/31/2006	22.4	µg/L
	Total Copper	4/2/2007	22.1	µg/L
LOS ANGELES RIVER	Fecal Coliform	12/9/2006	240,000	MPN/100 ml
	Fecal Coliform	2/19/2007	22,000	MPN/100 ml
	Fecal Coliform	2/22/2007	17,000	MPN/100 ml
	Fecal Coliform	4/9/2007	2,400	MPN/100 ml
	Total Aluminum	12/9/2006	10,100	µg/L
	Total Aluminum	2/19/2007	5,200	µg/L
	Total Aluminum	2/22/2007	3,240	µg/L
	Total Antimony	12/9/2006	6.91	µg/L
	Total Cadmium	12/9/2006	5.17	µg/L
	Cyanide	11/1/2006	0.05	mg/L
	Cyanide	2/19/2007	0.033	mg/L
	Cyanide	2/22/2007	0.047	mg/L
	Cyanide	4/9/2007	0.044	mg/L
	Total Copper	12/9/2006	424	µg/L
	Total Copper	2/19/2007	76.9	µg/L
	Total Copper	2/22/2007	48.6	µg/L
	Total Copper	11/1/2006	20	µg/L
	Total Copper	4/9/2007	25.8	µg/L
	Total Lead	12/9/2006	240	µg/L
	Total Silver	12/9/2006	3.51	µg/L
	Total Zinc	12/9/2006	2,590	µg/L
	Total Zinc	2/19/2007	198	µg/L
	Total Zinc	2/22/2007	124	µg/L
SAN GABRIEL RIVER	Fecal Coliform	11/1/2006	2,100	MPN/100 ml
	Fecal Coliform	12/9/2006	14,000	MPN/100 ml
	Fecal Coliform	2/19/2007	1,300	MPN/100 ml
	Fecal Coliform	2/22/2007	2,200	MPN/100 ml
	Total Aluminum	12/9/2006	3,450	µg/L
	Total Aluminum	2/10/2007	2,430	µg/L
	Total Aluminum	2/22/2007	1,110	µg/L
	Cyanide	2/19/2007	0.027	mg/L
	Total Copper	12/9/2006	43.2	µg/L
	Total Copper	2/10/2007	32.7	µg/L
	Total Copper	2/19/2007	21.1	µg/L
	Total Copper	2/22/2007	24.5	µg/L
	Total Copper	11/1/2007	32.5	µg/L
	Total Copper	4/2/2007	23.8	µg/L
	Total Zinc	12/9/2006	138	µg/L
MALIBU CREEK	Sulfate	11/1/2006	1,086	mg/L
	Sulfate	12/9/2006	873	mg/L
	Sulfate	4/9/2007	522	mg/L
	Total Dissolved Solids	11/1/2006	2,084	mg/L
	Total Aluminum	12/9/2006	20,100	µg/L
	Total Aluminum	2/19/2007	2,480	µg/L
	Total Aluminum	2/22/2007	3,170	µg/L
	Total Cadmium	12/9/2006	14.9	µg/L
	Total Copper	11/1/2006	20.6	µg/L
	Total Copper	12/9/2006	53.3	µg/L
	Total Copper	2/19/2007	17.6	µg/L
	Total Copper	2/22/2007	22.5	µg/L
	Total Copper	4/9/2007	21.1	µg/L
	Total Zinc	12/9/2006	146	µg/L

Table F.5. (Source: Impacts of Impervious Cover on Aquatic Ecosystems, Center for Watershed Protection, March 2003)

Table 16: National EMCs for Stormwater Pollutants				
Pollutant	Source	EMCs		Number of Events
		Mean	Median	
Sediments (mg/l)				
TSS	(1)	78.4	54.5	3047
Nutrients (mg/l)				
Total P	(1)	0.32	0.26	3094
Soluble P	(1)	0.13	0.10	1091
Total N	(1)	2.39	2.00	2016
TKN	(1)	1.73	1.47	2693
Nitrite & Nitrate	(1)	0.66	0.53	2016
Metals (µg/l)				
Copper	(1)	13.4	11.1	1657
Lead	(1)	67.5	50.7	2713
Zinc	(1)	162	129	2234
Cadmium	(1)	0.7	N/R	150
Chromium	(4)	4	7	164
Hydrocarbons (mg/l)				
PAH	(5)	3.5	N/R	N/R
Oil and Grease	(6)	3	N/R	N/R
Bacteria and Pathogens (colonies/ 100ml)				
Fecal Coliform	(7)	15,038	N/R	34
Fecal Streptococci	(7)	35,351	N/R	17
Organic Carbon (mg/l)				
TOC	(11)	17	15.2	19 studies
BOD	(1)	14.1	11.5	1035
COD	(1)	52.8	44.7	2639
MTBE	(8)	N/R	1.6	592
Pesticides (µg/l)				
Diazinon	(10)	N/R	0.025	326
	(2)	N/R	0.55	76
Chlorpyrifos	(10)	N/R	N/R	327
Atrazine	(10)	N/R	0.023	327
Prometon	(10)	N/R	0.031	327
Simazine	(10)	N/R	0.039	327
Chloride (mg/l)				
Chloride	(9)	N/R	397	282

Sources: (1) Smullen and Cave, 1998; (2) Brush et al., 1995; (3) Baird et al., 1996; (4) Bannerman et al., 1996; (5) Rabanal and Grizzard, 1995; (6) Crunkilton et al, 1996; (7) Schueler, 1999; (8) Delzer, 1996; (9) Environment Canada, 2001; (10) USEPA, 1998; (11) CWP, 2001a N/R - Not Reported

Table F.6. (Source: Impacts of Impervious Cover on Aquatic Ecosystems, Center for Watershed Protection, March 2003)

Table 18: Stormwater Pollutant Event Mean Concentration for Different U.S. Regions (Units: mg/l, except for metals which are in µg/l)

		Region I - Low Rainfall				Region II - Moderate Rainfall			Region III - High Rainfall				Snow
	National	Phoenix, AZ	San Diego, CA	Boise, ID	Denver, CO	Dallas, TX	Marquette, MI	Austin, TX	MD	Louisville, KY	GA	FL	MN
Reference	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(11)	(12)
Annual Rainfall (in.)	N/A	7.1"	10"	11"	15"	28"	32"	32"	41"	43"	51"	52"	N/R
Number of Events	3000	40	36	15	35	32	12	N/R	107	21	81	N/R	49
Pollutant													
TSS	78.4	227	330	116	242	663	159	190	67	98	258	43	112
Total N	2.39	3.26	4.55	4.13	4.06	2.70	1.87	2.35	N/R	2.37	2.52	1.74	4.30
Total P	0.32	0.41	0.7	0.75	0.65	0.78	0.29	0.32	0.33	0.32	0.33	0.38	0.70
Soluble P	0.13	0.17	0.4	0.47	N/R	N/R	0.04	0.24	N/R	0.21	0.14	0.23	0.18
Copper	14	47	25	34	60	40	22	16	18	15	32	1.4	N/R
Lead	68	72	44	46	250	330	49	38	12.5	60	28	8.5	100
Zinc	162	204	180	342	350	540	111	190	143	190	148	55	N/R
BOD	14.1	109	21	89	N/R	112	15.4	14	14.4	88	14	11	N/R
COD	52.8	239	105	261	227	106	66	98	N/R	38	73	64	112

Sources: Adapted from Caraco, 2000a: (1) Smullen and Cave, 1998; (2) Lopes et al; 1995; (3) Schiff, 1996; (4) Kjelstrom, 1995 (computed); (5) DRCOG, 1983, (6) Brush et al., 1995; (7) Steuer et al., 1997; (8) Barrett et al., 1995; (9) Barr, 1997; (10) Evaldi et al., 1992; (11) Thomas and McClelland, 1995; (12) Oberts, 1994 N/R = Not Reported; N/A = Not Applicable

Table 19: Mean and Median Nutrient and Sediment Stormwater Concentrations for Residential Land Use Based on Rainfall Regions (Driver, 1988)

Region	Total N (median)	Total P (median)	TSS (mean)
Region I: Low Rainfall	4	0.45	320
Region II: Moderate Rainfall	2.3	0.31	250
Region III: High Rainfall	2.15	0.31	120

Table F.7. (Source: Impacts of Impervious Cover on Aquatic Ecosystems, Center for Watershed Protection, March 2003)

Table 22: EMCs for Total Suspended Solids and Turbidity				
Pollutant	EMCs		Number of Events	Source
	Mean	Median		
TSS (mg/l)	78.4	54.5	3047	Smullen and Cave, 1998
	174	113	2000	USEPA, 1983
Turbidity (NTU)	53	N/R	423	Barrett and Malina, 1998
N/R = Not Reported				