Item No. 9

Written Comments from Interested Parties Other than Copermittees

Supporting Document No. 7
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RANCHO MISSION VIEJO

April 2, 2007

Mr. John H. Robertus, Executive Officer
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court – Suite 100
San Diego, CA 92123-4353

Reference: Tentative Order No. R9-2007-0002; NPDES No. CAS0108740

Subject: Rancho Mission Viejo Comments

Dear John,

Thank you for providing Rancho Mission Viejo (RMV) the opportunity to provide comments on the referenced Tentative Order. This letter transmits RMV's specific concerns regarding the Tentative Order. We are also recommending modifications to the Tentative Order, which we believe will provide for the necessary protection of water quality within Orange County, while also providing landowners like ourselves with the flexibility to implement approved subregional planning efforts directed toward the long term protection and management of aquatic resources, including comprehensive water quality measures.

RMV consists of approximately 22,815 acres located in Southern Orange County, California. The Ranch is bound by the existing communities of Rancho Santa Margarita, Mission Viejo, San Juan Capistrano and the undeveloped Cleveland National Forest and MCB Camp Pendleton. Various habitat types including but not limited to coastal sage scrub, chaparral, grassland, oak woodland and riparian are present on the Ranch.

Since 1882, the O'Neill family has been a responsible steward of the Ranch. We have, and continue to actively manage the Ranch to protect the resources on it. We intend to continue this tradition of stewardship into the future. As you are aware, to protect our land's resources, and address the needs of Orange County's growing population, RMV, in conjunction with the County of Orange, has undertaken a coordinated approach to the Endangered Species Act, Clean Water Act and Orange County's General Plan.

File 10-6000.02

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In 2004 RMV and the County of Orange completed a General Plan Amendment/Zone Change (GPA/ZC) process to determine future land uses on RMV land. In January of this year, the County of Orange, RMV and U.S. Fish and Wildlife Service (USFWS) successfully concluded the decades long planning process for the Southern Subregion Habitat Conservation Plan (HCP). This month the U.S. Army Corps of Engineers (USACE) and RMV also concluded the planning effort for the San Juan Creek Watershed/western San Mateo Creek Watershed Special Area Management Plan (SAMP). Both the HCP and the SAMP will result in the implementation of a watershed-wide management plan for the preservation, enhancement and restoration of aquatic resources on RMV lands.

RMV is fully supportive of the Board's efforts to protect water quality within the County; however, we believe the Tentative Order does not provide sufficient flexibility to landowners like ourselves who have put significant time and effort into a coordinated planning process that has resulted in a development/open space plan designed to recognize the specific watershed and sub-watershed attributes of our land, including measures for the permanent protection and management of aquatic resources.

In this regard, we provide the following broad scale comments and suggest modifications to the language of the Tentative Order which we believe will provide the flexibility which we believe is necessary for RMV to implement the approved GPA/ZC, HCP and SAMP. In addition, we provide specific technical comments in Attachment A to this letter. We would also offer our support to the comments offered by the Building Industry Legal Defense Foundation and Building Industry Association of Orange County and hereby incorporate their comments by reference.

A. Watershed Planning in Orange County

The Tentative Order does not recognize the watershed level planning that has occurred in Orange County through approval of the Southern Subregion HCP and San Juan/San Mateo SAMP(see HCP Figure 7-M, attached). Through these efforts, the County and RMV have applied site design BMP's at the watershed and sub-watershed scale for RMV lands resulting in, for example:

- Conserving natural areas – 20,868 acres of RMV lands will be preserved as open space and dedicated to a Habitat Reserve over time. Only 5,873 acres will be developed.
- Minimizing disturbances to natural drainages – all mainstem creeks on RMV are preserved, 8,198 acres of riparian habitats will be protected in the SAMP Study Area including RMV lands.
- Minimizing soil compaction of permeable soils – development acres are focused in clay soils, sandy soils are preserved in open space

In order to maximize the benefits to water quality in Orange County that will accrue through implementation of the approved HCP and SAMP, the Tentative Order must recognize the resource protection and water quality measures contained in these significant watershed planning efforts.

(1) Tentative Order Issue – Need to Recognize Site Design Policies Applied at a Broader Sub-watershed and Watershed Scale Which Incorporated Broader Principles of Geomorphology/Hydrology

Section D.1.c (2) and d(4) - Site Design BMP requirements in project approval process

Comment:

The SAMP (March 2007) and HCP (January 2007) encompass and address approximately 90% of the undeveloped private lands in the San Juan Creek and San Mateo Creek watersheds. A companion Water Quality Management Plan (WQMP) was: (a) reviewed and approved by the County as part of its approval of the GPA/ZC; (b) further reviewed in the SAMP EIS and the HCP EIR/EIS; (c) based on the SAMP and HCP planning principles; and (d) is required to be coordinated with the SAMP and HCP.

The proposed Site Design BMP requirements do not provide for Projects that have addressed these type of site design BMP through the development and application of basic principles of geomorphology a sub-watershed and watershed scale. As a case in point, the HCP and SAMP applied geomorphologic terrains principles (particularly the differing infiltration and runoff characteristics of different soils types, e.g., sandy soils, clay soils) at both a sub-watershed and watershed scale to help determine areas where development should be avoided (e.g., sandy soils characterized by high infiltration rates) and areas where development could be concentrated (e.g., areas that presently are characterized by relatively rapid stormwater rates, soils generating fine sediments and limited infiltration). These principles are set forth in Attachment B under the headings "SAMP Tenets" and "Baseline Conditions Watershed Planning Principles. Also, see SAMP Figure 4.1.1-3 and SAMP Figure 6-1 (attached) illustrating some of these concepts.

From the perspective of geomorphologic watershed planning principles, in many instances, applying the proposed BMP site requirements at a project level may lead to poor project design compared to applying these requirements at a broader sub-watershed and watershed level of analysis. The SAMP/HCP geomorphologic planning principles place considerable emphasis on preserving sources of coarse sediments (e.g., sandy soils crystalline terrains) important to stream course processes and beach sand replenishment by concentrating development in terrains that would otherwise generate fine sediments. Similarly, from a broader sub-watershed and watershed scale, it may be far better to avoid soils with high infiltration capabilities (e.g., sandy soils) by concentrating development in areas with higher levels of natural runoff rates (e.g. clayey soils) than to minimize impervious surface on a project-by-project basis.

We believe that the watershed planning principles applied to land use and water quality determinations in the SAMP and HCP are consistent with the emphasis on fluvial geomorphology described in the Fact Sheet for the SWRCB's draft General Permit for Construction Activity (March 2, 2007) According to the SWRCB Fact Sheet:

> "In order to address hydromodification from urbanization, a basic understanding of fluvial geomorphic concepts is necessary." (Fact Sheet, p. 26)

In describing the geomorphic sequence that characterizes stream channel behavior over time, the SWRCB report notes that: "The magnitude of the geomorphic sequence discussed above varies along a stream network as well as with the age of development, slope, geology, sediment characteristics, type of urbanization, and land use history." (Fact Sheet, p. 29, emphasis added)

The SAMP and HCP were developed employing: (a) a detailed set of tenets of fluvial geomorphologic planning principles; (b) sub-basin watershed planning principles addressing specific soils and hydrologic characteristics of sub-watersheds within the planning area. (see Southern Orange County HCP, Chapter 5)

Recommendation:

(a) Apply Site Design BMPs Using a Sub-Watershed and Watershed Approach. The site design BMPs directed toward maximizing infiltration, slowing runoff and minimizing impervious footprint need to be modified to specifically provide for the application of hydrologic/geomorphologic planning principles at a broader sub-watershed and watershed perspective rather than just being applied on a project-by-project basis.

(b) The Consideration of the Feasibility of Site Design Minimization Measures Should be undertaken from the Sub-Watershed and Watershed Scale Rather than Limited to Project Level Application. The applicability of site design requirements to Priority Projects should consider the geographic scale at which the project was planned. The mandatory requirement to implement the listed site design BMPs or demonstrate infeasibility will necessitate lengthy analysis by RMV and others in a similar situation as to why no further minimization measures can be employed when avoidance/minimization measures have been comprehensively addressed at a broader sub-watershed and watershed scale. This is particularly true for sub-sections D.1.d(4)(c)(i), (ii), (iii) and (x).

Suggested Language Insert for the Tentative Order Section D. 1. d (SUSMPs, p. 23):

Suggest inserting the following after the first full paragraph for SUSMP requirements just above "(1) Definition of Priority Development Project":

> "Where a JURMP has been prepared and adopted on a watershed or sub- watershed basis employing any adopted WURMP requirements and/or adopted SAMP or HCP requirements and provides for site design and treatment control standards employing

fluvial geomorphologic planning principles (hydrology/geomorphology), such standards shall govern SUSMP review of Priority Projects with respect to the site design BMP and Treatment Control BMP requirements of this Order."

(2) Tentative Order Issue – Need to Recognize Site Design Policies Applied at a Broader Sub-watershed and Watershed Scale Which Incorporated Requirements for Buffer Zones

Section D.1.c (3) - Buffer Zones requirements in project approval process

Comment: Similar to the requirements for site design BMPs discussed above, the application of requirements for buffer zones for natural water bodies during the project approval process should take into account the geographic scale at which the project is proposed and the planning principles employed in project review and approval. If the project has been planned at the watershed scale (as the RMV's project has) applying SAMP tenets and NCCP/HCP Scientific Review Panel tenets of reserve design directed toward providing buffers through habitat reserve design, the requirement for site design BMPs and buffers should reflect the application of buffer principles at a larger scale and areas planned for development should not have further requirements placed upon them.

Regarding buffers, one of the fundamental SAMP Tenets addressed the provision of adequate buffers from riparian corridors (see Attachment B and page 5-1 of the SAMP FEIS). SAMP Tenet 7 states "Maintain adequate buffer for the protected riparian corridors." All alternatives were examined for their ability to meet this tenet. Specific to the selection of the B-12 Alternative as the "Least Environmentally Damaging Alternative" (LEDPA) under the Corps regulations, pages 6-22 through -23 of the FEIS state:

> "Under the B-12 Alternative, most major riparian corridors would be adequately buffered from development. Major riparian corridors within the RMV Planning Area can be defined as Chiquita Creek, Gobernadora Creek, San Juan Creek, Verdugo Creek, Cristianitos Creek, Gabino Creek, La Paz Creek, and Talega Creek and would be protected in the following manner:
>
> Development in Planning Area 2 below the SMWD wastewater treatment plant would be set back from a minimum of 225 feet to over 500 feet from centerline of Chiquita Creek.
>
> Development in Planning Area 3 would have a 656-foot-wide (200 meter) setback to buffer northerly San Juan Creek. When combined with the 656-foot-wide (200 meter) setback for Planning Area 4, a 1,312-foot-wide (400 meter) corridor as recommended by Beier would be provided for mountain lion movement along San Juan Creek.
>
> Verdugo Creek Canyon would not be directly impacted by the proposed Planning Area 4

development, thereby protecting the Verdugo Creek riparian corridor and its associated coarse sediments.

No development is proposed in the Gabino, or La Paz Sub-basins under the B-12 Alternative; therefore, Gabino Creek, and La Paz Creek would be protected. Very limited development (50 acres of citrus orchard and a 25-acre Rancho Mission Viejo headquarters) is proposed for the Cristianitos Sub-basin and neither use is anticipated to result in significant impacts to this sub-basin.

Based on the overstated impact analysis boundary for Planning Area 8, the setback for development from Talega Creek would range from 1,000 to 1,650 feet to the creek and has an elevation range of 80 to 280 feet above the creek. From the southern middle of Planning Area 8 to the southeastern edge of Planning Area 8, the setback range for development would be 1,875 to 3,350 feet from the creek with an elevation range of 280 to 500 feet above the creek. As noted previously, development in the Talega Sub-basin is limited to 500 acres; therefore, further protection of the Talega Creek riparian corridor is anticipated.

As a result of SAMP and HCP watershed-scale planning, all avoided wetlands on RMV have been appropriately buffered through the planning leading up to approval of the HCP and SAMP. Due to the protection of wetlands, riparian areas and creeks through reserve design and the limited amount of approved development areas through the Southern HCP and SAMP, no further minimization measures should be required within the footprint of the development area. See attached SAMP Figure 8-10 for an illustration of preserved buffers.

Recommendation:

Suggest adding the following language to Section D. 1. c. (new second paragraph):

"Buffer zone requirements and site design BMPs should, where feasible, be applied at a sub-watershed and watershed scale. Where a JURMP incorporates the results of a comprehensive sub-watershed or watershed plan prepared under the direction of a Co-Permittee and/or in cooperation with a USACE or USFWS comprehensive planning program such as a SAMP or HCP, buffer requirements for development projects within the area subject to the SAMP/HCP shall be satisfied through compliance with the SAMP/HCP buffer and site design requirements."

(3) Tentative Order Issue – Need to Provide for the Use of Waters of the U.S. and Waters of the State for Water Quality Treatment and Infiltration of Runoff if permitted through a 401 Certification/WDR.

Section D.1.d(6)(c) and D.1d(6)(d)(ii)(g) No BMPs in Waters of the U.S. or State

Comment: The Tentative Order places great emphasis on mimicking natural hydrologic conditions to the maximum extent feasible (e.g., the use of "water balance" principles), slowing urban runoff and infiltrating urban runoff. In fact, Tentative Order provision D.1.d (4)(b) requires that natural drainages be maintained or restored in drainage networks as a site design BMP. Where authorized pursuant to a 401 Certification of a CWA 404 permit and/or a WDR issued for discharge into non-federal waters, placement of hydromodification control and/or treatment control BMPs in drainages within the boundaries of a development project should be allowed. In this way all runoff can be treated and/or infiltrated, to the maximum extent practicable, prior to being discharged into mainstem creeks. See for example WQMP Figures 3-6 and 3-7.

Recommendation:

Suggest adding the following language to sections D.1.d(6)(c):

> "All treatment control BMPs must be located so as to infiltrate, filter, or treat runoff prior to its discharge to any waters of the U.S., except where authorized pursuant to a 401 Certification of a CWA 404 permit.

Suggest adding the following language to section D.1.d(6)(d)(ii)(g):

> "Except where authorized pursuant to a 401 Certification of a CWA 404 Permit and/or a WDR issued for discharge into non-federal waters, treatment control BMPs shall not be constructed within a waters of the U.S. or waters of the State."

(4) Tentative Order Issue – Need to Address Concerns Regarding the Protection of ESA's through Large-Scale SAMP and HCP Programs

Section D.1.d (2)(g) ESAs as Priority Project Categories & Attachment C, Page C-3 Definition of ESAs

Comment: According to the definition of ESAs, the SDRWQCB is contemplating designating areas identified as preserved under the NCCP program or their equivalent as Environmentally Sensitive Areas. The potential designation of the Southern Subregion Habitat Reserve as an ESA is unnecessary and duplicative of SAMP and HCP actions. All RMV development projects will meet the definition of a Priority Project through subpart (a) of the definition. This is particularly true given the fact that Waters of the U.S. and of the state within the Habitat Reserve are already addressed through their respective Basin Plan beneficial use designations in the Water Quality Management Plan (WQMP) that is an integral component of the approved SAMP and HCP.

During the course of permitting the HCP and SAMP, RMV developed a comprehensive WQMP to address both pollutants and conditions of concern through consideration of the hydrologic/geomorphic conditions of the RMV watersheds and sub-watersheds, pre- and post

project flow duration modeling to address hydromodification, and pollutant loading modeling. Further, the approved SAMP and HCP require coordination of the implementation of the WQMP with the Habitat Reserve Management Program. Any designation of the Southern Subregion Habitat Reserve or any portion thereof as an ESA will not achieve greater protection for the Waters within the Habitat Reserve than will be achieved through implementation of the SAMP and HCP. Rather in the context of the comprehensive Habitat Reserve Adaptive Management Program incorporated into the Southern SAMP and HCP (including the provision for an advisory Science Panel), the potential ESA designation for the Southern Habitat Reserve would add unnecessary, duplicate and potentially conflicting requirements.

Recommendation:

Suggest adding the following language at the end of Section D.1.d(2)(g) (page 25) and creating a new subsection D.2.d(1)(c)(ii) (page 41):

> "Habitat Reserves designated pursuant to the federal ESA, USACE SAMP and/or state NCCP, as applicable, should be governed by the management provisions of the adopted plans, and runoff management from proximate development areas shall be governed by the provisions of those plans and as further reviewed through the 401 certification process.

(5) Tentative Order Issue – Need to Allow the Permittees to Apply Alternative Treatment Control and Flow Control (Hydromodification) Approaches Rather than Mandating "One Size Fits All" Project Level Prescriptions

Comment: A number of the treatment control and flow control prescriptions in the Tentative Order are contrary to the understanding gained through Orange County watershed planning programs. Examples are set forth below:

a. Combined Control System Concepts – Water quality treatment and hydromodification control can best be achieved at a sub-watershed scale through properly sited and operated "combined control systems." Several of the MS4 prescriptions would inhibit the use of such systems (e.g., see prior comment regarding prohibitions on siting treatment facilities within Waters of the U.S. and the State and the application of site design and treatment control provisions at the project-scale versus a sub-watershed or watershed scale).

b. Dry Weather Flow Diversions – The Tentative Order requires the diversion of dry weather flows containing significant pollutant loads from infiltration devices (Section D.1.c(6)). Quite to the contrary, dry weather flows should be treated with natural treatment systems such as vegetated swales, bioretention areas, water quality basins, or wetlands, to the extent feasible, and then infiltrated or used for habitat management purposes (e.g., under drought conditions). Natural treatment systems are effective,

do not consume energy and avoid other issues with diverting urban dry weather flows to treatment plants. Infiltration of treated dry weather flows will prevent habitat impacts to receiving waters and is not likely to impact groundwater. The Water Augmentation Study conducted by the Los Angeles and San Gabriel Rivers Watershed Council, in partnership with several agencies including water districts, municipalities, and the U.S. Bureau of Reclamation, indicates that the infiltration of stormwater, with appropriate pretreatment, does not adversely impact groundwater quality (Los Angeles Basin Water Augmentation Study, August 2005).

c. Recognize Infiltration Characteristics of Different Soils Types - Some soils types provide much greater water quality treatment through infiltration while others, such as sandy soils, provide limited treatment but extensive hydromodification control infiltration. Coarse grained soils are suitable for infiltration of urban runoff for hydromodification control purposes, provided that such runoff has been fully treated in a separate treatment control BMP that addresses the pollutants of concern in groundwater. Restrictions on infiltration must be broad enough to allow for such differences. Please refer to Attachment C for further technical comments on this issue.

d. Interim Requirements for Large Projects – The hydromodification provisions are very prescriptive and are event-based. These detailed prescriptions are contrary to the continuous flow and water balance methodologies used in the Southern Orange County SAMP and HCP Water Quality Management Plan. Provision D.1.h (5) should allow for an equivalent, or better, hydromodification control interim standard to be used for large projects. See also comments below regarding interim requirements for large projects.

e. SMC and SCCWRP Hydromodification Criteria - It seems highly inappropriate and contrary to regulatory agency practice to mandate criteria based on findings of studies prepared by non-regulatory agencies without full public hearing and the normal regulations adoption process. Additionally, in the case of the Southern Orange County SAMP and HCP, such findings could create inconsistencies with USACE and USFWS approval requirements.

Thus, the "one-size fits all" approach must be re-examined and should be modified to allow for the use of alternative measures and programs for achieving water quality goals based on larger scale planning programs

Recommendation

Suggest inserting the following language at the end of Section D.1.c.:

Treatment control systems may be integrated with hydromodification control systems through measures such as "combined control systems."

Suggest revising the language of Section D.1. c. (6) (b) addressing "dry weather flows" to read as follows:

> All dry weather flows containing significant pollutant loads must either be diverted from infiltration devices or may be treated through the use of natural treatment systems or equivalent measures and then infiltrated where soils are appropriate.

Suggest revising the language of Section D.1.h.(3) (Implement Hydromodification Management Strategy) as follows

> In the absence of a sub-watershed or watershed plan that has been incorporated into a JURMP, each Copermittee must implement, or require implementation of, a suite of management measures within each Priority Development Project to protect downstream beneficial uses and prevent adverse physical changes to downstream channels. Where a sub-watershed or watershed plan has been incorporated into a JURMP and provides for comprehensive hydromodification measures addressing the geomorphic/hydrologic characteristics of the sub-watershed or watershed, such measures shall govern the hydromodification requirements for projects undertaken within the planning area.

Suggest inserting the following language in Section D.1.h.(5) addressing "Interim Requirements of Large Projects:" at the end of subsection 5

> (b) For large interim projects subject to a sub-watershed or watershed plan that comprehensively address geomorphic/hydrologic conditions consistent with the requirements of subsections (1), (2), and (3) above, such measures shall be considered the required hydromodification measures pursuant to this subsection. References to "onsite" control shall include areas authorized pursuant to a 401 certification of a CWA 404 permit and/or a WDR for discharges to non-federal waters.

Suggest modifying the following language in Section D.1.h.(4) {"Develop and Implement Hydromodification Criteria) as follows:

> "Within two years of adoption of this Order, each Copermittee must revise its SUSMP/WQMP . . . to implement updated hydromodification criteria for all Priority Development Projects. Criteria must specifically consider findings from hydromodification publications produced by the Stormwater Monitoring Coalition SMC and Southern California Coastal Water Research Project (SCCWRP), as appropriate to conditions in the San Juan Hydrologic Unit, as well as approved SAMP, HCP and other comprehensive planning programs. If SMC and SCCWRP publications include descriptive or numeric criteria applicable to the San Juan Hydrologic Unit, then those criteria must also be considered."

B. Programmatic Approvals

During the processing of the HCP and SAMP, RMV raised with staff the issue of integration of the Board's requirements for water quality protection with the SAMP and HCP. In particular, RMV discussed review and approval by the Regional Board of the WQMP framework and strategies. At the time the Board declined to participate in an effort that would have resulted in some form of programmatic approval. RMV continues to believe that cross-coordination of the HCP, SAMP and the Board requirements would maximize the benefits to water quality protection in Orange County.

(1) Need to Provide for the Approval of Programmatic Water Quality Management Programs Comparable to the SAMP, HCP and Other Large-Scale Aquatic and Uplands Resource Programs that Have Been Carried Out in Orange County

Comment: Many of the prescriptive measures in the Tentative Order do not take into account and may even contradict conditions of approval of programs such as the SAMP and HCP specifically directed toward the protection of aquatic systems. Similarly, the provisions of the Tentative Order do not provide the requisite flexibility to allow coordination between adaptive management undertaken within the framework of SAMP and HCP provisions and adaptive management undertaken as part of the WQMP identified as a "coordinated management program" by the Southern Orange County SAMP and HCP.

a. Section I. D. of the Corps Special Permit Conditions for the Southern SAMP contains geographic specific conditions for the protection of aquatic resources and water quality that must be factored into the implementation of the WQMP. Likewise, the HCP Appendix U contains similar provisions that were coordinated with the SAMP. (The relevant portions of the SAMP Long Term Individual Permit and HCP Appendix U are included as Attachments D and E).

b. Section II of the Corps Special Permit Conditions set forth detailed "Project Construction" conditions for controlling sediment runoff and protecting aquatic resources that must be coordinated with implementation of the WQMP.

c. The SAMP and HCP provide for an integrated Habitat Reserve Management Program with which the WQMP is required to be coordinated. The provisions of the Tentative Order must allow for flexibility in assuring such coordination.

Recommendation

Suggest adding the following language after the second introductory paragraph in Section D (JURMP) (page 23):

> A WURMP, or any sub-watershed plan, that encompasses large-scale aquatic systems, such as a SAMP or HCP, may be included in a co-permittee JURMP. Programmatic measures provided for through such alternative conservation planning programs such as a SAMP and/or HCP may be employed as alternative measures to the specific measures identified in this Order for addressing water quality and hydromodification issues through the adoption, approval and implementation of a JURMP

In addition to the comments above, Rancho Mission Viejo is also providing additional technical comments in Attachment A.

We appreciate the opportunity to provide these comments and look forward to the Board's responses. If you have any questions regarding these comments please contact Laura Coley Eisenberg of my staff at (949) 240-3363.

Sincerely,

Richard Broming
Senior Vice President
Planning & Entitlement

Enc:
Attachment A
Attachment B
Attachment C
Attachment D
Attachment E

Figures:
HCP Figure 7-M
SAMP Figure 4.1.1-3
SAMP Figure 6-1
WQMP Figure 3-7
SAMP Figure 8-1

pc: Jeremy Haas, SDRWQCB

ATTACHMENT A

Technical Comments Table

Tentative Order Issue	Comment
Page 21. Section D.1.c(5) Long-term maintenance of structural post-construction BMPs	The requirement to submit proof of a mechanism under which long-term maintenance of all structural post-construction BMPs during the planning process is problematic for the following reasons: a. During the planning process, the level of detail for structural BMPs is conceptual only and subject to change as the project is further defined through the administrative approval process, therefore Project Applicants will not know the full extent of maintenance requirements prior to the approval of precise grading permits. b. Submittal of a mechanism at the planning stage does not provide sufficient flexibility for the Project Applicant to develop the most appropriate mechanism, be that an HOA-based structure and fee, a CFD or other similar arrangement, or even an agreement with another public entity. **Suggested Language:** Replace existing D.1.c(5) with the following: (5)Submittal of proof of a mechanism under which ongoing long-term maintenance of all structural post-construction BMPS will be conducted shall be required prior to final permit approval, either the precise grading permit or building permit, which ever occurs first.
Page 22. Section D.1.c(6)(e) Infiltration and Groundwater Protection 10 feet vertical distance	Most BMP design documents recommend or require a minimum depth to groundwater of 3 feet or more. This criterion is a based on the hydraulic consideration of groundwater mounding, as well as the treatment consideration of soil filtration. If the native soil has low organic matter or CEC or if there is fractured bedrock, a minimum depth to groundwater of 10 feet is appropriate and additional pretreatment should be required as is stated in the Tentative Order. However, if the soils have a high adsorptive capacity,

Tentative Order Issue	Comment
	as required by subsection (f) of this provision, a minimum depth of 3 feet should be adequate to be protective of groundwater quality. Also, infiltration of fully treated runoff for hydromodification control purposes of fully treated runoff should be allowed with a minimum of 3 feet of separation to groundwater. In this case, infiltration relies on the use of highly draining soils and the concern is strictly related to the hydraulic considerations of mounding versus relying on the soil properties to provide runoff treatment. **Suggested Language:** Add the following language to subsection (e): (e) The vertical distance from the base of any infiltration treatment control BMP to the seasonal high groundwater mark must be at least 10 feet, <u>except as provided in this subsection</u>. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained. <u>If infiltration soils have a high adsorptive capacity, as required by subsection (f) of this provision, a minimum depth of at least three feet is allowed. Additionally infiltration of runoff that is treated, prior to infiltration, in a treatment control BMP that addresses the pollutants of concern in groundwater and is implemented in accordance with Section D.1.d(6) of this permit is allowed with a minimum of 3 feet of separation to groundwater.</u>
Page 22. Section D.1.c(6)(h) Infiltration and Groundwater Protection 100 feet horizontal distance from water supply wells	The Board should clarify the role of water use relative to this requirement – e..g., water supply wells used for domestic consumption versus those used for agricultural consumption. **Suggested Language:** Add the following language at the end of subsection (h): (h) Infiltration treatment control BMPs must be located a minimum of 100 feet horizontally from any water supply wells <u>used for domestic consumption</u>.
Page 22. Section D.1.c(6)(f) Infiltration and Groundwater Protection soil type	The soil specifications in this subsection are applicable to the use of infiltration for runoff treatment. These soils specifications will limit infiltration rates, and therefore are not amenable to infiltration used for hydromodification control. Coarse soils that allow for rapid infiltration should be allowed

Tentative Order Issue	Comment
	for infiltration of fully treated runoff as indicated in the comment for subsection (e) above. **Suggested Language:** Add the following language at the end of subsection (f): Infiltration of treated urban runoff is allowed for hydromodification purposes in other soils as set forth in subsection (e) above.
Page 23. Section D.1.c(6)(g) Infiltration and Groundwater Protection land use provisions	Areas of mixed land uses that include the land uses listed in this subsection should be allowed to use infiltration for treatment control and/or hydromodification control. **Suggested language:** Add the following language at the end of subsection (g): Areas of mixed land uses that include a low percentage of high threat to water quality land uses and activities may use infiltration treatment control BMPs. Also, runoff from these areas that is treated, prior to infiltration, in a treatment control BMP that addresses the pollutants of concern in groundwater and is implemented in accordance with Section D.1.d(6) of this permit may be infiltrated for hydromodification control purposes.
Page 27, Section D.1.d(6)(a) Treatment control BMP sizing footnote # 6	**Suggested Language:** Revise footnote 6 to read as follows: LID and other design BMPs that are correctly designed in accordance with Section 6.a.i or 6.a.ii can be considered treatment control BMPs.
Page 28, Section D.1.d(6)(a)(i) Treatment control volume-based BMP sizing	1. The Tentative Order requires a single volume-based sizing method (volume of runoff produced by the 85th percentile 24-hr event, as determined from the County of Orange's Isopluvial Map). Equivalent, alternative sizing methods, such as using a continuous simulation model to size BMPs, should also be allowed. Continuous simulation provides more detailed information on how BMPs will perform by accounting for site-specific parameters such as slope, soils, and vegetation.

Tentative Order Issue	Comment
	2. To be consistent with other guidance documents, change "24-hour 85th percentile storm event" to "85th percentile, 24-hour runoff event". 3. Provide the reference for the 85th Percentile Precipitation Isopluvial Map. **Suggested Language:** Add the following language at the end of subsection (i): (i) Volume-based treatment control BMPs must be designed to mitigate (infiltrate, filter, or treat) the volume of runoff produced from a 85th percentile, 24-hour storm event, as determined from the County of Orange's 85th percentile Precipitation Isopluvial Map (DAMP Exhibit 7.II, page 7.II-49) or an equivalent, alternative sizing methods, such as use of a continuous simulation model to size BMPs to achieve 90 percent capture of average annual runoff volume; or
Page 28, Section D.1.d(6)(a)(ii) Treatment control flow-based BMP sizing	Suggested edit to improve clarity: (ii) Flow-based treatment control BMPs must be designed to treat either: a. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inches per hour; or b. The maximum flow rate of runoff produced by 2 times the 85th percentile hourly rainfall intensity as determined from the local historical rainfall record.

Tentative Order Issue	Comment
Page 28, Section D.1.d(6)(b) Treatment control BMPs	The terms "infiltration" and "filtration" refer to types of treatment unit process. Unit processes are the underlying hydrologic, hydraulic, physical, chemical, and biological treatment mechanisms in a treatment BMP. Suggest changing this condition to "...mitigate (treat through infiltration, settling, filtration, or other unit processes)... **Suggested Language:** Revised subsection (b) to read as follows: (b) Treatment control BMPs for all Priority Development Projects must mitigate (treat through infiltration, settling, filtration, or other unit processes) the required volume or flow of runoff from all developed portions of the project, including landscaped areas.
Page 30, Section D.1.d(8) LID Site Design BMP Substitution Program	The LID Substitution Program does not provide for sufficient flexibility for a project proponent to be innovative regarding LID strategies, particularly when site design BMPs are mandatory (see subsection (d) requiring implementation of specific site design BMPs). The Substitution Program should seek to achieve the same results as the traditional approach, but use alternative methods/ practices to do so.
Page 31. Section D.1.e BMP Construction Verification	Verification of BMPs at the construction stage should be limited to structural source control and treatment control BMPs and should occur during the regular grading/construction inspections. Such verifications should assure that proper facilities are in place during construction rather than occurring when a home is sold and ready for occupancy. **Suggested Language:** Revise subsection e. to read as follows: e. BMP CONSTRUCTION VERIFICATION During regular grading/construction inspections for each Priority Development Project subject to SUSMP requirements, each Copermittee must inspect . . . .
Page 35 Section D.1.h(1) Hydromodification criteria	***Suggested re-ordering of sub-sections*** The on-site hydromodification control waiver included in

Tentative Order Issue	Comment
	D.1.h(3)(c) should excuse a project from the requirements in D.1.h(2) and (3)(a) and (3)(b). Therefore, D.1.h(3)(c) would be better located as D.1.h(1)(b), with the existing first paragraph as D.1.h(1)(a).
Page 35 Section D.1.h (3)(i) Hydromodification Criteria waiver thresholds	The proposed waiver thresholds (an increase of less than 5% total impervious cover on a new development site and at least a 30% decrease in total impervious cover in a redevelopment project) seem arbitrary and not based on the current knowledge of hydromodification impacts. There is much discussion about the reliability of imperviousness as a "predictor" of potential impacts from new development. In fact, the effects of imperviousness on hydromodification impacts is much more complicated than a simple correlation with imperviousness. The limited hydromodification impact research to date has focused on empirical evidence of channel failures in relationship to directly connected impervious area (DCIA) or total impervious area. However, more recent research has established the importance of size of watershed, channel slope and materials, vegetation types, and climatic and precipitation patterns (SCCWRP 2005a). Impervious area that drains directly to a storm drain system and then to the receiving water is considered "directly connected," whereas impervious area that drains through vegetation prior to surface waters or to infiltration facilities is considered "disconnected." Although physical degradation of stream channels in semi-arid climates of California may be detectable when watershed imperviousness is between three and five percent, not all streams will respond in the same manner (SCCWRP, 2005b). Management strategies need to account for differences in stream type, stage of channel adjustment, current and expected amount of basin imperviousness, and existing or planned hydromodification control strategies. The absolute measure of watershed imperviousness that could cause stream instability depends on many factors, including watershed area, topography, land cover, and soil type; development impervious area and connectedness; longitudinal slope of the river; channel geometry; and local boundary materials, such as bed and bank material properties and vegetation characteristics.

Tentative Order Issue	Comment
	The first part of the waiver, as written, also does not account for the existing imperviousness in the project's watershed, nor the potential cumulative imperviousness of non-priority projects that could occur within the subject watershed. In summary, it is important to not prejudge these thresholds without proper consideration of local watershed and channel stability factors. Instead, the Tentative Order should allow the SMC study and Copermittee hydromodification control planning process to occur, so as to develop appropriate thresholds based on best available science and localized watershed conditions. **Suggested Language:** Revise subsection (c)(i) to read as follows: (i) Watershed-specific waivers: Waivers may be implemented for new development and redevelopment projects where a watershed management plan has been adopted that establishes thresholds for project waiver based on watershed-specific factors. Insert a new subsection (c)(ii) as follows: (ii) Redevelopment project waivers: Waivers may be implemented where redevelopment projects do not increase the potential for hydromodification impacts over the existing site conditions, by both no increase in impervious area and no decrease in the infiltration capacity of pervious areas.
Page 35 Section D.1.h (3)(ii)(b) Hydromodification Criteria modified channel conditions	Note that it might not be possible for a project to implement in-stream measures in channels that are significantly hardened (e.g., concrete-lined).
Page 36 Section D.1.h (5)(a)(ii) Hydromodification Criteria Interim Requirements for Large Projects	Subsection (ii) requires disconnecting impervious areas from the drainage network and adjacent impervious area. This should not be required if the impervious area is being directly connected to a downstream regional hydromodification control facility prior to discharge to a sensitive receiving water. **Suggested Language:**

Tentative Order Issue	Comment
	Revise subsection (ii) to read as follows: (ii) Disconnect impervious areas from the receiving waters through on-site or off-site water reuse, evapotranspiration, and/or infiltration.
Page 36 Section D.1.h (5)(a)(iii) Hydromodification Criteria Interim Requirements for Large Projects	Subsection (iii) provides for a hydrograph matching interim hydromodification control criterion. As the criterion is stated in the Tentative Order, it is unclear as to exactly which hydrographs are to be used, so the condition should specify exactly which hydrographs are to be used. Also, it may be difficult to determine the 1-year event. Current manuals focus on 2-year events and above, so additional guidance will be necessary to implement this criterion. Palhegyi et al (2005) compared the three flow control criteria in terms of effectiveness at controlling potential channel erosion: peak flow controls, hydrograph matching, and flow duration matching. While hydrograph matching was found to be far more effective than peak flow control, the analysis indicated an unacceptably high risk of future instability.
Page 36 Section D.1.h (5)(a)(iv) Hydromodification Criteria Interim Requirements for Large Projects	**Suggested Language:** Revise subsection (iv) to read as follows: (iv) Establish buffer zones and setbacks for channel movement. Where in-stream controls are necessary, use geomorphically-referenced channel design techniques.
Page 37, Section D.1.i(2)(a)(i) and (ii) New Development/ Redevelopment Education Program	What does "measurably increase" and "measurably change" mean? What are the metrics by which the Permittee is to measure changes/successes?
Page 40, Section D.2.d(1)(a)(xii) and (xiii) Construction BMP Implementation	The preservation of natural hydrologic features [subsection (xii)] and riparian buffers [subsection (xiii)] are not construction BMPs. These are site design BMPs and are inappropriately included in this section.
Page 41, Section D.2.d(1)(c) Designate enhanced BMPS for 303(d) impairments and ESAs	The Board should define what constitutes an "enhanced measures". It should be clarified that "enhanced measures" are not exclusively "Advanced Sediment Treatment".
Page 66 Section E Watershed Urban	As reviewed in the Rancho Mission Viejo comment letter, in

Tentative Order Issue	Comment
Runoff Management Program	drafting the section of the Tentative Order requiring a Watershed Urban Runoff Management Program, the Board should recognize the efforts of the County of Orange and major landowners, such as Rancho Mission Viejo to put in place a comprehensive watershed land use/open space strategy for the San Juan Creek Watershed/Western San Mateo Watershed through the approved Southern Subregion Habitat Conservation Plan (HCP) and Special Area Management Plan (SAMP) both of which include water quality/quantity management as an integral component. Given its ongoing role in the management of the San Juan Watershed through the Southern Subregion HCP and the size of its park landholdings and overall jurisdictional area, the County of Orange would appear to be the appropriate lead watershed permittee for development of the Watershed Urban Runoff Management Plan rather than the City of San Juan Capistrano.

ATTACHMENT B

SAMP Tenets

Tenet 1. No net loss of acreage and functions of waters of the United States

Tenet 2. Maintain/restore hydrologic, water quality, and habitat integrity of waters of the United States

Tenet 3. Protect headwater areas

Tenet 4. Maintain/protect/restore diverse and contiguous riparian corridors

Tenet 5. Maintain or restore floodplain connection

Tenet 6. Maintain and/or restore sediment sources and transport equilibrium

Tenet 7. Maintain adequate buffer for the protected riparian corridors

Tenet 8. Protect riparian areas and associated habitats supporting state and federally listed and sensitive species and their critical habitat

Baseline Conditions Watershed Planning Principles

Principle 1. Recognize and account for the hydrologic response of different terrains at the sub-basin and watershed scale.

Principle 2. Emulate, to the extent feasible, the existing runoff and infiltration patterns in consideration of specific terrains, soil types and ground cover.

Principle 3 Address potential effects of future land use changes on hydrology.

Principle 4 Minimize alterations of the timing of peak flows of each sub-basin relative to the mainstem creeks.

Principle 5 Maintain and/or restore the inherent geomorphic structure of major tributaries and their floodplains.

Principle 6 Maintain coarse sediment yields, storage and transport processes.

Principle 7 Utilize infiltration properties of sandy terrains for groundwater recharge and to offset potential increases in surface runoff and adverse effects to water quality.

Principle 8 Protect existing groundwater recharge areas supporting slope wetlands and riparian zones; and maximize groundwater recharge of alluvial aquifers to the extent consistent with aquifer capacity and habitat management goals .

Principle 9 Protect water quality using a variety of strategies, with particular emphasis on natural treatment systems such as water quality wetlands, swales and infiltration areas.

References: Southern Subregion HCP (USFWS, January 2007)
San Juan Creek Watershed/western San Mateo Watershed SAMP (USACE, March 2007

ATTACHMENT C

Tech Memo on Soils Characteristics Influencing Contaminant Fate and Transport

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Memorandum

Date: 2 April 2007

To: Laura Eisenberg, Rancho Mission Viejo

From: Lisa Austin, Geosyntec Consultants

Subject: South Orange County Draft MS4 Permit, Tentative Order No. R9-2007-0002

Potential Impacts of Infiltration on Groundwater

INTRODUCTION

Infiltration is the downward movement of water through the pore spaces of the subsurface soil matrix. In a natural system without impervious surfaces such as a meadow, this movement is usually unrestricted, such that water can infiltrate down and recharge the groundwater table; although downward movement can be restricted by low permeability strata such as clays or rock. Many stormwater treatment facilities (BMPs) utilize infiltration and groundwater recharge to reduce the volume and pollutant loadings of surface runoff. Infiltration basins, infiltration trenches, and stormwater injection wells utilize infiltration as a primary treatment mechanism by infiltrating the entire design storm volume. Infiltration is a secondary process in stormwater treatment facilities such as extended detention basins, vegetated swales, filter strips, and bioretention areas, where only a fraction of the design storm will typically infiltrate and is incidental to the primary treatment processes that include sedimentation, filtration, sorption, and plant uptake.

The purpose of this technical memorandum is to evaluate the potential for groundwater impacts caused by intentional and incidental infiltration of urban runoff in treatment control BMPs.

SOILS CHARACTERISTICS INFLUENCING CONTAMINANT FATE AND TRANSPORT

Several different physical, chemical, and biological processes occur while stormwater flows through a soil matrix. However, these processes are not independent. Physical processes

including simple filtration and absorption directly influence the mass transfer, transformation, or degradation of stormwater contaminants that occurs during more complex chemical and biological processes. The subsections below briefly discuss these processes followed by a summary of soil suitability and potential design enhancements to minimize impacts to groundwater resources.

Physical Processes

The ability of surface soil layers to infiltrate and their capacity to absorb stormwater are important modeling and design parameters that are usually represented by the two respective soil properties: the hydraulic conductivity and the storage capacity. The hydraulic conductivity is the rate at which water flows through the soil pore structure, given as a velocity (e.g., in./hr, mm/day, gal/ft^2-day). It is a function of the porosity (volume of voids to total volume of soil), the connectivity of the pore spaces, the degree of saturation, and the chemistry and temperature of the pore fluids. One measure of water storage capacity is the field capacity, the maximum fraction of soil water (volume of water to volume of soil) that can be held in the pore spaces under the action of gravity. It is primarily a function of the pore size distribution (i.e. grain sizes) and packing density, and less of a function of the temperature, and organic content of the soil. The hydraulic conductivity, porosity, and field capacity, as well as the antecedent moisture condition (degree of saturation), are critical factors in evaluating the transport rate of contaminants through the subsurface soil matrix to the groundwater table.

Soils vary in their ability to filter and adsorb contaminants. Coarse textured soils tend to be more inert than fine textured soils and allow water to quickly percolate without adsorbing contaminants. Open bedrock fractures and faults can also reduce the water-soil contact area and reduce the ability for soils to filter and adsorb pollutants. Surface crusting may impede initial infiltration, but surface cracks formed during prolonged drying periods may provide a direct route to coarser underlying soils and the groundwater table. Plant roots and burrowing insects and rodents can also increase the infiltration rate of soils. An understanding of the possible subsurface conduits in addition to the properties of the soils that exist beneath an infiltration facility is needed to adequately assess the impacts to groundwater.

Chemical Processes

In addition to the physical processes that dictate primarily the contact time of contaminants to soil particles, the chemical processes responsible for the mass transfer of contaminants to soil particles include surface complexation, ion exchange, differential precipitation, diffusion into

solid and hydrolysis (WERF, 2005). The former three processes are considered to be the most significant (Barbosa, 1999).

Mass transfer for different constituents occurs through different mechanisms and rates. For example, phosphorus mass transfer to particles is generally through a combination of sorption and precipitation depending on pH, and the rate of reaction can be very rapid; on the order of minutes to several hours (WERF, 2005). In contrast, mass transfer for different metals occurs differently and also has differing kinetics. For example, mechanisms of lead mass transfer to particles (depending on the solid phase and pH) generally range from precipitation to surface complexation with relatively rapid kinetics, while zinc mass transfer generally range from surface complexation to hydrolysis with relatively slow kinetics (WERF, 2005).

Cation exchange capacity (CEC) and anion exchange capacity (AEC) are determined mostly by the clay and organic content of soils (Ferguson, 1994). A study conducted by Hathhorn and Yonge (1995) found that the attenuation of copper and zinc was more a function of the organic content rather than the CEC, but for the attenuation of cadmium and lead the CEC was more important. The AEC has not been as widely researched as the CEC due to the complex reactions during the exchange, but the material in soils most reactive with anions have been reported to be amorphous (Al) and (Fe) hydrous oxides or hydroxides (Fang, 1997). Therefore, soils having high concentrations of these complexes may have a greater potential for adsorbing anions such as chloride, but more research in this area is needed.

Biological Processes

Plants and microbes in the soil (e.g., bacteria, fungi) can transform and uptake stormwater pollutants. Microbially mediated transformations occur as a result of respiration, which is a redox process. Redox reactions are chemical transformations involving the transfer of electrons or change in oxidation number of a species and the process occurs in both aerobic (e.g., vadose zone soils) and anaerobic (e.g., aquifer zone soils) environments. Oxygen is used as the electron acceptor during aerobic respiration, while other chemicals (e.g., nitrate, sulfate) function as electron acceptors during anaerobic respiration. Certain microbes can enzymatically oxidize or reduce metals during respiration, affecting metal solubility and reactivity (WERF, 2005). Many of these inorganic transformations are the basis of bioremediation of metals.

Some microbes (primarily heterotrophic bacteria) are able to use complex organic compounds as energy sources during metabolism, often resulting in microbial decomposition of those compounds to less toxic forms. Also, under certain conditions, some microbes can transform

organic compounds even when the compound cannot serve as the primary energy source (cometabolism). Cometabolism is important for the breakdown of chlorinated solvents, polychlorinated biphenyls (PCBs), and many polycyclic aromatic hydrocarbons (PAHs) (WERF, 2005). Such principles are the basis of bioremediation of organic contaminants.

The activity of specific soil microorganisms and their ability to transform stormwater pollutants depends primarily upon their habitat requirements. Basic habitat requirements for all microbes include a substrate to colonize (e.g., soil, plant roots), appropriate nutrients including carbon sources, low concentration of toxics, and sufficient soil moisture. The pH and electron donor availability also affects which microbes flourish. Most bacteria are very sensitive to acidic conditions, while fungi may thrive under both acidic and basic conditions (WERF, 2005). Some microbes require oxygen (aerobic) as an electron donor or other substances (facultative and anaerobic) for metabolism. Various factors determine available oxygen, including soil characteristics and inundation patterns. Water level management in stormwater ponds and infiltration basins may increase microbial activity by allowing surface soils to become aerated between storms. However, complete desiccation would be detrimental to these aerobic bacteria.

Many microbes form symbiotic relationships with certain plants; therefore, increasing the vegetation density may increase microbial populations. Also, some plants will assimilate stormwater contaminants through metabolic nutrient uptake or by translocating to roots, stems, and leaves (WERF, 2005).

Soil Suitability and Enhancement Considerations

Due to the presence of at least some clay and/or organic matter, most natural soils would be expected to remove many stormwater constituents during infiltration by filtering, adsorption/ion exchange, and microbial processes. Design manuals and criteria for stormwater treatment infiltration facilities often include requirements or recommendations for soils characteristics, such as the organic and clay content and the CEC. The following are a few of the soils characteristics recommendations for infiltration facilities:

- The Wisconsin Department of Natural Resources recommends soils have an organic content greater than one percent by weight.
- Hathhorn and Yonge (1995) recommend that the fraction of soil organic carbon should exceed 0.3% to improve metals attenuation, but should not exceed 1.5% (by weight) for hydraulic effectiveness to a depth of (at least) 1 meter. They also recommend that the

silt/clay content upper limits should be 20% silt and 10% clay to improve/maintain hydraulic performance.

- The Washington Department of Ecology (2001) requires the CEC of the treatment soil (top 18" of soil in the infiltration facility; may be engineered soils) must be ≥5 milliequivalents CEC/100 g dry soil (USEPA Method 9081).
- The California BMP Handbooks recommend that soil should not have more than 30% clay or more than 40% of clay and silt combined (CASQA, 2003).

If natural soils do not contain sufficient organic matter, have a low CEC, or have too much clay/silt content for adequate infiltration rates, soil amendments such as mulch, peat, compost, zeolite, or sand may be tilled into the top 2-3 feet of soil. Engineered media may also be used. For instance, sand otherwise incapable of removing dissolved pollutants can be modified, either by the addition of a sorptive media like activated carbon or by amending the surface of the sand. Examples of such media include manganese oxide, iron, aluminum and silicious oxide media, ion exchange media, media coatings, and media substrates (Sansalone and Teng, 2004; Liu et al., 2005).

CONCLUSIONS AND RECOMMENDATIONS

Based on research conducted to date, the potential for contaminating groundwater due to infiltration of most urban stormwater appears to minimal. However, the type of BMP and the quantity of stormwater infiltrated should also be considered. Bioretention facilities are designed to infiltrate, but the organically rich soils used in these facilities will provide significant adsorptive and retentive capacity. Also, the percolation rates in extended detention basins, swales, filter strips, and bioretention facilities are generally much lower than infiltration basins and trenches, giving more time for contaminants to adsorb to soil particles, degraded by microbes, or assimilated by biota. Due to these differences, the siting criteria used for infiltration facilities do not need to be the same as for other BMPs that utilize infiltration as a secondary treatment process.

Most of stormwater treatment BMP design documents recommend or require a minimum depth to groundwater of 3 feet or more. This criterion is a based on the hydraulic consideration of groundwater mounding, as well as the treatment consideration of soil filtration. If the native soil has low organic matter or CEC or if there is fractured bedrock, a larger minimum depth to groundwater (>10 feet) is appropriate and pretreatment should be required. However, if the soils have a high adsorptive capacity, a minimum depth of 3 feet should be adequate.

The physical and chemical characteristics of the native soils should be evaluated when considering infiltration as a stormwater treatment option. As discussed above, the texture, organic matter, clay content and the CEC can be used to assess the tendency for soils to retain pollutants in infiltrating stormwater. Coarse grained soils have a high hydraulic conductivity, but they tend to contain less organic matter and have a lower CEC than fine grained soils. Soil amendments, such as compost, peat, mulch, zeolite, or engineered media such as oxide-coated sand can be used to increase some of these beneficial characteristics for treatment infiltration facilities.

Infiltration facilities located in areas with coarse grained soils are preferable for hydromodification control purposes. In this situation, runoff directed to these facilities should be treated in a separate treatment control BMP that addresses the pollutants of concern in groundwater prior to infiltration.

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ATTACHMENT D

Excerpts from USACE Long Term Individual Permit

LOS ANGELES DISTRICT
U.S. ARMY CORPS OF ENGINEERS

DEPARTMENT OF THE ARMY PERMIT

Permittee: Rancho Mission Viejo, LLC
28811 Ortega Highway, P.O. Box 9
San Juan Capistrano, California 92693

Permit Number: SPL-1999-16236

Issuing Office: Los Angeles District

Note: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To discharge dredged and/or fill materials associated with the construction and maintenance of facilities within the Rancho Mission Viejo (RMV) Planning Area as shown in Figures 8-1 through 8-5 from the San Juan Creek Watershed/Western San Mateo Creek Watershed Special Area Management Plan (SJ/SM SAMP) Environmental Impact Statement (EIS). Within potential development areas as described in Figures 8-1 through 8-5, permitted activities include permanent and temporary discharge of dredged and/or fill materials for:

1. Public and private utilities, including utility lines and maintenance of utility lines;
2. Public and private drainage and flood control facilities, including construction of outfall and intake structures, construction of bank stabilization structures, and maintenance of all flood control facilities;
3. Public and private roads and bridges, including lengthening, widening, and maintenance;
4. Public and private land development, including residential, commercial, institutional, and recreational uses;
5. Habitat restoration and water quality improvement projects, including wetland restoration and creation and construction of stormwater management facilities; and
6. Public and private water storage facilities and impoundments.

Outside of those potential development areas, permitted activities include temporary discharge of dredged and/or fill materials for:

1. Maintenance and repair of public and private utilities, including utility lines;
2. Maintenance and repair of public and private drainage and flood control facilities, including outfall and intake structures, bank stabilization structures, flood control channels (consistent with an established maintenance baseline), and flood control basins (consistent with an established maintenance baseline);
3. Maintenance and repair of public and private roads and bridges;
4. Habitat restoration improvement projects, including wetland restoration and creation; and
5. Permanent impacts associated with reviewed infrastructure projects including:
    a. Construction of public and private utilities and
    b. Crossings of any mainstem stream using complete spans or partial spans with in-channel piers/piles.

Overall, the activities within the Rancho Mission Viejo Planning Area consists of construction and maintenance of about 14,000 homes across six planning areas, urban activity uses, business park uses, neighborhood center uses, and other development facilities and associated infrastructure facilities including trails, drainage facilities, water and sewer lines, and roads/bridges and the maintenance of existing and new facilities. The activities would result in a maximum permanent impacts of 55.46 acres of waters of the U.S., including 17.91 acres of wetlands, and maximum temporary impacts to 36.89 acres of waters of the U.S., including 15.82 acres of wetlands. Details of the activities are provided in the SJ/SM SAMP EIS.

This long-term Department of the Army permit authorizes the activities described above with specific activities authorized individually in the future with Letters of Permission (LOP). The review associated with issuance of future authorizations under an LOP ensures compliance with the Special Conditions of the long-term Department of the Army permit as project details become known. The procedures for reviewing and issuing a Letter of Permission are shown in Figure 3 and summarized in Attachment "A."

Project Location: In San Juan Creek, Chiquita Creek, Gobernadora Creek, Verdugo Creek, Cristianitos Creek, Gabino Creek, or Talega Creek and their tributaries within the Rancho Mission Viejo Planning Area in Orange County, California (Figures 1 and 2).

Permit Conditions:

General Conditions:

1. The time limit for completing the authorized activity ends on **March 21, 2082**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification from this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you transfer the permit in conjunction with the sale of the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of your permit, provided 24-hour notice is given to the permittee.

Special Conditions:

I. Project Review

1. The permittee shall contact the Corps every 25 years for the life of the permit to undertake a review of the decision document to determine consistency with the National Environmental Policy Act. Consistency review would determine if any supplemental documentation and analysis would be needed.

2. Future authorizations for specific project elements shall be authorized through Letters of Permissions after the Corps undertakes review procedures as shown in Figure 3 and summarized in Attachment "A."

II. Project Design

A. Project Footprint

1. The permittee shall confine development and supporting infrastructure to the footprint (including infrastructure alignments and facilities within designated open space) shown on Figures 8-1, 8-2, 8-3a, 8-3b, 8-3c, 8-4, and 8-5 in the EIS.

2. For the impact analysis areas, the permittee shall limit the size of the projects to 550 acres of development for Planning Area 4, 175 acres of reservoir for Planning Area 4, 500 acres of development for Planning Area 8, and 50 total acres of orchards in Planning Areas 6 and/or 7.

3. The permittee shall avoid all impacts to the thread-leaved brodiaea (a threatened facultative wetland plant) in a major population in a key location (as described in Southern NCCP Planning Guidelines) on Chiquadora Ridge as part of construction for Planning Area 2.

B. Hydrology

1. Outside the development footprint shown in Figure 2, the permittee shall insure post-project surface water hydrology for any stream of Strahler 3rd order or greater shall not be substantially different from pre-project hydrology. Strahler order may be determined from the Glenn Lukos Associates jurisdictional determination dated November 17, 2003 and amended April 18, 2004.

a. For 24-hour precipitation events, flows in response to 100-year events shall not be substantially different between pre-project conditions and post-project conditions. The permittee shall use best management practices including and not limited to detention basins, retention basins, low-water irrigation, and increase in pervious surfaces to manage excessive storm runoff from developed areas. The runoff management plan required by Ranch Plan EIR Mitigation Measure 4.5-1(g) as amended by the Ranch Plan Development Agreement shall be submitted with each project application for review by the Corps.

b. For 24-hour precipitation events, flows in response to 10-year events shall not differ by more than 1% between pre-project conditions and post-project conditions. The permittee shall use best management practices including and not limited to detention basins, retention basins, low-water irrigation, and increase in pervious surfaces to manage excessive storm runoff from developed areas. The runoff management plan required by Ranch Plan EIR Mitigation Measure 4.5-1(g) as amended by the Ranch Plan Development Agreement shall be submitted with each project application for review by the Corps.

2. For any stream located outside the development footprint of Strahler 3rd order or greater receiving project discharges, the permittee shall undertake adaptive management measures to insure no change in channel geomorphology. Strahler order may be determined from the Glenn Lukos Associates jurisdictional determination. The permittee shall provide a monitoring plan to the Corps explaining the protocol, standards constituting adverse impacts, and remedial measures should thresholds for adverse impacts be reached. The stream stabilization program required by Ranch Plan EIR Mitigation Measure 4.5-7 and the stream monitoring program required by Ranch Plan EIR Mitigation Measure 4.5-8 shall be submitted as part of the monitoring plan for review and approval.

3. The permittee shall not place water quality and/or water retention basins within the active channel of San Juan Creek, Chiquita Creek, Gobernadora Creek, Verdugo Creek, Cristianitos Creek, Gabino Creek, or Talega Creek.

4. For any Corps jurisdictional feature vegetated with coast live oaks located outside of the development footprint that receive discharges, the permittee shall monitor the health of the oaks for five years after the start of the discharges. Any oaks greater than 6 feet in height that die of excessive inundation, shall be mitigated at a ratio of one 10-gallon coast live oak for loss of one-inch diameter at breast height. The permittee shall provide a monitoring plan to the Corps explaining the monitoring protocol and the standards constituting adverse impacts.

C. Water Quality

1. The permittee shall abide by all the terms and conditions of the applicable Section 401 certification.

2. The permittee shall develop and implement master area and sub-area water quality management plans for each Planning Area (Ranch Plan EIR Mitigation Measures 4.5-3 and 4.5-4). A copy of the plan shall be submitted to the Corps for review and approval for consistency with the Conceptual Water Quality Management Plan (WQMP) approved as part of the SAMP EIS. The Corps shall have 30-days to review and approve any submitted plan. If the Corps does not provide comments within 30 days, the submitted plan shall be deemed approved. In the event of a disagreement between the Corps requirements and those of the County of Orange, the permittee, Corps and County shall agree on a resolution of said disagreement within 15 days. Copies of the WQMP annual reports shall be provided to the Corps within 30 days of completion.

D. Habitat

1. The permittee shall design new arterial roads or existing arterials upgraded to serve Rancho Mission Viejo projects along San Juan Creek, Chiquita Creek, and Gobernadora Creek, as follows in order to protect wildlife:

a. The bridge crossings shall provide a minimum of 20 feet of clearance from the stream bottom; and

b. Chain link fencing or functionally similar barrier of 10 feet in height (or as revised/determined through adaptive management) shall be installed on both sides of the approaches to the bridge for a distance of 100 feet away (or as revised/determined through adaptive management) from the stream to deter wildlife from entering the roadway.

2. The permittee shall provide wildlife movement corridors along San Juan Creek, Canada Chiquita, Canada Gobernadora, Cristianitos, Gabino, and Talega Creeks. Uses within these corridors shall be as follows:

a. The corridor along San Juan Creek upstream of Trampas Canyon to the edge of the RMV property shall provide a 400-meter wide corridor (200-meter setback off the centerline) except for the narrowing due to infrastructure facilities.

b. Residential or commercial structures shall not be constructed within the 400-meter corridor.

c. Limited fuel modification zones, trails, and related recreational facilities (i.e., interpretative signage) are allowed within the 400-meter corridor.

d. Infrastructure facilities are allowed including:

i) natural treatment systems for water quality treatment and related drainage facilities;

ii) outfalls that are located outside of the ordinary high water mark;

iii) approved bridge crossings;

iv) water, sewer, and power facilities as set forth in Figures 8-3a, 8-3b, and 8-3c.

3. The permittee shall retrofit the existing Cow Camp culvert crossing across San Juan Creek upon receiving authorization to discharge fill materials associated with Planning Area 3 to allow for fish passage. Alternatively, the crossing may be relocated to accomplish the same functional objectives as above and the current crossing may be removed and the disturbed area restored to provide a smooth, continuous longitudinal channel profile. The culverts shall comply with these following guidelines:

a. The culvert shall be a minimum of 6 feet in width.

b. The bottoms of the culverted crossings shall not be less than 25% of the culvert height.

c. Retrofitted culverts shall be at grade.

4. The permittee shall use best management practices, including and not limited to detention basins, retention basins, low-water irrigation, increase in pervious surfaces, and/or diversion of runoff to a collection system for re-use for irrigation purposes to prevent dry season runoff from entering San Juan Creek (upstream of Trampas Canyon), Gabino Creek, and Talega Creek from September to mid-October.

5. The permittee shall eradicate bullfrogs from any water quality treatment basin within 0.5 km of streams known to have arroyo toads. The eradication shall occur at the very least from September to mid-October to interrupt the annual breeding cycle. Permittee may use a variety of approaches to ensure compliance with this condition. Eradication efforts shall be monitored annually as part of the Aquatic Resources Adaptive Management Plan. If eradication efforts are not successful, the permittee shall cause the water quality treatment basin to be dry from September to mid-October by diverting dry season runoff to a collection system for re-use for irrigation purposes.

6. The permittee shall minimize light-spillover associated with the development to minimize indirect impacts to wildlife. Lighting shall be directed away from habitat areas through the use of low-sodium or similar intensity lights, light shields, native shrubs, berms, placement low near the ground, or other shielding methods.

7. The permittee shall refrain from using invasive exotic vegetation within fuel modification zones. Invasive exotic vegetation are those rated as medium or high by the California Invasive Plant Council in terms of their invasiveness.

8. The permittee shall undertake telemetry monitoring studies for arroyo toad near Planning Area 8 for five years and submit the results to the Corps before submittal of an application for Planning Area 8. The results shall be used in designing appropriate measures to minimize impacts to the arroyo toad in Planning Area 8.

III. Project Construction

1. The permittee shall implement a contractor education program to provide an overview and understanding of the project construction special conditions. A copy of the Special Conditions must be included in all bid packages for the project and be available at the work site at all times during periods of work and must be presented upon request by any Corps or other agency personnel with a reasonable reason for making such a request.

2. The permittee shall perform initial vegetation clearing in waters of the U.S. between September 15 and February 15. Work in waters may occur between February 15 and September 15 if breeding bird surveys indicate the absence of any nesting birds within a 50-foot radius.

3. With each project LOP application, the permittee shall submit to the Corps a complete set of detailed grading/construction plans showing all work and structures in waters of the U.S. The plans shall be submitted on paper that is no larger than 11x 17 inches. The permittee shall ensure that the project is built in accordance with the grading/construction plans.

4. The permittee shall place, heavy equipment working in or crossing wetlands on temporary construction mats (timber, steel, geotextile, rubber, etc.), or other measures must be taken to minimize soil disturbance such as using low pressure equipment, when practicable and if personnel would not be put into any additional potential hazard. Temporary construction mats shall be removed promptly after construction.

5. The permittee shall only discharge dredged or fill materials into waters of the U.S. that is free from pollutants in toxic amounts (see Section 307 of the Clean Water Act). The permittee not place within waters of the U.S. unsuitable materials (e.g., trash, debris, car bodies, asphalt, etc.).

a. This condition is satisfied through the use of using on-site materials from balanced cut-and-fill grading operations for every Planning Area except for Planning Area 8.

b. For Planning Area 8, the permittee shall prepare an updated Phase I Environmental Site Assessment (GPA EIR Mitigation Measure 4.14-13), prepare a comprehensive closure plan (GPA EIS Mitigation Measure 4.14-15), prepare a Health and Safety Contingency Plan (GPA EIR Mitigation Measure 4.14.1), remove all underground storage tanks (GPA EIR Mitigation Measure 4.14-6), and in the event that toxic materials are discovered during construction, an in the field assessment (GPA EIR Mitigation Measure 4.14-2). Such assessments shall be provided to the Corps. The permittee shall not discharge fill materials associated with Planning Area 8 containing toxic amounts of pollutants.

6. The permittee shall clearly mark the limits of the workspace with flagging or similar means to ensure mechanized equipment does not enter preserved waters of the U.S. and riparian wetland/habitat areas. Adverse impacts to waters of the U.S. beyond the Corps-approved construction footprint are not authorized. Such impacts could result in permit suspension and revocation, administrative, civil or criminal penalties, and/or substantial, additional, compensatory mitigation requirements

7. The permittee shall install toad exclusion fencing for any work within 300 feet of a known population of the arroyo toad adjacent to San Juan Creek, Verdugo Creek, Gabino Creek, Cristianitos Creek, and Talega Creek for activities occurring outside of the estivation period.

8. The permittee shall implement best management practices to prevent the movement of sediment into waters of U.S. Compliance with Ranch Plan EIR Standard Condition 4.5-11 (Erosion and Sediment Control Plan (ESCP)) would satisfy this condition. The ESCP must be designed to minimize the mobilization of fine sediments into downstream waters occupied by steelhead and

arroyo toad. A copy of the current ESCP shall be provided to the Corps for each project application.

9. For each planning area within the San Juan Creek Watershed, the permittee shall survey streams 1000 feet downstream of each planning area for arroyo chub and three-spined stickleback prior to construction. If either species are found, downstream turbidity up to 300 feet from the planning area during construction shall not exceed more than 10 NTU over background when the background is less than 50 NTU or a 20 percent increase in turbidity when the background turbidity is more than 50 NTU. Background turbidity values can be obtained by measuring turbidity just upstream of the discharge point during construction. If the turbidity threshold is exceeded, the permittee shall implement additional turbidity control measures within 48 hours to reduce the turbidity to below threshold values.

10. The permittee shall restore all temporarily impacted areas to pre-construction elevations within one month following completion of work. If wetlands or non-wetland waters of the U.S. vegetated with native wetland species were impacted, re-vegetation should commence within three months after restoration of pre-construction elevations and be completed within one growing season. If re-vegetation cannot start due to seasonal conflicts (e.g., impacts occurring in late fall/early winter should not be re-vegetated until seasonal conditions are conducive to re-vegetation), exposed earth surfaces should be stabilized immediately with jute-netting, straw matting, or other applicable best management practice to minimize any erosion from wind or water.

11. The permittee shall comply with all the conditions of the historic properties treatment plan once the Corps in consultation with the State Historic Preservation Office approves the plan.

12. Pursuant to 36 C.F.R. section 800.13, in the event of any discoveries during construction of either previously unrecorded human remains, archeological deposits, or any other type of previously unrecorded historic property, the permittee shall notify the Corps' Archeology Staff within 24 hours (Steve Dibble at 213-452-3849, Pam Maxwell at 213-452-3877, or John Killeen at 213-452-3861). The permittee shall immediately suspend all work in any area(s) where potential cultural resources are discovered. The permittee shall not resume construction in the area surrounding the potential cultural resources until the Corps re-authorizes project construction, per 36 C.F.R. section 800.13.

13. During construction of each Planning Area or associated infrastructure, the permittee shall provide weekly construction reports via e-mail, fax, and/or mail demonstrating status of compliance with all project construction special conditions. Appropriate photos shall be submitted to show establishment of project construction minimization features.

14. This Corps permit does not authorize you to take any threatened or endangered species, in particular coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), arroyo toad (*Bufo microscaphus californicus*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), Riverside fairy shrimp (*Streptocephalus woottoni*), and thread-leaved brodiaea (*Brodiaea filifolia*) or adversely modify its designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g. ESA Section 10 permit, or a Biological Opinion (BO) under ESA Section 7, with "incidental take" provisions with which you

must comply). The FWS BO 1-6-07-F-812.8 and Incidental Take Permit TE 144140-0 provides such authorization and contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The FWS is the appropriate authority to determine compliance with the terms and conditions of its BO and with the ESA.

IV. Compensatory Mitigation

1. The permittee shall protect avoided aquatic resources that are appropriately buffered (where feasible) by recording conservation easements. The conservation easements shall be recorded in phases in substantial conformance with the RMV Open Space and Phasing Plan shown as Exhibit B in the RMV Open Space Agreement, entered into by the permittee and County of Orange pursuant to the Ranch Plan Program EIR No. 589. The Corps acknowledges that the conservation easements will allow for passive recreation, agricultural uses by the O'Neill family and its successors in interest, if any, and for certain specified infrastructure facilities as illustrated in Exhibits 8-1 through 8-5. The Southern Subregion Habitat Conservation Plan conservation easement shall be approved by the Corps before recordation. Following the recordation of each conservation easement, the permittee shall provide to the Corps a copy of the conservation easement.

2. The permitttee shall compensate for all impacts to aquatic resources ensuring no net loss of functions and acres of naturally-vegetated waters of the U.S., including wetlands.

a. The permittee shall compensate for all impacts to wetlands and non-wetland waters of the U.S. vegetated with native wetland plant species at a 1:1 ratio on an area basis.

i. The permittee may use the 18 acres of credit already established at the Gobernadora Ecological Restoration Area to compensate for future impacts to any waters of the U.S.

ii. Compensatory mitigation for impacts to specified wetlands and non-wetland waters of the U.S. vegetated with native wetland plant species shall be initiated prior to impacts to the specified waters of the U.S. and achieve the success criteria prior to impacts to the specified waters of the U.S.

iii. The permittee shall provide the Corps, Department of Fish and Game, and the U.S. Fish and Wildlife Service with a habitat mitigation and monitoring plan consistent with the LAD Mitigation and Monitoring Guidelines for review and approval prior to implementation of the compensatory mitigation. The compensatory mitigation sites should be prioritized in consideration of the "San Juan Creek Watershed Riparian Ecosystem Restoration Plan: Site Selection and General Design Criteria" by Engineering Research and Development Center (ERDC) dated August 2004 and the Aquatic Resources Restoration Plan. Additional considerations include the proximity of impact site and mitigation site, impacts to other sensitive habits due to the potential mitigation site, site

ownership, and other factors. Restoration design shall follow the principles of the ERDC restoration plan (Appendix F4 of the SAMP EIS).

b. The permittee shall compensate for all impacts to non-wetland waters that are vegetated by upland species or unvegetated through the eradication of all arundo on the RMV Planning Area (about 90 acres) consistent with the Invasive Species Control Plan.

c. Temporary impacts to wetlands or naturally vegetated non-wetland waters of the U.S. will be compensated through the existing habitat values and functions provided by 18 acres of already existing created/restored wetlands within GERA that is already providing temporal gain and the habitat value and functional enhancement provided through implementation of the ARAMP, including invasive species control such as the eradication of about 90 acres of giant reed on the RMV Planning Area. Temporary impacts to waters of the U.S. unvegetated or vegetated by upland species does not require compensatory mitigation.

3. The permittee shall compensate for the loss of mud nama, southern tarplant, and salt spring checkerbloom at a 2:1 ratio based on acreage.

a. The permittee shall provide the Corps, Department of Fish and Game, and the U.S. Fish and Wildlife Service with a habitat mitigation and monitoring plan consistent with the LAD Mitigation and Monitoring Guidelines and the Plant Species Translocation, Propagation, and Management Plan (Appendix J-1 to the GPA/ZC EIR) for all anticipated impacts to these sensitive wetland plants.

b. The permittee may elect to initiate replacement of sensitive plant acreage before impacts occur. If final performance criteria are achieved prior to impacts occurring, the Corps shall reduce the mitigation ratio to 1:1. Applicant may apply excess mitigation credits towards future impacts.

4. The permittee shall finalize the Adaptive Resources Management Plan, including funding sources, for in perpetuity preservation of aquatic resource functions and values within one year of issuance of the long-term individual permit.

5. The permittee shall conduct an exotic aquatic animal removal program to remove cowbirds, bullfrogs, non-native fishes, etc., as set forth in the Invasive Species Control Plan (Appendix F4 to the SAMP EIS).

V. Post-Project

1. The permittee shall submit to the Corps and Department as-built drawings of the boundaries of each planning area within 12 months of their completion.

2. The permittee shall submit to the Corps and Department as-built drawings of each compensatory mitigation area within 12 months of their completion.

3. The permittee shall submit to the Corps and the Department of a final report demonstrating compliance with each of the special conditions.

Further Information:

ATTACHMENT E

HCP Appendix U

Appendix U
Avoidance and Minimization Measures

Rancho Mission Viejo

(1) Avoidance/minimization through Project Modifications

Brodiaea

- The permittee shall avoid all impacts to the largest thread-leaved brodiaea population (a threatened facultative wetland plant) of the major population in a key location (as described in Southern NCCP Planning Guidelines) on Chiquadora Ridge as part of construction for Planning Area 2 (*ACOE Special Condition I.A.3).*

Arroyo Toad

- The permittee shall provide wildlife movement corridors along San Juan Creek, Canada Chiquita, Canada Gobernadora, Cristianitos, Gabino, and Talega Creeks. Uses within these corridors shall be as follows:

  a. The corridor along San Juan Creek upstream of Trampas Canyon to the edge of the RMV property shall provide a 400-meter wide corridor (200-meter setback off the centerline) except for the narrowing due to infrastructure facilities.
  b. Residential or commercial structures shall not be constructed within the 400-meter corridor.
  c. Limited fuel modification zones, trails, and related recreational facilities (i.e., interpretative signage, staging areas, picnic areas) are allowed within the 400-meter corridor.
  d. Infrastructure facilities are allowed including:
     i) natural treatment systems for water quality treatment and related drainage facilities;
     ii) outfalls that are located outside of the ordinary high water mark;
     iii) approved bridge crossings; and
     iv) water, sewer, and power facilities as set forth in Figure 1 (*ACOE Special Condition I.D.2)*

- The permittee shall undertake telemetry monitoring studies for arroyo toad near Planning Area 8 for five years and submit the results to the Corps before submittal of an application for Planning Area 8. The results shall be used in designing appropriate measures to minimize impacts to the arroyo toad in Planning Area 8 (*ACOE Special Condition I.D.8.*)

Vernal Pools/Fairy Shrimp/Western Spadefoot Toad

- Prior to issuance of a grading permit for Planning Area 5, the Project Applicant shall demonstrate to the satisfaction of the County's Director of Planning Services Department or his/her designee that all vernal pools in the Trampas Sub-basin have been avoided (*GPA EIR Mitigation Measure 4.9-35).*

Dudleya/Western Spadefoot Toad & Southwestern Pond Turtle

- The permittee shall locate any potential orchards to be located in Planning Area 6, within the areas identified in *Figure 205-M* (*NCCP Minimization Measure 8-2*).

(2) Avoidance/Minimization through Construction-Related Measures

Wildlife Movement Corridors

- The permittee shall design new arterial roads or existing arterials upgraded to serve Rancho Mission Viejo projects along San Juan Creek, Chiquita Creek, and Gobernadora Creek, as follows in order to protect wildlife:

  a. The bridge crossings shall provide a minimum of 20 feet of clearance from the stream bottom;
  b. Chain link fencing or functionally similar barrier of 10 feet in height (or as revised/determined through adaptive management) shall be installed on both sides of the approaches to the bridge for a distance of 100 feet away (or as revised/determined through adaptive management) from the stream to deter wildlife from entering the roadway (*ACOE Special Condition I.C.1*).

- The permittee shall include a wildlife culvert at Chiquita Narrows within the design of Cristianitos Road with the following dimensions: The culvert shall have a minimum dimension of 15 by 15 feet, the bottom of the culvert shall be of a natural substrate, light shall be visible from one end of the culvert to the other, vegetation installed at either end shall be native low growing to prevent predator-prey stalking, and if required for public health and safety, all lighting on the road above the culvert shall be shielded to prevent spill-over effects (*NCCP Minimization Measure 8-1*).

Multiple Species

- Biological resources outside of the Proposed Project impact area shall be protected during construction. To ensure this protection, the Project Applicant shall prepare and implement a

Biological Resources Construction Plan (BRCP) that provides for the protection of the resource and established the monitoring requirements. The BRCP shall contain at a minimum the following:

a. Specific measures for the protection of sensitive amphibian, mammal, bird, and plant species during construction.
b. Identification and quantification of habitats to be removed.
c. Design of protective fencing around conserved habitat areas and the construction staging areas.
d. Specific construction monitoring programs for sensitive species required by Wildlife Agencies including, but not limited to, programs for the arroyo toad, western spadefoot toad, southwestern pond turtle, cactus wren, and coastal California gnatcatcher. Such measures shall be consistent with prior Section 7 consultations and 1600 agreements; e.g., Arroyo Trabuco Golf Course.
e. Specific measures required by Wildlife Agencies (e.g., Arroyo Trabuco Golf Course) for the protection of sensitive habitats including, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits, and biological monitoring requirements (*GPA EIR Mitigation Measure 4.9-30*).

Raptors

- During construction, a construction monitoring program shall be implemented to mitigate for short-term noise impacts to nesting raptors, to the satisfaction of the County of Orange, Manager, Subdivision and Grading. Indirect impacts shall be mitigated by limiting heavy construction (i.e., mass grading) within 300 feet of occupied raptor nests. Occupied raptors nests shall be marked as "Environmentally Sensitive Areas" on grading/construction plans and shall be protected with fencing consisting of T-bar posts and yellow rope. Signs noting the area as an "Environmentally Sensitive Area" will be attached to the rope at regular intervals (*GPA EIR Mitigation Measure 4.9-26*).

Tricolored Blackbird

- Prior to issuance of grading permits for Planning Area 4, the County's Director of Planning Services/designee shall verify that wetland/riparian habitat for tricolored blackbird at the mouth of Verdugo Canyon has been avoided (*GPA EIR Mitigation Measure 4.9-31*).

Arroyo Toad

- The permittee shall install toad exclusion fencing for any work within 300 feet of a known population of the arroyo toad adjacent to San Juan Creek, Verdugo Creek, Gabino Creek, Cristianitos Creek, and Talega Creek for activities occurring outside of the estivation period (*ACOE Special Condition II.7*).

Fish

- The permittee shall retrofit the existing Cow Camp culvert crossing across San Juan Creek upon receiving authorization to discharge fill materials associated with Planning Area 3 to allow for fish passage. Alternatively, the crossing may be relocated to accomplish the same functional objectives as above and the current crossing may be removed and the disturbed area restored to provide a smooth, continuous longitudinal channel profile. The culverts shall comply with these following guidelines:

  a. The culvert shall be a minimum of 6 feet in width.
  b. The bottoms of the culverted crossings shall not be less than 25% of the culvert height.
  c. Retrofitted culverts shall be at grade (*ACOE Special Condition I.D.3*).

- The permittee shall implement best management practices to prevent the movement of sediment into waters of U.S. Compliance with Ranch Plan EIR Standard Condition 4.5-11 (Erosion and Sediment Control Plan (ESCP)) would satisfy this condition. The ESCP must be designed to minimize the mobilization of fine sediments into downstream waters occupied by steelhead, tidewater goby, and arroyo toad. A copy of the current ESCP shall be provided to the Corps for each project application (*ACOE Special Condition II.8*).

- For each planning area within the San Juan Creek Watershed, the permittee shall survey streams 1,000 feet downstream of each planning area for arroyo chub and partially-armored threespine stickleback prior to construction. If either species are found, downstream turbidity up to 300 feet from the planning area during construction shall not exceed more than 10 NTU over background when the background is less than 50 NTU or a 20 percent increase in turbidity when the background turbidity is more than 50 NTU. Background turbidity values can be obtained by measuring turbidity just upstream of the discharge point during construction. If the turbidity threshold is exceeded, the permittee shall implement additional turbidity control measures within 48 hours to reduce the turbidity to below threshold values (*ACOE Special Condition II.9*).

Southern Tarplant

- Prior to issuance of a grading permit for Planning Area 2, the Project Applicant shall demonstrate to the satisfaction of the County's Director of Planning Services Department or his/her designee that impacts to the *key location* and *major population* of southern tarplant in the Chiquita sub-basin have been substantially avoided. Consistency with this mitigation measure for the portion of Planning Area 2 subject to Planning Reserve shall be addressed in accordance with the requirements of the Planning Reserve Designation (*GPA EIR Mitigation Measure 4.9-2*).

- Translocation of southern tarplant shall occur in accordance with Appendix I – Sensitive Plant Translocation, Propagation and Management Plan

Coulter's Saltbush

- Prior to issuance of a grading permit for Planning Area 2, the Project Applicant shall demonstrate to the satisfaction of the County's Director of Planning Services Department or his/her designee that impacts to the *key location* and *major population* of Coulter's saltbush in the Chiquita sub-basin have been substantially avoided. Consistency with this mitigation measure for the portion of Planning Area 2 subject to Planning Reserve shall be addressed in accordance with the requirements of the Planning Reserve Designation (*GPA EIR Mitigation Measure 4.9-3).*

- Translocation of Coulter's saltbush shall occur in accordance with Appendix I – Sensitive Plant Translocation, Propagation and Management Plan

Mud Nama

- Translocation of mud nama shall occur in accordance with Appendix I – Sensitive Plant Translocation, Propagation and Management Plan

Mariposa Lily

- Translocation of Mariposa lily shall occur in accordance with Appendix I – Sensitive Plant Translocation, Propagation and Management Plan

Many-stemmed Dudleya

- Translocation of many-stemmed dudleya shall occur in accordance with Appendix I – Sensitive Plant Translocation, Propagation and Management Plan

Salt Spring Checkerbloom

- Translocation of salt spring checkerbloom shall occur in accordance with Appendix I – Sensitive Plant Translocation, Propagation and Management Plan

Palmer's grapplinghook

- Palmer's grapplinghook seed will be collected prior to project impacts for use in the seed mix for coastal sage scrub/native grassland restoration areas. Receiver sites will support clay soils and other conditions suitable for Palmer's grapplinghook. In addition, where feasible, clay soils will be salvaged from development areas and appropriately transported to restoration areas to provide a seed bank.

Vernal Barley

- Vernal barley seed can be collected prior to project impacts for use in the seed mix for coastal sage scrub/native grassland restoration areas. Receiver sites will support clay soils and other conditions suitable for vernal barley. In addition, where feasible, clay soils will be salvaged from development areas and appropriately transported to restoration areas to provide a seed bank.

Small-flowered Microseris

- Small-flowered microseris seed can be collected prior to project impacts for use in the seed mix for coastal sage scrub/native grassland restoration areas. Receiver sites will support clay soils and other conditions suitable for small-flowered microseris. In addition, where feasible, clay soils will be salvaged from development areas and appropriately transported to restoration areas to provide a seed bank.

(3) Minimization of Indirect Effects

Lighting

- The permittee shall minimize light-spillover associated with the development to minimize indirect impacts to wildlife. Lighting shall be directed away from habitat areas through the use of low-sodium or similar intensity lights, light shields, native shrubs, berms, placement low near the ground, or other shielding methods (*ACOE Special Condition I.D.7*).

- Lighting shall be shielded or directed away from RMV Open Space habitat areas through the use of low-sodium or similar intensity lights, light shields, native shrubs, berms or other shielding methods.

- Prior to the issuance of building permits for a tract with public street lighting adjacent to RMV Open Space habitat areas, the County of Orange shall verify that measures to shield such lighting have been incorporated in the building plans (*GPA EIR Mitigation Measure 4.9-28*).

Invasive Species

- The permittee shall refrain from using invasive exotic vegetation within fuel modification zones. Invasive exotic vegetation species are those rated as medium or high by the California Invasive Plant Council in terms of their invasiveness (*ACOE Special Condition I.D.8*).

- The permittee shall conduct an exotic aquatic animal removal program to remove cowbirds, bullfrogs, non-native fishes, etc., as set forth in the Invasive Species Control Plan (Appendix F4 to the SAMP EIS) (*ACOE Special Condition III.6*).

- All plants identified by the California Exotic Pest Plant Council as an invasive risk in southern California shall be prohibited from development and fuel management zones adjacent to the RMV Open Space. The plant palette for fuel management zones adjacent to the RMV Open Space shall be limited to those species listed on the Orange County Fire Authority Fuel Modification Plant List. Plants native to Rancho Mission Viejo shall be given preference in the plant palette.

- Prior to issuance of fuel modification plan approvals, the County of Orange shall verify that: 1) plants identified by the California Exotic Pest Plant Council as an invasive risk in Southern California are not included in plans for fuel management zones adjacent to the RMV Open Space and, 2) the plant palette for fuel management zones adjacent to RMV Open Space is limited to those species listed on the Orange County Fire Authority Fuel Modification Plant List.

- Prior to the recordation of a map for a tract adjacent to the RMV Open Space, the County of Orange shall verify that the CC&Rs contain language prohibiting the planting of plants identified by the California Exotic Pest Plant Council as an invasive risk in Southern California in private landscaped areas (*GPA EIR Mitigation Measure 4.9-27*).

Access

- Access to the RMV Open Space shall be managed and directed as specified in the Open Space Agreement between the County of Orange and RMV. Where potential conflicts between development and open space are identified per the agreement the following shall occur:

  a. Prior to the issuance of building permits for a tract adjacent to the RMV Open Space, the County of Orange shall verify that measures, such as fencing, signs, etc., to direct the public to public access points within the RMV Open Space have been incorporated into the

building plans. To the extent that public access points are not identified, the County of Orange shall verify that measures, such as fencing, signs, etc., to prohibit public access have been incorporated into the building plans (*GPA EIR Mitigation Measure 4.9-29*).

(4) Restoration of Temporary Impact Areas

- All temporarily impacted upland areas shall be restored to pre-construction elevations within one month following completion of work. All temporarily impacted upland areas will be restored to equivalent or better conditions compared to the existing condition at the time of impact. Re-vegetation should commence within three months after restoration of pre-construction elevations and be completed within one growing season. If re-vegetation cannot start due to seasonal conflicts (e.g., impacts occurring in late fall/early winter should not be re-vegetated until seasonal conditions are conducive to re-vegetation), exposed earth surfaces should be stabilized immediately with jute-netting, straw matting, or other applicable best management practice to minimize any erosion from wind or water.

(5) Grazing Management Plan Species Avoidance Measures after Reserve Dedication

Arroyo Toad

- Cattle shall be seasonally excluded from active breeding pools and adjacent sand bars and benches to the maximum extent practical within lower Gabino Creek during arroyo toad breeding season. To the extent feasible and/or necessary, temporary fencing around active breeding pools and adjacent sand bars and benches shall be erected to discourage cattle from entering these areas (*Grazing Management Plan*).

- Cattle shall be seasonally excluded from active breeding pools and adjacent sand bars and benches to the maximum extent practical within San Juan Creek during arroyo toad breeding season. To the extent feasible and/or necessary, temporary fencing around active breeding pools and adjacent sand bars and benches shall be erected to discourage cattle from entering these areas (*Grazing Management Plan*).

Vernal Pools/Fairy Shrimp

- If recommended by the Science Panel, cattle shall be seasonally excluded from the Radio Tower Road vernal pools once sufficient rainfall has occurred to result in the pools ponding (i.e., holding water) to a depth of at least 1 inch lasting for at least 24 hours. To the extent necessary (i.e., if cattle are being grazed in the Radio Tower Road pasture), temporary fencing shall be erected around the pools to discourage cattle from entering the pools. If erected, fencing shall remain in

place until the pools are sufficiently dry that cattle hooves do not result in soil disturbance and compaction.

Southwestern Willow Flycatcher/Least Bell's Vireo

- Grazing within GERA for fuel modification purposes once every three years shall be conducted outside the breeding season for southwestern willow flycatcher and least Bell's vireo (February 15 to July 15).

(6) MSAA Avoidance/Minimization Measures

- The permittee shall implement a contractor education program to provide an overview and understanding of the project construction special conditions. A copy of the Special Conditions must be included in all bid packages for the project and be available at the work site at all times during periods of work and must be presented upon request by any Corps or other agency personnel with a reasonable reason for making such a request (*ACOE Special Condition II.1*).

- The permittee shall perform initial vegetation clearing in waters of the U.S. between September 15 and March 15. Work in waters may occur between March 15 and September 15 if breeding bird surveys indicate the absence of any nesting birds within a 50-foot radius (*ACOE Special Condition II.2*).

- In all areas external to the planning area boundaries, the permittee shall provide plans to the Corps showing the limits of grading, upland haul routes, fueling and storage areas for vehicles outside of waters of the U.S., temporary impact areas, dewatering areas, and temporary access roads within waters of the U.S. Plans shall be provided with each project application for each planning area for review prior to project impacts (*ACOE Special Condition II.3*).

- The permittee shall place, heavy equipment working in or crossing wetlands on temporary construction mats (timber, steel, geotextile, rubber, etc.), or other measures must be taken to minimize soil disturbance such as using low pressure equipment, when practicable and if personnel would not be put into any additional potential hazard. Temporary construction mats shall be removed promptly after construction (*ACOE Special Condition II.4*).

- The permittee shall only discharge dredged or fill material into waters of the U.S. that is free from pollutants in toxic amounts (see Section 307 of the Clean Water Act). The permittee shall not place within waters of the U.S. unsuitable materials (e.g., trash, debris, car bodies, asphalt, etc.).

- This condition is satisfied through the use of on-site materials from balanced cut-and-fill grading operations for every Planning Area except for Planning Area 8.

- For Planning Area 8, the permittee shall prepare an updated Phase I Environmental Site Assessment (GPA EIR Mitigation Measure 4.14-13), prepare a comprehensive closure plan (GPA EIS Mitigation Measure 4.14-15), prepare a Health and Safety Contingency Plan (GPA EIR Mitigation Measure 4.14.1), remove all underground storage tanks (GPA EIR Mitigation Measure 4.I4-6), and in the event that toxic materials are discovered during construction, an in the field assessment (GPA EIR Mitigation Measure 4.14-2). Such assessments shall be provided to the Corps. The permittee shall not discharge fill materials associated with Planning Area 8 containing toxic amounts of pollutants (*ACOE Special Condition II.5.*

- The permittee shall identify the limits of impacts in the field with brightly-colored flags, tape, or other marking to prevent unauthorized grading outside approved footprints (*ACOE Special Condition II.6*).

- The permittee shall restore all temporarily impacted areas to pre-construction elevations within one month following completion of work. If wetlands or non-wetland waters of the U.S. vegetated with native wetland species were impacted, re-vegetation should commence within three months after restoration of pre-construction elevations and be completed within 1 growing season. If re-vegetation cannot start due to seasonal conflicts (e.g., impacts occurring in late fall/early winter should not be re-vegetated until seasonal conditions are conducive to re-vegetation), exposed earth surfaces should be stabilized immediately with jute-netting, straw matting, or other applicable best management practice to minimize any erosion from wind or water (*ACOE Special Condition II.10*).

- During construction of each Planning Area or associated infrastructure, the permittee shall provide weekly construction reports via e-mail, fax, and/or mail demonstrating status of compliance with all project construction special conditions. Appropriate photos shall be submitted to show establishment of project construction minimization features (*ACOE Special Condition II.12*).

Santa Margarita Water District

(1) Avoidance/Minimization through Construction-Related Measures

- The permittee shall implement a contractor education program to provide an overview and understanding of the project construction special conditions. A copy of the Special Conditions must be included in all bid packages for the project and be available at the work site at all times during periods of work and must be presented upon request by any Corps or other agency personnel with a reasonable reason for making such a request (*ACOE Special Condition SMWD II.1*).

- The permittee shall perform initial vegetation clearing in waters of the U.S. between September 15 and March 15. Work in waters may occur between March 15 and September 15 if breeding bird surveys indicate the absence of any nesting birds within a 50-foot radius (*ACOE Special Condition SMWD II.2*).

- With each project LOP application, the permittee shall provide plans to the Corps showing the limits of grading, upland haul routes, fueling and storage areas for vehicles outside of waters of the U.S., temporary impact areas, dewatering areas, and temporary access roads within waters of the U.S. The permittee shall conform the grading to pre-identified impacts (*ACOE Special Condition SMWD II.3*).

- The permittee shall place heavy equipment working in or crossing wetlands on temporary construction mats (timber, steel, geotextile, rubber, etc.), or other measures must be taken to minimize soil disturbance such as using low pressure equipment, when practicable and if personnel would not be put into any additional potential hazard. Temporary construction mats shall be removed promptly after construction (*ACOE Special Condition SMWD II.4*).

- The permittee shall only discharge dredged or fill material into waters of the U.S. that is free from pollutants in toxic amounts (see Section 307 of the Clean Water Act). The permittee shall not place within waters of the U.S. unsuitable materials (e.g., trash, debris, car bodies, asphalt, etc.) (*ACOE Special Condition SMWD II.5*).

- The permittee shall identify the limits of impacts in the field with brightly-colored flags, tape, or other marking to prevent unauthorized grading outside approved footprints (*ACOE Special Condition SMWD II.6*).

- The permittee shall install toad exclusion fencing for any work within 300 feet of a known population of the arroyo toad adjacent to San Juan Creek, Verdugo Creek, Gabino Creek, Cristianitos Creek, and Talega Creek for activities occurring outside of the estivation period (*ACOE Special Condition SMWD II.7*).

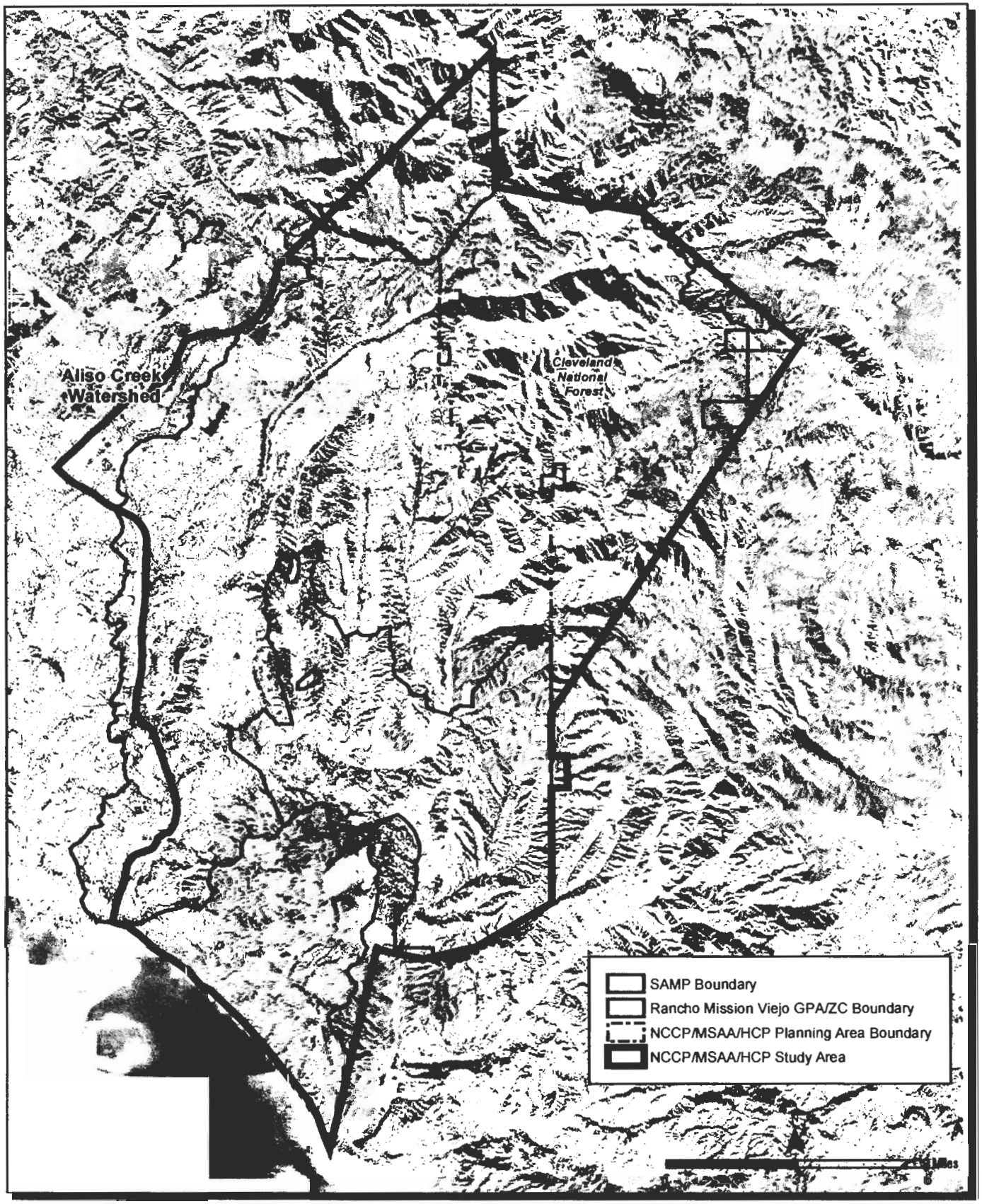
- The permittee shall implement best management practices to prevent the movement of sediment into waters of U.S. The permittee shall develop a program-level plan to minimize the mobilization of fine sediments into downstream waters. A copy of the plan shall be provided to the Corps before issuance of the final permit (*ACOE Special Condition SMWD II.8*).

- The permittee shall restore all temporarily impacted areas to pre-construction elevations within one month following completion of work. If wetlands or non-wetland waters of the U.S. vegetated with native wetland species were impacted, re-vegetation should commence within three months after restoration of pre-construction elevations and be completed within 1 growing season. If re-

vegetation cannot start due to seasonal conflicts (e.g., impacts occurring in late fall/early winter should not be re-vegetated until seasonal conditions are conducive to re-vegetation), exposed earth surfaces should be stabilized immediately with jute-netting, straw matting, or other applicable best management practice to minimize any erosion from wind or water (*ACOE Special Condition SMWD II.9*).

- During work on each infrastructure project, the permittee shall provide weekly construction reports via e-mail, fax, and/or mail demonstrating status of compliance with all project construction special conditions. Appropriate photos shall be submitted to show establishment of project construction minimization features (*ACOE Special Condition SMWD II.11*).

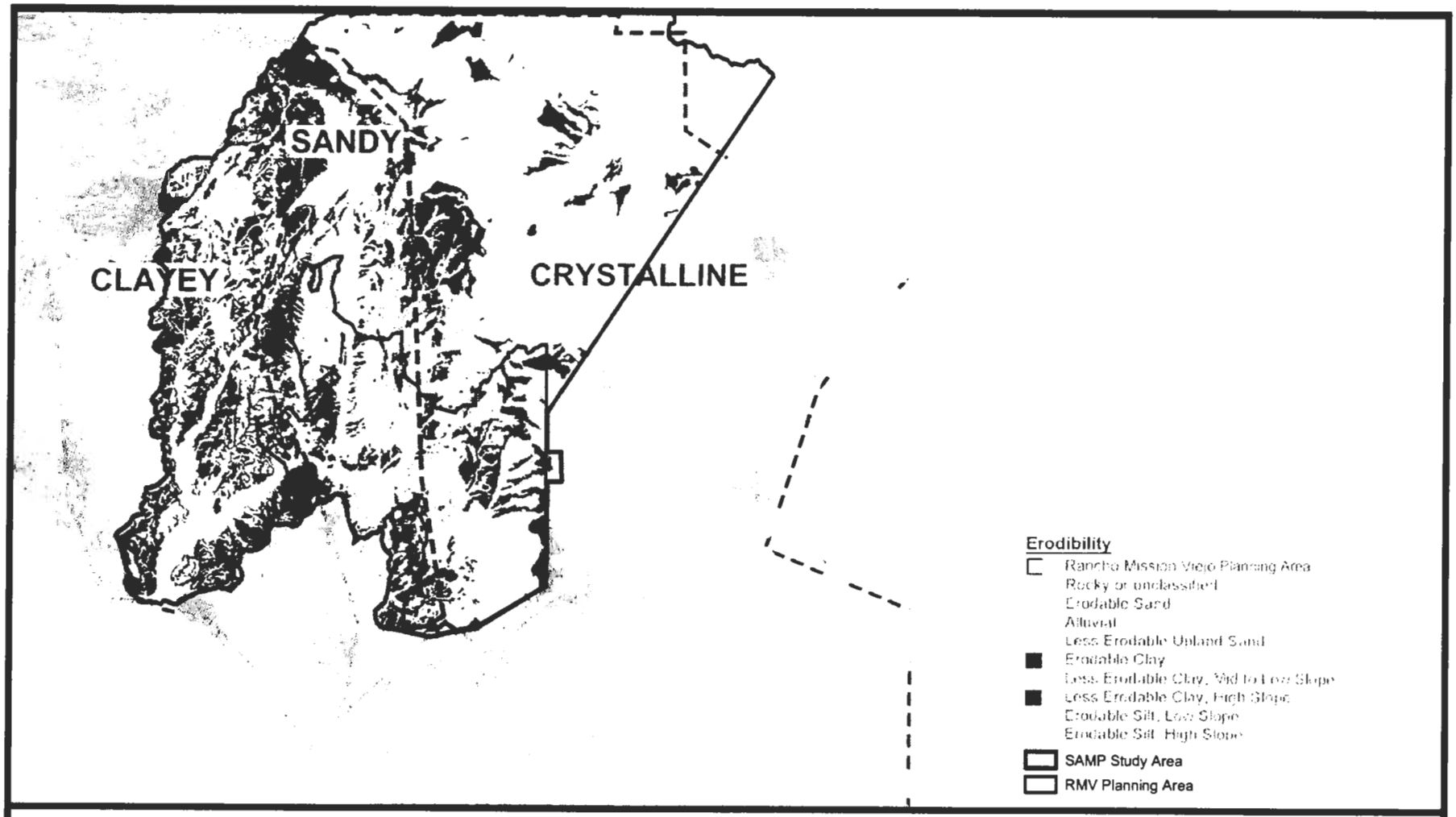
- The permittee shall allow the Corps to inspect the site at any time during and immediately after project implementation provided a 24-hour advance notice is given to the permittee (*ACOE Special Condition SMWD II.12*).



NCCP/MSAA/HCP

Southern NCCP/MSAA/HCP, SAMP, and GPA/ZC Boundaries

FIGURE 7-M



Landscape-scale Terrains and Shallow Substrate Erodibility

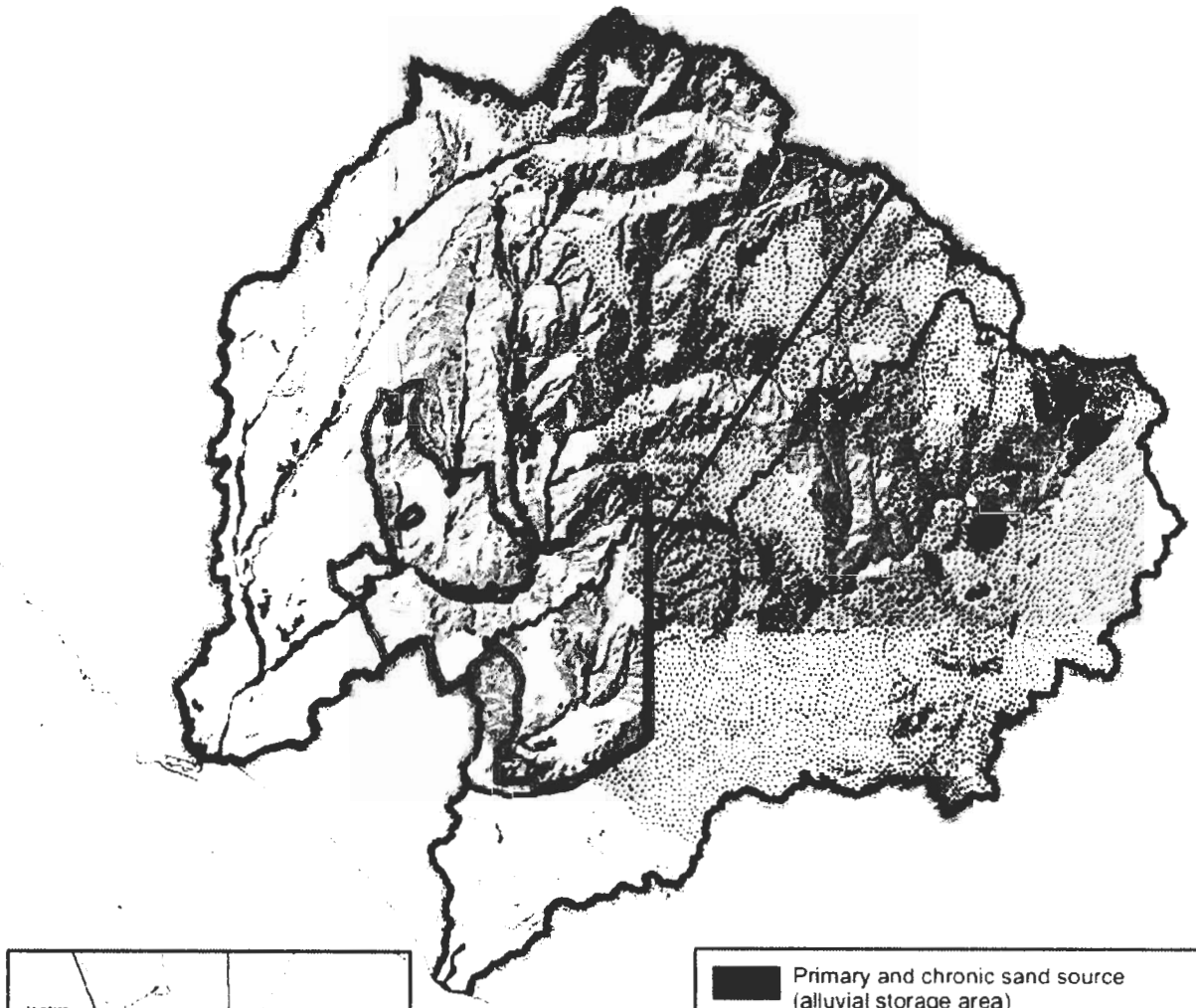
Not to Scale

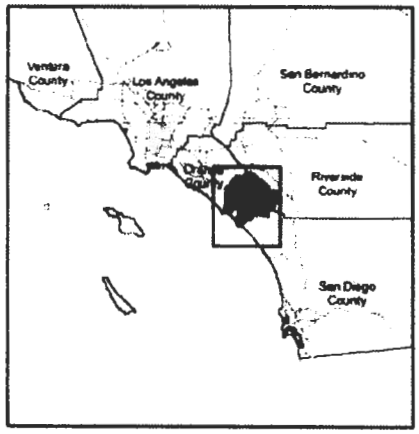
San Juan Creek and Western San Mateo Creek Watersheds SAMP EIS

Figure 4.1.1-3

Source: Balance Hydrologics, 2000

Date: Nov. 2005





Primary and chronic sand source (alluvial storage area)

Episodic, coarse-grained sand source (soils developed from granitic and metavolcanic rocks)

Moderate potential, episodic sand source (erodible, sandy/silty soils)

Insignificant source of coarse sediment to the San Juan and San Mateo watersheds

RMV Planning Area

San Juan/San Mateo Watershed boundary

Streams

SAMP Study Area

Geomorphology Terrains

Not to Scale

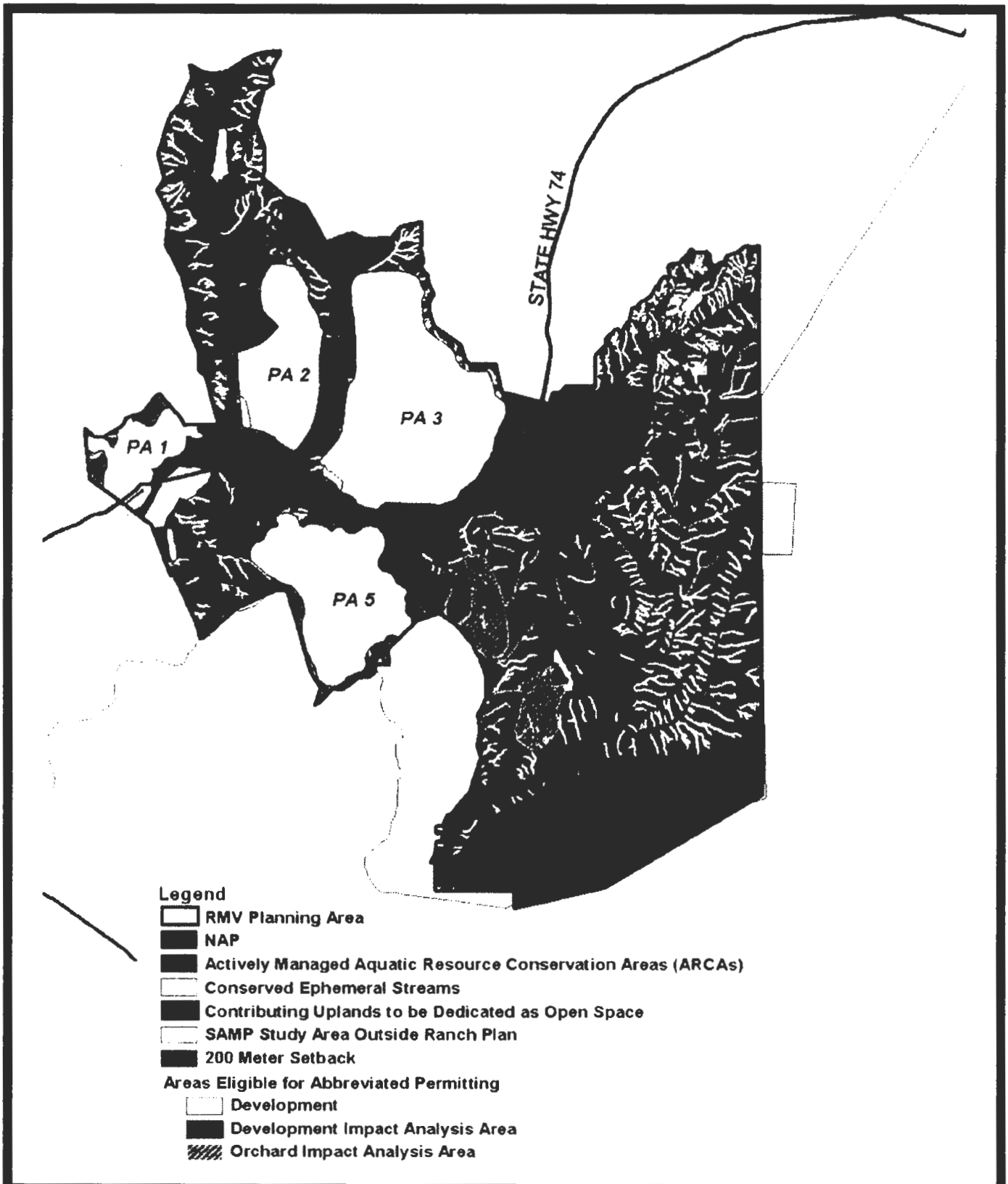
N W E S

San Juan Creek and Western San Mateo Creek Watersheds SAMP EIS

Figure: 6-1

Source: Balance Hydrologics, 2000

Date: Nov. 2005



Aquatic Resources Conservation Areas

Not to Scale

N
W E
S

San Juan Creek and Western San Mateo Creek Watersheds SAMP EIS

Figure: 8-10

Source: USACE, 2005

Date: Nov. 2005

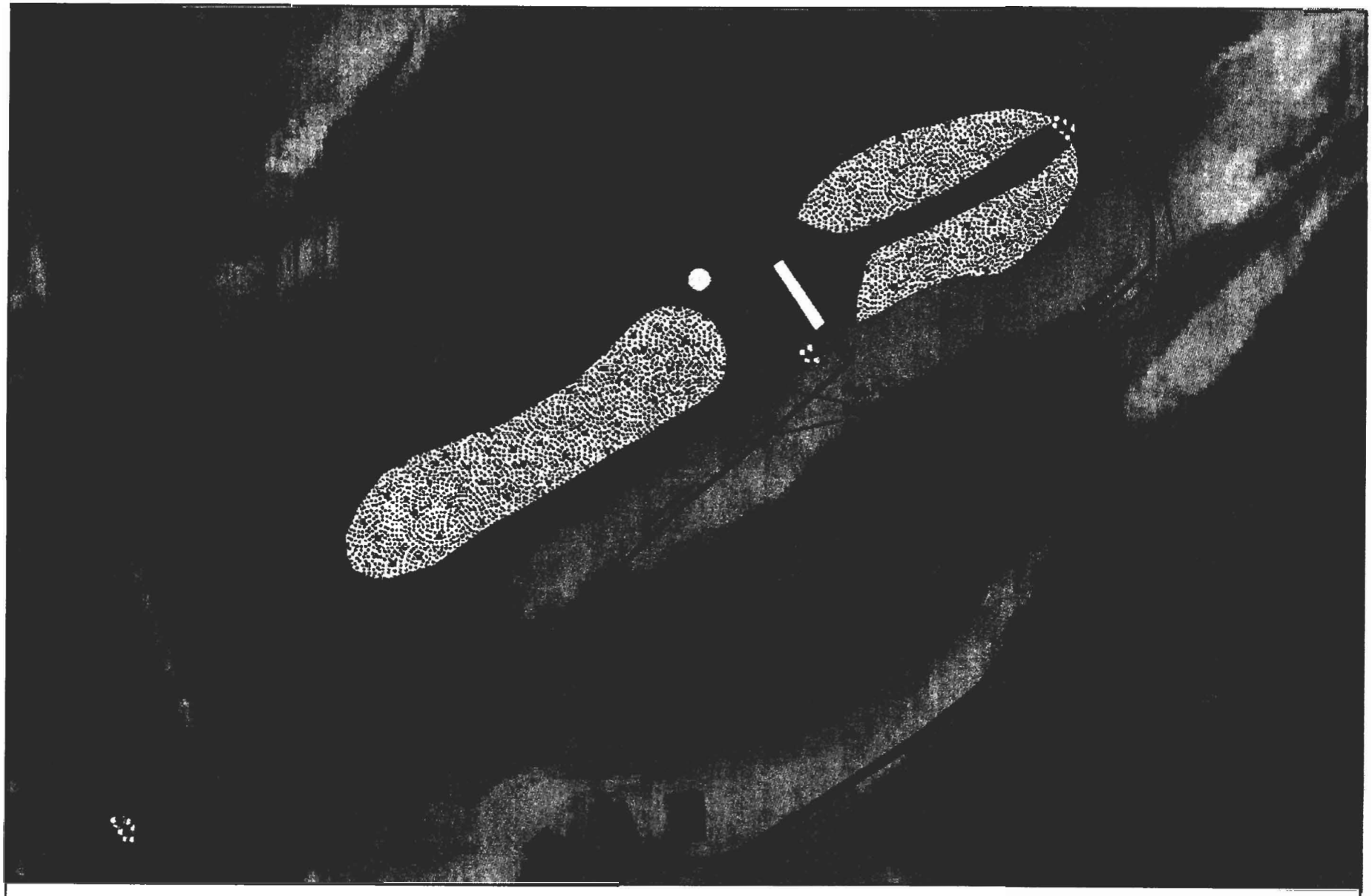


Figure 3-6
Combined Flow and Water Quality Control System – Plan

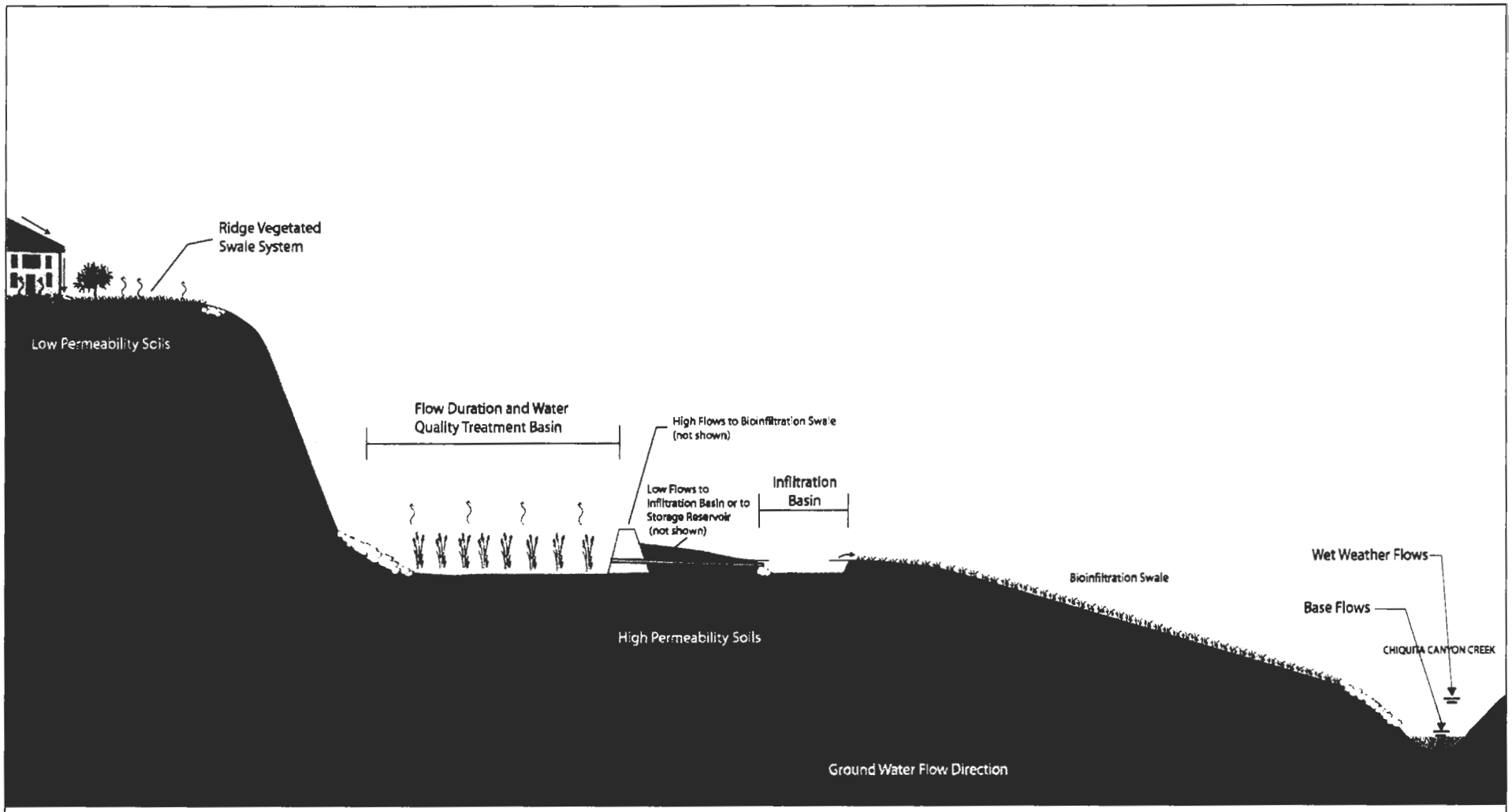


Figure 3-7
Combined Flow and Water Quality Control System - Profile

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REFER TO FILE NUMBER
090148-0011

Submitted Via Email; Original Sent by Courier
Mr. Jeremy Haas
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San Diego, CA 92123

Re: **Public Comments Regarding Tentative Order No. R9-2007-0002 NPDES No. CAS0108740, dated February 9, 2007 ("Tentative Order")**

Dear Mr. Haas:

The Building Industry Association of Orange County ("BIAOC"), and the Building Industry Legal Defense Foundation ("BILD")[1], by and through the undersigned counsel, submit these comments to the California Regional Water Quality Control Board, San Diego Region ("Regional Board") concerning Tentative Order No. R9-2007-0002, NPDES No. CAS0108740, Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems ("MS4s") Draining the Watersheds of the County of Orange within the San Diego Region, dated February 9, 2007 (herein after "Tentative Order") and related Fact Sheet/Technical Report For Tentative Order No. R9-2007-0002 ("Technical Report"). In addition, BIAOC and BILD hereby adopt the written comments, and all documents and information referenced therein, as submitted by the County of Orange, as lead Copermittee, dated April 4, 2007, the Construction Industry Coalition for Water Quality ("CICWQ"), dated April 4, 2007, and the Rancho Mission Viejo Company.

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[1] BIAOC is the local chapter of the Building Industry Association of Southern California ("BIASC"), which is a nonprofit trade association representing more than 2,050 member companies that collectively employ more than 200,000 employees. BIASC's mission is to promote and protect the building industry to ensure its members' success in providing homes for all Southern Californians. BILD is a non-profit mutual benefit corporation and a wholly-controlled affiliate of the Building Industry of Southern California, whose purpose is to defend the legal rights of current and prospective home and property owners and to maintain a favorable business climate for the construction industry in Southern California.

We appreciate the recent workshop that Regional Board held regarding the Tentative Order, and this opportunity to review and comment on the Tentative Order and Technical Report. BIAOC and BILD agree with and fully support the Regional Board's goal for this Tentative Order – clean water to protect the beneficial uses identified in the Water Quality Control Plan for the San Diego Basin (9) ("Basin Plan"). As stakeholders, we are committed to working with the Board and Copermittees to achieve this purpose. Notwithstanding our respect for the underlying goal, BIAOC and BILD request that the Regional Board *not* adopt the Tentative Order in the present form, because among other reasons,: 1) procedurally adequate notice to comment on the Tentative Order has not been provided to the regulated stakeholders; 2) certain Tentative Order findings and related requirements exceed the Regional Board's legal authority, adversely affecting water quality policy; 3) the Regional Board's determination of requirements that constitute Maximum Extent Practicable (MEP) water quality control is not consistent with legal mandates; 4) certain provisions and findings of the Tentative Order do not provide adequate due process or are not supported by sufficient and/or credible technical and scientific evidence, denying the regulated stakeholders an adequate opportunity to comment and adversely affecting water quality policy; 5) the Tentative Order watershed planning provisions undermine watershed planning efforts, adversely affecting water quality policy—See Comment Chart Item 36.

Plainly, the Tentative Order reflects the Board's staffs' earnest attempt to make progress in the area of runoff water quality from existing and future development. Viewed in light of the Board's staffs' motives, BILD and BIAOC do not contest many of the water quality "ends" that the Tentative Order seeks to achieve. That said, the Tentative Order seeks to achieve certain water quality "ends" by employing various "means" (permit requirements, conditions and terms) that are plainly indefensible. We therefore object to the Tentative Order on a number of legal and related policy grounds. We look forward to resolving the various problematic provisions of the Tentative Order and Technical Report with the Regional Board.

The Comment Chart attached to this letter, and the materials and documents referenced therein, set forth for the Board and its staff our many, detailed comments regarding specific provisions of the Tentative Order. Through the Comment Chart, we have tried to set forth our concerns succinctly and in a form that will allow the Board and its staff to consider our specific concerns individually. Where possible, we have also tried to identify and recommend more appropriate "means" for achieving the laudable water quality "ends." We further adopt the recommendations for achieving water quality protection proposed by the CICWQ letter, and the GeoSyntec Technical Memorandum submitted therewith ("GeoSyntec Memorandum").

There are many constants in our concerns regarding the Tentative Order. Those overarching issues, including not only legal issues, but also the policy implications of those issues, are discussed in this letter below. We request that the Regional Board rework the Tentative Order to properly address the legal and policy issues raised in this letter, the Comment Chart, and the other enclosures and documents cited in these documents. We submit that if the Regional Board considers—as indeed it must under applicable law and guidance-- the relevant water quality science, technical information and cost information available and/or submitted in these comments and the others adopted hereby, the Tentative Order issues identified can be corrected.

I. INADEQUATE NOTICE TO COMMENT ON THE TENTATIVE ORDER

As a threshold matter, we are obligated by case law to point out that the Regional Board did not provide full and complete notice of Agency action.[2] The Regional Board has not identified the procedural nature of the present proceedings. [3] Neither the Tentative Order nor any other document[4] on the Regional Board's website related to the Order, advises whether the Regional Board regards the instant proceedings as quasi-legislative, or, instead, as quasi-adjudicative, subject to Gov. Code §11400 *et.seq*. If the Regional Board considers the action quasi-legislative, we would have expected the required "Notice of Proposed Rulemaking."

If—as we strongly suspect based on recent case law and state and regional regulatory pronouncements—the Regional Board considers this action to be an administrative adjudication, we would expect and request full compliance with Gov. Code §11425.10 *et.seq*. (Administrative Adjudication Bill of Rights), which requires, among other things, that a copy of the procedures to be followed be given to the individuals at whom the adjudication is directed. Gov. Code §11425.10(a)(2). Further, we would expect and request compliance with Government Code §11425.10(a)(1), which mandates that the Regional Board shall provide not only an opportunity to be heard, but also the opportunity to present and rebut evidence. As discussed more fully in this letter below, here the Regional Board has not yet established sufficient procedures to allow MS4 operators and other regulated stakeholders to reasonably access, in an orderly way, the direct evidence that the Board has gathered and relied upon in proposing the measures set forth in the Tentative Order. The Board must clearly identify, and make such direct evidence accessible to the regulated community, and then must provide a reasonable timeline and process that will allow interested persons to meaningfully rebut the direct evidence upon which it relies. Given the highly technical, scientific and voluminous nature of the evidence at issue, it is paramount that the process established must be orderly, deliberate and unrushed.

Identification of the nature of the proceeding has immense bearing on all aspects of the action, from the form of notice, to the form of the proceedings, to the rights of interested parties, to the specificity of the Findings, to the substance of the evidence that supports the Regional Boards' decision, to the applicable rules for Board member action on the Tentative Order. In addition to satisfying the Government Code, the Regional Board must also clarify the nature of the

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2 See Comment Chart, Threshold Issue.

3 The submitting parties intend to participate fully in an appropriate public process for adoption of a renewed Tentative Order, and therefore must reserve the right to submit additional comments and information for inclusion in the administrative record, and for consideration by San Diego Regional Board staff and board members as the process for preparation and adoption of the subject MS4 Permit proceeds. All documents, attachments, comments memoranda and other materials referenced or cited in this document are hereby incorporated by reference into these comments. Capitalized terms and acronyms used herein and not otherwise defined have the meaning ascribed to them in the Tentative Order.

4 The Notice of Hearing simply states that the Regional Board intends "to hold a public hearing"... and "Upon adoption, at a later date, Order R9-2007-0002 will replace R9-2002-0001." The Fact Sheet/Technical Report for Order R9-2007-0002, dated February 9, 2007 ("Technical Report"), discussion in support of Tentative Order § F.2. provides only that hearings are required under Cal. Water Code § 13378 and 40 CFR 124.12(a)(1). Both of these references simply provide for a hearing when NPDES permits are issued; neither specifies whether the proceeding is quasi-legislative or quasi-adjudicative.

proceedings at the onset to ensure that the regulated community and other affected individuals' fundamental rights to due process under both the California and federal constitution are protected. Where the nature of the proceeding has not been disclosed adequate "notice" has not been given, and an adequate opportunity to review the evidence, to be heard, and to rebut the evidence and supplement the record, has not been provided.

II. CERTAIN REQUIREMENTS OF THE TENTATIVE ORDER EXCEED THE REGIONAL BOARD'S JURISDICTION.

There are a number of provisions in the Tentative Order and Technical Report that the Regional Board does not have the power or authority to impose. We identify five of these types of requirements and provisions below, and discuss these provisions and others that exceed authority in more detail in the Comment Chart. We also identify the adverse affects of these five types of provisions on water quality policy.

A. Improper Regulation of Discharges "Into" Storm Drain Systems and Shifting of Liability to Copermittees.[5]

1. Legal Issues. The Tentative Order seeks to impose on Copermittees an enforceable permit obligation to prevent discharges *into* their MS4 systems: "[d]ischarges into and from municipal separate storm sewer systems ("MS4s") in a manner causing, or threatening to cause, a condition of pollution, contamination or nuisance ...are prohibited." *Tentative Order,* § A.1, p. 15 (emphasis added). This provision, and other manifestations of it in the Tentative Order and Technical Report, improperly shift liability to Copermittees for pollution in both stormwater and non-stormwater discharges that may enter their MS4s as a result of unknowing, accidental, and even *intentionally illicit* activity that is entirely beyond the control of MS4 operators. These discharges may include, but are not limited to, industrial discharges, sewage discharges, residential hazardous materials spills, nursery and farming discharges, and non-compliant discharges from upstream MS4 systems.

The federal Clean Water Act ("CWA") requires that MS4 operators adopt and enforce "means, measures and methods to control discharges" (specifically, illicit discharges, non-stormwater discharges and other discharges that may be significant contributors of pollutants) into storm drains that may cause pollution. *See* 33 U.S.C. § 1342(p)(3); 40 C.F.R. 122.26(d)(2); 40 C.F.R. 122.34(3). But, the CWA does not contemplate that Copermittees would be liable and subjected to civil and criminal penalties for discharges by third parties into storm drains that could cause pollution if the "methods, means and measures" adopted and enforced by MS4 operators are ineffective or circumvented in any particular instance.

Further, state law does not authorize the Regional Board to impose this permit condition on Copermittees. The Basin Plan provision cited in the Technical Report as supporting prohibition of discharges "into" MS4s simply prevents discharges of waste to waters of the state – not into MS4s. Likewise, the State Water Resources Control Board ("SWRCB") considered this issue and refused to uphold prohibitions against discharges "into" MS4s, and rejected permit conditions purporting to impose liability on MS4 operators for such discharges. SWRCB Order WQ 2001-15, pp 9-10. The Regional Board may *encourage* control of discharges into the MS4, but the Regional Board does not have authority to create civil/criminal penalties for Copermittees as a consequence of a third party's improper discharge into the MS4. 33 U.S.C. § 1342(p)(3); [add Cal. Water code citation re: issuance of WDRs] SWRCB Order WQ 2001-15, pp 9-10.

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[5] See, *inter alia,* Comment Chart Items 1, 2, 10, 14, 35.

2. Adverse Affect of Legal Issues on Water Quality Policy. The inclusion in the Tentative Order of improper prohibitions of discharges *into* MS4s substantially undermine the ability of regulated parties to implement watershed and subwatershed based water quality control approaches, and unnecessarily restrict implementation measures that are valuable water quality control tools in those planning efforts. The provisions further combine to substantially undermine the ability of regulated parties to implement shared BMPs in more local, project-level Water Quality Management Plans (called SUSMPs in the Tentative Order) that incorporate a combination of source control and regional or end-of-pipe treatment/volume control Best Management Practices (BMPs). Preclusion of these BMPs is contrary to technical and scientific information indicating that regional and end-of-pipe BMPs *do* constitute a very effective component in regional and subregional urban runoff water quality treatment control strategies.

Further, both Copermittees and regulated land owners in Orange County have successfully implemented a number of watershed and subwatershed planning efforts incorporating as significant component regional or shared BMPs. These efforts have been implemented in accordance with a number of state and federal regulatory and environmental policy programs, including, without limitation, one or more of the following regulatory authorities: the current MS4 Permit and accompanying guidance documents[6]; the federal Nonpoint Source Management Program (Federal NPS Program);[7] the State of California Nonpoint Source Program Strategy and Implementation Plan, 1998-2013, dated January 2000 (PROSIP); federal Clean Water Act § 404 and the regulations adopted thereunder (CWA § 404); [8] the streambed alteration provisions of the California Fish and Game Code (Section 1600 provisions);[9] Army Corp of Engineers Special Area Management Plan Guidance ("SAMP Guidance");[10] the Integrated Regional Water Management Plan provisions of the California Water Code (IRWMP);[11] and the state and federal Endangered Species Acts[12] (collectively, these state and federal regulatory and guidance provisions are referred to in this letter as "Watershed Planning Regulatory Authority"). The prohibition of discharges "into" MS4 systems, which are, in Priority Development and Redevelopment Projects, the systems that convey urban runoff to regional or shared BMPs, is inconsistent with, and undermines the substantial water quality control planning implemented at both a watershed and specific plan level in South Orange County under state and federal law, including that conducted under the Watershed Planning Regulatory Authority.

Because the foregoing provisions exceed legal authority, deprive dischargers of valuable tools (regional BMPs) in controlling water quality, and result in adverse affects on water quality planning, the Tentative Order and Technical Report should be revised as required by SWRCB Order WQ 2001-15.

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[6] The guidance documents include the Orange County Drainage Area Management Plan, dated September 24, 2003, including, without limitation, Sections 7.3.3, 7.3.4, 7.4, 7.5, and 7.6 (the DAMP); and Exhibit 7.II of the DAMP, the Model Water Quality Management Plan adopted by all Copermittees as their JURMP, including, without limitation, Section 7.II-3.3.3 (the "Model WQMP").

[7] Federal Clean Water Act § 319 (33 U.S.C. § 1329).

[8] 33 U.S.C. § 1344; 40 C.F.R. §§230 *et. seq.*

[9] Cal. Fish and Game Code §§ 1600 *et. seq.*

[10] A copy of federal SAMP Guidance can be found at: http://www.spl.usace.army.mil/cms/index.php?option=com_content&task=view&id=43&Itemid=63

[11] Cal. Water Code §§ 10540 *et. seq.*

[12] Cal. Fish and Game Code 2050 et seq.; 16 U.S.C. 1531 et seq.

B. Imposition of Liability on Copermittees akin to "Strict" Water Quality Liability.13

1. Legal Issues. Pursuant to Tentative Order § A.3.c, as interpreted by the Technical Report, p. 65, Copermittees are subjected to liability even when they are properly implementing measures to control MS4 discharges to the Maximum Extent Practical (MEP), and regardless of whether it is technically feasible, or even possible to take further action. Good faith pursuit of the iterative process for improving BMPs upon recognizing continuing receiving water quality excursions does "not shield the discharger from enforcement actions if discharges cause or contribute to a violation of water quality standards" for receiving waters. Technical Report, p. 65. These provisions are clearly intended to impose liability on Copermittees when receiving waters fail to achieve water quality standards, contrary to SWRCB Order WQ 99-05 and WQO 2001-11, p. 3 (and citations therein), which hold that the iterative process (adaptive management of BMPs) is the appropriate recourse for failure to comply with all discharge prohibitions of MS4 Permits.

In addition, federal regulations and EPA guidance endorse implementation of BMPs, and iterative improvements to BMPs, when receiving water quality exceedences persist. See, Clean Water Act, 33 U.S.C. 1342(p)(B)(iii);40 C.F.R. § 122.34(a); National Pollutant Discharge Elimination System--Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 FR 68722, at 68753 (Environmental Protection Agency December 8, 1999). See also, *Defenders of Wildlife v. Browner,* 197 F.3d 1035 (9th Cir. 1999).

There is no State or federal statute, regulation, order or guidance recommending or requiring that Copermittees be or remain 'strictly' liable for civil/criminal enforcement of MS4 Permits due to receiving water limit violations when the Copermittee is proceeding with the requirements of the iterative process. As a result, Tentative Order § A.3.c and the Technical Report language at p. 65 and p. 74 should be deleted or revised to constitute a clear determination that the iterative process constitutes compliance with the MS4 Permit. Without these revisions, the Tentative Order requirements exceed legal authority.

2. Adverse Affect of Legal Issues on Water Quality Policy. These legally improper findings of strict liability form the basis for Tentative Order requirements that move away from the iterative process endorsed by the State Water Resources Control Board, and that are overly prescriptive, contrary to the proper approach to determining requirements necessary to achieve MEP. In addition, creation of the equivalent of strict liability for Copermittees fosters an unproductive, adversarial relationship between the Regional Board and the Copermittees, and the Copermittees and regulated stakeholders. These provisions will force Copermittees to adopt measures, including strict and prescriptive ordinances and broad indemnity provisions, in an attempt to protect the municipality from water quality liability under this expansive interpretation of municipal responsibility for discharges. Such an approach is counterproductive to the South Orange County approach to protection of beneficial uses via watershed based planning, and collaboration on regional, subregional and project specific WQMPs. The Tentative Order should instead be devised to support collaborative efforts and voluntary and cooperative water quality planning, which is a framework endorsed by state and federal law, including the Watershed Planning Regulatory Authority.

The Tentative Order and Technical Report should be revised consistent with applicable law to eliminate "strict liability" concepts because they exceed legal authority, and create

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[13] See, inter alia Comment Chart Items 1, 2 and 10.

a permit structure that undermines watershed planning and a collaborative approach to water quality control and improvement.

C. The Tentative Order Includes An Improper Demand That Copermittees "Terminate" Access To MS4s.[14]

1. Legal Issues. The Technical Report discussion of Finding § D.3.b. provides: "the municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in stormwater...[C]ontrol in this context means. . . to limit, discourage or ***terminate*** a stormwater discharge to the MS4." Technical Report p.54, emphasis added. At the March 12th Public Workshop, Regional Board officers stated that the Tentative Order requires municipalities to physically cut off access to the MS4, or otherwise block discharges from upstream dischargers, including small MS4s.

The Regional Board overreaches its authority under 33 U.S.C. § 1342(p)(3)(B)(ii) to prohibit illicit and non-stormwater discharges into MS4s, for reasons set forth more fully in Section I.A.1 above. If Copermittees have adopted, implement, and enforce appropriate legal authority to control improper discharges, they have fully complied with the Clean Water Act. See discussion in § I.A1 above. It is not technically feasible to physically preclude non-compliant stormwater discharges to the MS4. See, GeoSyntec Memorandum, dated April 4, 2007. Even if it were technically possible for municipalities to terminate certain upstream discharges, such physical "closure" of the MS4 could cause significant flood damage to personal and public property, with attendant adverse legal consequences for the municipalities attempting to comply with public health and safety mandates, private property protection mandates, and the terms and conditions of public and private agreements setting forth drainage rights. See, Cal. Water Code §§ 8100 *et. seq.*; 8700 *et. seq. Mt. Healthy City School District Board of Education v. Doyle*, 429 U.S. 274, 280 (1977). See generally, *Hopkins v. Clemson Agricultural College,* 221 U.S. 636 (1911)(counties, municipalities and other public corporations are not exempt from suite where it is alleged that their actions have injured private parties or their property). This provision not only exceeds the limits of the Regional Board's jurisdiction, but could cause adverse legal consequences for the Copermittees if they comply with such a state mandate.

2. Adverse Affect of Legal Issues on Water Quality Policy. Tentative Order mandates for physical preclusion of runoff discharges to the MS4 from existing development, new development, and redevelopment (which are contrary to the public health, safety and property interest of regulated stakeholders) redirect stormwater quality control strategies away from collection and treatment of storm water in BMPs and watershed water quality planning and management initiatives that have been working well in South Orange County. Instead, with provisions mandating physical preclusion of runoff, Copermittees will be required to focus on insulating their MS4s from discharges, and shifting responsibility for stormwater treatment via any means possible to others. This redirection will undermine the collaborative water quality planning process and will negatively affect the water quality control planning measures that have been, and are scheduled to be implemented in South Orange Counties.

Because the foregoing provisions exceed the legal authority of the Regional Board, will improperly redirect Copermittee water quality control efforts, and will undermine watershed planning the Tentative Order and Technical Report should eliminate these provisions consistent with applicable law.

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[14] See, *inter alia,* Comment Chart Items 1, 2, and 10.

D. Improper Definition Of Runoff As "Waste"15

1. Legal Issues. The Tentative Order incorrectly and imprecisely characterizes runoff as "waste," stating: "The discharge of urban runoff from an MS4 **is** a 'discharge of pollutants from a point source' into the waters of the United States." Tentative Order, Findings §§ C.1. and C.3, p 3 (emphasis added). The CWA regulates the discharge of pollutants, **which may be contained in** stormwater. 33 U.S.C. §1342 (a)(emphasis added). Similarly, the State Board has recognized this point: "...it is the waste or pollutants in the runoff that meet these definitions of "waste" and "pollutant" [under Cal Water Code § 13050(d) and 40 C.F.R. § 122.2], and not the runoff itself." SWRCB Order WQ 2001-15, p. 12. While stormwater may contain waste, it is improper to characterize stormwater as waste *per se.*

Moreover, in many instances, storm water will naturally contain certain non-anthropogenic loads of pollutants, such as sediment. Such natural loads are not "pollution" as defined by the federal Clean Water Act, 33 U.S.C. § 1362(19). Instead, the objective of the Clean Water Act is to "restore and maintain" the natural characteristics of waters. 33 U.S.C. § 1251.

2. Adverse Affect of Legal Issues on Water Quality Policy. By inappropriately equating runoff flows and waste, rather than correctly regulating the constituent pollutants with reference to background receiving water quality and runoff constituents, the Regional Board sets up an expansive jurisdictional framework in the Tentative Order and Technical Report for regulating stormwater more broadly than necessary to address potential adverse affects on receiving waters that may be proximately caused by pollutants in runoff. This expansive approach to regulation of runoff water quality is further exacerbated by the adoption of extremely general findings, and promulgation of very broad and conclusory Technical Report statements, that fail to make a transparent analytical connection between, on one hand, Tentative Order water quality control requirements, including prescriptive Best Management Practices (BMPs), hydromodification control mandates, and Advanced Sediment Treatment requirements, and, on the other hand, the "non-natural" pollutants these measures are designed to control. In addition, these measures have been proposed without a clear analysis or summary of monitoring data and information that characterized the waste *currently* found in urban runoff in South Orange County, taking into account the now-established history of MS4 program implementation by the Copermittees and the watershed and water quality planning initiatives currently underway. Because the Tentative Order is based on the concept that all runoff is waste and constituent pollutants are not specifically considered in relationship to natural, background loads, the measures of the Tentative Order are not reasonably tailored to address the pollutants currently adversely affecting beneficial uses of receiving waters, to the detriment of water quality control.

These provisions of the Tentative Order and Technical Report should be revised because the Regional Board's authority is limited to regulating the discharge of waste or pollutants. In addition, these provisions should be revised because the Tentative Order requirements and measures should be better tailored and directed in order to reasonably control specific pollutants causing excursions of receiving water quality standards in South Orange County, based on current and local data and information. Cal. Water Code § 13263(a). In this way, Copermittees and the regulated community can better target their water quality efforts as needed to protect beneficial uses.

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[15] See, *inter alia,* Comment Chart Items 3, 5-8, 13

E. Improper Statement of the Basis for Copermittee Water Quality Liability and Unnecessary Exercise of Local Land Use Authority by the Regional Board[16]

1. Legal Issues. The Technical Report discussion of Tentative Order § Finding D.1.f., (pp. 43-44) misstates the basis on which MS4 permits are issued to municipalities, claiming that the permits are issued to municipalities "because of their land use authority." Technical Report, p 43. The Regional Board further claims "the ultimate responsibility for the pollution discharges, increased runoff, and inevitable long-term water quality degradation that results from urbanization lies with local government." Technical Report p.43. In addition, the Technical Report states: "The Order holds the local government accountable for this direct link between its land use decisions and water quality degradation." Technical Report discussion of finding D.1.f., p. 44. These provisions improperly define the legal basis for issuance of MS4 permits, and the basis for liability for improper discharges from the MS4.

Under the federal Clean Water Act, MS4 permits are issued to municipalities because they are owners/operators of MS4s, and as such are required to apply to NPDES permits; not because they have land use authority. 40 C.F.R. §122.26(a)(3); §122.26(d). Similarly, under Porter-Cologne, waste discharge requirements are issued to dischargers of waste, not to local agencies due to their land use authority. Cal. Water Code § 13250. Further, contrary to the Tentative Order conclusions, there is no liability under the federal Clean Water Act or Porter-Cologne for land use decisions made by municipalities. The Regional Board statements of the basis for issuance of municipal liability[17] are not correct under state or federal law, both of which hold dischargers liable for their discharges.

2. Adverse Affect of Legal Issues on Water Quality Policy. It is important for at least two reasons to revise and correct the misstatements of the Tentative Order to properly reflect the legal basis for issuance of MS4 Permits to municipalities and the scope of municipal liability for violation of MS4 Permits.

First, these statements improperly, and without basis in law, expand the water quality liability of Copermittees for land use decisions, and, as a direct result, expand the secondary or "contingent" liability of other stakeholders that apply for land use approvals. As written, these provisions create exposure of local agencies and developers to enforcement action under the MS4 Permit long after land use approvals and project construction has occurred.[18] In addition, these provisions may be expansively interpreted to create a new potential cause of action against agencies issuing and applicants seeking land use approvals, outside of the scope of applicable land use and environmental laws, such as CEQA, the subdivision map act, and local land use and planning ordinances.

Second, these arbitrary conclusions provide support, though without basis in law, for the Regional Board to improperly extend its authority to prescriptively mandate land use and project design requirements. The Tentative Order mandates certain "one-size-fits-all" planning and design decisions for Priority Development and Redevelopment Projects as small as 1 acre, such as

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[16] See, *inter alia,* Comment Chart Items 9, 13, 16, 17, 19, 23.

[17] See, *e.g.,* Technical Report, Discussion of Finding, D.1.f., at pp 43-. 44.

[18] The Los Angeles Regional Board (LARWQCB) recently issued approximately 35 such notices of violation to redevelopment and development projects, many of which had been completed, to the County of Los Angeles and various incorporated cities. See, *e.g.,* LARWQCB Claim N. 7000-0600-0029-1197-1854, dated June 15, 2006.

requiring application of site design BMPs preserving even low resource value drainages for all Priority Development Projects, including infill and redevelopment, at the lot-by-lot scale, rather than at the subwatershed or watershed planning scale (Tentative Order, §§ D.1.d(4)(a) and (B)). Similarly, these provisions provide the basis for "one-size-fits all," project-by-project implementation for all projects 20 acres and greater of interim hydromodification control requirements mandating hydrograph matching, infiltration, protection of low value drainages, and buffer zones regardless of resource value, existing site, soils, and channel conditions (Tentative Order § D.1.h.(5)).

These types of Tentative Order requirements go beyond the programmatic specification of a menu of available storm water quality controls and technologies as required by the Clean Water Act. 33 U.S.C. §1342(p)(3). CFR 122.34(d)(3). The State Water Resources Control Board (SWRCB) has recognized the importance of respecting the very different roles of local agencies and regional boards in the issuance of MS4 Permits. The SWRCB found that the BMPs specified as controls to reduce the discharge of pollutant to the MEP should properly consist of "programmatic and planning requirements for the permittees...similar to those in other MS4 Permits" and designed to control pollutants in stormwater. SWRCB Order WQ 2001-15, p.2. However, based on broad but inaccurate pronouncements of water quality liability for land use authority, the Tentative Order mandates very specific land use and project design criteria, such as those discussed above and in the attached Comment Chart. These mandates unnecessarily and improperly impinge upon the land use authority of local governments under Cal. Const. art. XI, section 7.

To be consistent with applicable law, and to properly address water quality at a programmatic level that does not impinge upon, or create new liability for a local agency's exercise of local land use authority, the Tentative Order and Technical Report should be revised to eliminate improper statements regarding land use power as the basis for water quality liability. In addition, Tentative Order and Technical Report should be revised to eliminate prescriptive BMPs for water quality and hydromodification control, and to specify instead, at a programmatic level, a menu of measures, controls and technologies required to control stormwater quality to the MEP. In this regard, we adopt the recommendation set forth in the GeoSyntec Memorandum.

III. THE REGIONAL BOARD'S DETERMINATION OF REQUIREMENTS THAT CONSTITUTE MEP IS NOT CONSISTENT WITH LEGAL MANDATES.[19]

The Regional Board has failed to follow the appropriate methodology and assumptions to establish Tentative Order requirements reasonably tailored to control water quality to the MEP. Rather than following well-prescribed state and federal law to determine MEP, the Regional Board is using an arbitrary standard of its own devising to do so – attempting to justify this position by the unsubstantiated statement that "requirements in this Order that are more explicit than the federal storm water regulations . . . are prescribed in accordance with the [federal Clean Water Act]" and are the measures "necessary to meet the Maximum Extent Practicable ("MEP") standard." *Tentative Order*, Findings § E.6, p. 13.

1. Legal Issues. Although federal law does not preclude Regional Boards from adopting "more stringent standards," in exercising their discretion to determine the degree to which stormwater discharges are regulated, in establishing requirements for the control of water quality to the MEP as mandated by federal law, the Regional Boards are not free to disregard either 1)

[19] See, *inter alia,* Comment Chart Items 12, 13, 14, 15, 17, 19, 20, 23, 26.

applicable California law, or 2) the terms and conditions under which EPA delegated to the State the authority to administer the federal program.

State and federal law and guidance, including Cal. Water Code§ 13241, set forth factors to be considered and evaluated by Regional Boards in determining requirements of a permit necessary to control runoff water quality to the MEP. As a result, Regional Boards do not have unfettered discretion in establishing MEP, but must as a matter of law and good policy and practice, exercise discretion in a disciplined manner that is transparent to the regulated community by explicitly evaluating Tentative Order requirements in light of Cal. Water Code § 13241, and other applicable factors. Such an explicit and express evaluation is absent from the Tentative Order, Technical Report and administrative record.

As we are informed by the California Supreme Court's opinion in *City of Burbank v. State Water Resources Control Board*, 35 Cal.4th 613 (2005), the Board is "free to enforce [California] water quality laws [including application of the Porter-Cologne balancing factors] so long as its effluent limitations are not 'less stringent' than those set out in the Clean Water Act." *Id.* at 620. Here, the Board enjoys broad discretion under section 402(p)(3) of the Clean Water Act, which allows the permitting to impose whatever controls it (i.e., the permitting agency) deems practicable. *See, e.g., Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1165-67 (9th Cir. 1999). Therefore, even if one were to assume that the Board's issuance of the instant MS4 permit is entitled to the utmost judicial deference, the Board's broad discretion is constrained and must assure that the Board's action is not arbitrary, capricious, lacking in evidentiary support, or unlawful or procedurally unfair. *See Western States Petroleum Association v. Superior Court (Air Resources Board)*, 9 Cal.4th 559, 574 (1995). Accordingly, despite the deference that the Regional Board enjoys, it must (1) exercise its discretion in the manner dictated by state and federal law and policy, in order to (2) fashion pollution control requirements in the instant Tentative Order that are appropriately supported by substantial evidence, and (3) they must describe the relationship between the Tentative Order requirements and available evidence and information, providing the regulated community with a reasonable "analytical roadmap" explaining the requirements chosen.

The Tentative Order fails to accomplish the three requirements. Most importantly, the requirements of the Tentative Order clearly indicate that the Regional Board has failed to exercise its discretion in developing those requirements as required by state and federal law and policy. As described in the attached Comment Chart, applicable case law, Porter-Cologne and the federal Clean Water Act (including EPA's delegation of permitting and enforcement authority to the State of California), require that, in exercising discretion to determine permit requirements that properly establish MEP, Regional Boards must evaluate, consider and reconcile Tentative Order requirements in light several carefully-prescribed factors. The factors that most prominently must be addressed are set forth in California Water Code Section 13241. Those factors (the "Section 13241 Factors"), which the Board's staff expressly stated in the Tentative Order, were not taken into account in developing Tentative Order requirements, are:

(a) Past, present, and probable future beneficial uses of water.

(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors,which affect water quality in the area.

(d) Economic considerations.

(e) The need for developing housing within the region.

(f) The need to develop and use recycled water.

In addition to these requirements, as described more fully in the attached Comment Chart, State Board guidance mandates consideration of a number of additional factors in determining whether permit requirements achieve the MEP standard. These additional requirements (the "State Board Factors") include:

1. Effectiveness: will [permit requirements] address a pollutant of concern?
2. Public Acceptance: [Do permit requirements] have public support?
3. Cost: Will the cost of implementing the [permit requirements] have a reasonable relationship to the pollution control benefits to be achieved?
4. Technical Feasibility: [Are permit requirements] technically feasible considering soils, geography, water resources, etc?

State Water Resources Control Board Memorandum, entitled "*Definition of Maximum Extent Practicable,*" prepared by Elizabeth Jennings, Senior Staff Counsel, dated February 11, 1993.

2. Adverse Affects of Legal Issues on Water Quality Policy. When the Regional Board properly considers the State Board Factors and the Section 13241 Factors (collectively, the "Balancing Factors") in exercising its discretion to adopt municipal storm drain permits, the resulting permit requirements will be properly designed and reasonably tailored to implement MEP and comply with federal water quality mandates. Cal. Water Code § 13263(a). However, when the Balancing Factors are ignored, improper permit conditions and requirements result, which results in water quality requirements that are not available, technically feasible, cost-effective, or are otherwise not amenable to sufficient implementation to improve water quality.

Given failure to evaluate several Tentative Order requirements in the context of the Balancing Factors as required by law and as a matter of good policymaking, the Board rework the affected Tentative Order provisions. Consideration of the Tentative Order requirements in light of the Balancing Factors, taking into account appropriate scientific, technical, economic, and existing watershed planning information, will lead the Board to make revisions to affected provisions of the Tentative Order, correcting its current deficiencies.

Examples of particular Tentative Order provisions that have not been considered in light of the Balancing Factors, and therefore that should be reconsidered properly include:[20]

- The application of 'one-size-fits all' interim hydromodification control standards (which are not derived from and in some cases are contrary to approaches recommended in the scientific literature) and minimum prescriptive BMP programs to all Priority Development and Redevelopment projects, regardless of project location within a watershed, impervious

[20] Where possible, we have attempted to reflect within the Comment Chart and referenced materials the specific Balancing Factors that the Regional Board failed to evaluate in preparing provisions in the Tentative Order.

nature of a watershed, project site soils and runoff conditions, receiving water in-stream conditions, and susceptibility of receiving waters to destabilization;

- Mandatory site design BMPs and hydromodification control requirements governing small infill Priority Development and Redevelopment Projects (< 1 acre) which will be infeasible to implement, pushing such developments out of the urban core areas;
- Application of low impact development (LID) principles and other hydromodification controls on an improper "lot-by-lot" scale, rather than on a regional, sub-regional or community level, resulting in technical infeasibility;
- Mandated interim hydromodification controls for certain Priority Development and Redevelopment properties discharging to channels that are either already substantially degraded or are physically modified (hardened) such that heroic and expensive hydromodification control efforts will be wasted;
- An express bias against implementation of regional volume reduction and treatment BMPs, although such BMPs technically constitute an effective tool for water quality control;
- Provisions that discourage creation of natural wetlands and riparian habitat to restore or create water quality function within degraded watersheds;
- Provisions that unnecessarily limit and constrain use treatment control and volume reduction BMPs that rely upon infiltration and related processes to achieve water quality benefit;
- Prescriptive BMPs for Priority Development and Redevelopment Projects that fail to provide flexibility for alternative approaches that may better benefit water quality, including: combined treatment and volume control BMPs; dry weather flow diversions; low flow diversions to restore and create wetland and riparian areas with higher function and value; and BMP programs developed with site specific consideration and recognition of soils types, infiltration and runoff characteristics, and other factors relevant to volume and treatment control; and
- Mandated Advanced Sediment Treatment for all "high risk" construction sites, regardless of construction site size, topography, and other technically relevant factors;
- Mandated Advanced Sediment Treatment for all "high risk" without prior analysis, contrary to recommendations of the Blue Ribbon Panel Report;[21] of scientifically important factors that determine whether Advanced Sediment Treatment will technically result in water quality benefit, including the following:
    - baseline receiving water conditions (particularly with respect to sediment loads), which must be analyzed to assure that Advanced Sediment Treatment does not cause erosion or adversely change the natural water quality condition of runoff and receiving waters; and
    - potential toxicity of chemicals added to stormwater in Advanced Sediment Treatment systems, which must be analyzed to assure that widespread and long term additions of chemicals associated with Advanced Sediment Treatment do not create chronic toxicity in receiving waters.

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[21] The Blue Ribbon Panel Report is the report entitled *The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities*, Storm Water Panel Recommendations to the California State Water Resources Control Board, dated June 19, 2006, prepared by a Blue Ribbon panel of runoff water quality control experts assembled by the State Water Resources Control Board.

With respect to these and other provisions of the Tentative Order as detailed in the Comment Chart, the Regional Board failed to properly exercise its discretion by evaluating the Tentative Order requirements in light of the Balancing Factors. As a result, the Regional Board should reconsider Tentative Order and Technical Report provisions in light of the Balancing Factors, and should revise those provisions and requirements that are not properly consistent with MEP, and therefore are not properly or reasonably tailored to control water quality.

IV. CERTAIN PROVISIONS AND FINDINGS OF THE TENTATIVE ORDER DO NOT PROVIDE ADEQUATE DUE PROCESS OR ARE NOT SUPPORTED BY SUFFICIENT AND/OR CREDIBLE TECHNICAL AND SCIENTIFIC EVIDENCE.

A. The Tentative Order Requires Significant Clarification to Avoid Violating the Due Process Rights of Regulated Community.[22]

1. Legal Issues. The Tentative Order deprives the regulated community of due process because some of the terms, conditions and requirements are so vaguely stated that the regulated community does not have adequate notice of what is required to comply. In addition, the Tentative Order fails to provide adequate notice as to what constitutes a violation of its provisions.

"Notice is fundamental to due process." 7 Witkin § 638 (10th ed. 2006). The lack of an adequate definition constitutes improper notice to the regulated community in violation of due process. Cal. Const. Art. I, §§ 7, 15; Cal. Gov. Code § 11340 et *seq.* (A "standard that has no content is no standard at all and is unreasonable." *Wheeler* v. *State Bd. of Forestry*, 144 Cal.App.3d 522, 527-528 (1983).

2. Adverse Affect of Legal Issues on Water Quality Policy. Perhaps the most critical example of insufficient notice in the Tentative Order involves the level of water quality control that Copermittees must attain. Specifically, the Tentative Order as interpreted by the Technical Report, p. 65 appears to provide that even when Copermittees are implementing water quality controls to the MEP, as required by federal law[23] and other provisions of the Tentative Order,[24] but receiving water violations are nonetheless detected, the Copermittees shall be liable for civil/criminal enforcement actions. The receiving water violations may be technically infeasible for Copermittees to correct, particularly if (i) it is not possible to determine whether discharges from MS4 systems are proximately causing or contributing to receiving water violations, and/or (ii) if no additional best management practices (BMPs) can be identified to provide additional water quality control. As a result, Copermittees cannot discern from the current Tentative Order whether their planned water quality activities are sufficient and in compliance, or insufficient and the basis for criminal/civil enforcement.

The creation of a "moving target" for water quality compliance will discourage Copermittee and regulated stakeholder water quality control activities. The Tentative Order must be revised to make it clear that when Copermittees implement water quality control measures meeting the MEP standard, which standard inherently requires review and implementation of better

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[22] See, *inter alia,* Comment Chart Items 1,2, and 9.

[23] Clean Water Act § 402(p)(3)(B)(iii).

[24] *Tentative Order* § D.1.A. provides that the provisions of the Tentative Order are merely intended to implement federal law requirements to control pollutants in stormwater discharges to the MEP.

available BMPs if MS4 system discharges are causing or contributing to receiving water quality standard violations, they are in full compliance with the Tentative Order. These clarifications to provisions of the Tentative Order and Technical Report, including Discharge Prohibition A.3, are critical to providing adequate notice to the regulated community of, and encouraging implementation of appropriate water quality activities required under to establish compliance and avoid enforcement actions.

B. The Regional Boards' Findings and Requirements Are Not Supported by Sufficient Evidence in the Record[25]

1. Legal Issues. The Regional Board must support the requirements in the Tentative Order with specific findings supported by sufficient evidence. *City of Rancho Cucamonga v. Regional Water Quality Control Board*, 135 Cal. App. 4th 1377, (2006). In addition, the Regional Board must "set forth findings to bridge the analytical gap between the raw evidence and the ultimate decision or order." *Topanga Ass'n. for Scenic Community v. County of Los Angeles,* 11 Cal 3d 506, 515 (1974*); see also* In the Matter of the Petition of the City and County of San Francisco, et. al., SWRCB Order WQ 95-4 (1995 WL 576920 (Cal. St. Wat. Res. Bd. at pp. 4-5.)). All the technical and scientific data on which the Regional Board has relied in creating the Tentative Order must be made available to Copermittees and the public via at least a summary or reference to the data in the Technical Report.[26] However, as discussed in detail in the Comment Chart and summarized below, the Technical Report does not summarize or reference scientific or technical information that is critical to consider in making findings and conclusions that support requirements related to: urban discharge characteristics, hydromodification control, and application of Advanced Sediment Treatment systems, and treatment control efficacy of end-of-pipe, regional or shared BMPs. This absence of information makes it impossible to determine whether the Tentative Order requirements are necessary or appropriate and denies the regulated community a full and complete opportunity to comment on the Tentative Order, and to participate in the regulatory process, in violation of state and federal rights to due process and the public participation requirements of the Clean Water Act, 33 U.S.C. § 1342(a)(1) and Water Code §13262(a).

Under *City of Rancho Cucamonga,* BIAOC and BILD are compelled to object to those Tentative Order and Technical Report findings and conclusions that are identified in this letter and the Comment Chart as unsupported by sufficient, complete and/or credible technical and scientific data.

2. Adverse Affect of Legal Issues on Water Quality Policy. As a result of these unsupported findings and conclusions, many Tentative Order requirements and mandates are not consistent with a proper determination of MEP, are not properly focused or tailored to assure water quality benefit, or are otherwise flawed because they are based on incomplete, insufficiently specific, or inaccurate findings or data. Examples of inadequate evidence and conclusions in the Technical Report, as necessary to sufficiently support Tentative Order findings and requirements, include the following.

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[25] See, *inter alia,* Comment Chart Items 4, 5, 6,7,8,14, 15, and 23.

[26] If the Regional Board is using its technical staff, or consultants to interpret the cited studies, copies of any analysis or interpretive documents that inform the findings and conclusions in the Tentative Order and Technical Report must be included in the record and made reasonably available to the public.

a) Inadequate Evidence and Findings Regarding Discharge Characteristics in South Orange County to Support Prescriptive Water Quality Control Requirements of the Tentative Order

The Regional Board has failed to properly provide and consider a complete summary of available, local monitoring and scientific evidence as a whole related both generally to pollutants of concern in South Orange County runoff potentially causing receiving water quality standard excursions, and, specifically the presence of bacteria in South Orange County urban runoff and resulting potential for human illness. As a result, the Tentative Order and Technical Report findings and conclusions are misleading and do not constitute a comprehensive summary of locally applicable and available scientific evidence.

For example, the Tentative Order and Technical report conclude that South Orange County runoff contains several pollutants of concern linked to receiving water quality problems, but the sole support for these conclusions is comprised of national urban runoff reports and data. The Technical Report does not reference or summarize any of the local runoff or receiving water quality data for South Orange County, though such data has been collected for several years, and, for the most recent MS4 Permit term, is included in the Report of Waste Discharge Requirements (ROWD) and other monitoring report submitted by the Count of Orange to the Regional Board. While the ROWD, taken in its entirety, substantially supports its conclusion that there is no reason for the Tentative Order to mandate sweeping changes due to significant water quality control progress that has been made under existing local programs, the Technical Report and Tentative Order reach the opposite conclusion based on citations to national data and studies. As a result, more prescriptive requirements and measures are included in the Tentative Order than may be necessary if a proper evaluation of local water quality conditions is performed.

By way of further example, the Tentative Order and Technical Report conclude that runoff leaving the developed urban areas is significantly greater in pollutant load than pre-development runoff. However, this conclusion is not supported by a review of local monitoring data set forth in monitoring reports or the ROWD, and does not accurately reflect the very complex relationship between pollutant loads and land use, as reflected in various studies including a land use specific runoff monitoring studies conducted in Los Angeles County and Ventura County. Whether runoff from urban areas contains significantly greater pollutant loads than runoff from the same areas in the pre-development condition will depend on a number of factors, including pre-development land use, and the type of pollutant at issue. As a result, while this sweeping conclusion may be true for some pollutants depending upon pre-urban land uses, it certainly is not true for all situations. For example, urbanized areas typically contribute far smaller loads of TSS, nitrate, chloride and other pollutants that adhere to sediment in runoff from open space and agricultural uses. Similarly, urban areas generally contribute lower pesticide and nutrient loads than prior land uses associated with agriculture.

Perhaps more importantly, this finding fails to take into account the substantial effect that post-development BMPs have on urban runoff water generally. The ROWD concluded that BMP implementation is positively affecting receiving water quality, but the Tentative Order and Technical Report reach opposite conclusions without addressing available data. Before the findings and conclusions with respect to urban runoff can be used as a bases for regulation in the Tentative Order, the Regional Board must consider the condition of locally generated urban runoff, the

pollutants of concern in that runoff, and the affects of that runoff on specific water bodies within the watershed.

By way of final example, the Tentative Order concludes, based on references to only two studies, one in Santa Monica and one in Huntington Beach, that bacteria in urban runoff have been linked to human illness for people recreating near storm drains flowing to coastal waters, justifying additional water quality controls in South Orange County. Missing from the Technical Report and Tentative Order is any indication that the Regional Board has considered a host of other studies evaluating the link between bacteria in urban runoff and human illness, including a study conducted by PBS&J in coastal watersheds near Laguna Beach in Orange County (PBS&J, 1999); analysis conducted by Paulsen and List (Paulsen and List, 2005); a recent field study conducted by Schroeder et al. (Schroeder et. al. 2002); and a study conducted in Mission Bay by the Southern California Coastal Research Projects (SCCWRP)(Colford, J.M., Jr., T.J. Wade, K.C. Schiff, C. Wright, J.F. Griffith, S.K. Sandhu, S.B. Weisberg, *Recreational water Contact and Illness in Mission Bay, California*, SCCWRP Technical Report #449, 2005). These studies suggest that bacteria loads in urban runoff are not substantially different than those in runoff from natural areas, and that bacteria are not necessarily a proper indicator of pathogens or associated human health risk. Therefore, the far-reaching statement in Finding § C.4 suggesting that human illness has unequivocally been directly linked to urban runoff, impliedly in South Orange County, is not supported by sufficient evidence. As a result, changes to Tentative Order requirements to incorporate more prescriptive provisions are not justified based on available evidence.

b) Inadequate Evidence and Findings to Support Hydromodification Requirements of the Tentative Order

The Regional Board not accurately interpreted or considered the complete body of technical evidence regarding hydromodification and the effect of impervious surfaces on receiving water channel stability. Further, the Tentative Order must provide for proper evaluation of all local factors relevant to geomorphological change in drainage systems in establishing standards for hydromodification control. As a result, the conclusions set forth in the Tentative Order and Technical Report regarding appropriate controls for the impact on receiving water geomorphology caused by increases in volume and duration of flow associated with impervious surface (hydromodification) are inappropriate because they do not take into consideration the many factors that contribute to this issue, including but not limited to:

- The fact that all studies of hydromodification impacts and potential control strategies have been conducted at the watershed and subwatershed scale, and specifically state that the principles that may derived from them are only applicable at that broad planning scale;

- The fact that the conclusion that 2 to 3% impervious area creates geomorphic channel response is valid only for small watersheds with certain in-stream characteristics;

- Dischargers who use treatment controls or combined volume reduction/and treatment controls can assure runoff characteristics that avoid channel degradation; and

- Only uncontrolled runoff from impervious surfaces may be significantly greater in volume, velocity, and duration.

Increased runoff volume, velocity, and duration *may* increase erosion, or *may not*, depending on a variety of other factors in addition to site-specific runoff characteristics including: in-channel grade, bed and bank materials, channel susceptibility to destabilization v. reset events, condition of other areas (impervious/pervious/soils conditions) in tributary catchment. As a result, to properly tailor hydromodification requirements in the Tentative Order and achieve water quality benefit therefrom, the Regional Board must take into account all of the factors it has, to date, failed to consider, including:

- proper subwatershed and watershed scale of implementation for site design/low impact development BMPs
- proper watershed scale for consideration of relationship between disconnected, rather than total, impervious surface and natural channel stability
- receiving waters that can benefit from hydromodification control v. those that cannot
- the scientific need to assess local soils, runoff characteristics, tributary catchment area characteristics and in-stream receiving water conditions to set appropriate hydromodification control standards.

Proper consideration of the complete body of scientific and technical information available regarding hydromodification impacts and controls will lead to substantial changes in several sections of the Tentative Order, including those mandating prescriptive site design BMPs, those undermining the use of subregional volume control BMPs, those mandating compliance with inflexible interim hydromodification control criteria, and those related to waiver of hydromodification controls. We endorse the recommendations provided in the GeoSyntec Memorandum, submitted by CICWQ, for modification of the provisions of the Tentative Order related to hydromodification.

c) No Evidence or Findings to Support Advanced Sediment Treatment Requirements of the Tentative Order

Neither the Tentative Order nor the Technical Report set forth evidence, studies, monitoring data or other technical or scientific information considered in establishing Tentative Order requirements for implementation of Advanced Sediment Treatment at construction sites. There is no evidence of consistent Stormwater Pollution Prevention Plan (SWPPP) violations in South Orange County, or evidence of construction site monitoring data or other information that indicates that construction sites are causing or contributing to receiving water violations in a manner that requires imposition of Advanced Sediment Treatment to properly protect receiving water beneficial uses. As a result, there appears to be no reason for the Tentative Order to mandate extremely expensive Advanced Sediment Treatment technologies, which are available only on a limited basis, rather than, for example, requiring implementation of enhanced construction BMPs, as recommended in the GeoSyntec Memorandum.

In addition, the Regional Board has failed to consider or address in the Technical Report and Tentative Order the recommendations of the Blue Ribbon Panel Report prior to proposing Advanced Sediment Treatment. As a result, the Tentative Order broadly mandates Advanced Sediment Treatment for many sites in South Orange County based on the broad definition of "high risk construction site," but the Regional Board has failed to perform recommended studies regarding baseline sediment production, discharge and transport under natural conditions and toxicity associated with Advanced Sediment Treatment. Scientific literature shows that depriving highly alluvial systems of course sediment in runoff can create "hungry" water that results in greater erosion impacts and hydromodification in natural stream channels, and therefore Advanced Sediment Treatment should not be mandated without consideration of existing sediment conditions. Similarly, toxicity of chemicals associated with Advanced Sediment Treatment used on widespread, long term basis is not well understood. The Regional Board should develop and/or compile information related to potential toxicity as recommended by the Blue Ribbon Panel before imposing Advanced Sediment Treatment Requirements.

* * *

This letter, the attached Comment Chart, and the documents attached to and referenced in this letter and in the Comment Chart, set forth in detail the ways in which the Tentative Order reflects proposed terms, conditions and requirements that are inappropriate legally, scientifically, and/or as a matter of good policy. The enclosed materials also indicate support for alternative terms, conditions and requirements that will achieve the Regional Board's laudable water quality goals in an appropriate and effective way. BILD and BIAOC therefore respectfully request the Regional Board to consider this information carefully, as well as the input from learned scientists and others, and revise the Tentative Order substantially before finalizing it. Thank you for the opportunity to provide comments on the Tentative Order and Technical Report. We look forward to working with the Regional Board and Regional Board staff to effect necessary revisions to the Tentative Order.

Sincerely,

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Building Industry Legal Defense Foundation ("BILD")
Building Industry Association of Orange County ("BIAOC")
Major Issues and Comments on Tentative Order No. R9-2007-0002
Orange County MS4 Permit
4/4/07

The following are the preliminary comments of the above-referenced parties on the February 9, 2007 Tentative Order No. R9-2007-002 For Discharges of Urban Runoff from Municipal Separate Storm Sewer Systems (MS4s) for the County of Orange, Incorporated Cities of the County of Orange, and the Orange County Flood control District within the San Diego Region (the "*Tentative Order*"). Given the process for comment, and status of the *Tentative Order* reviewed, please consider these comments preliminary. The submitting parties intend to participate fully in the public process for adoption of a renewed *Tentative Order*, and therefore must reserve the right to submit additional comments and information for inclusion in the administrative record, and for consideration by San Diego Regional Board staff and board members as the process for preparation and adoption of the subject MS4 Permit proceeds. All documents, attachments, comments memoranda and other materials referenced or cited in this document are hereby incorporated by reference into these comments. Capitalized terms and acronyms used herein and not otherwise defined have the meaning ascribed to them in the *Tentative Order*

Issue	***Tentative Order* Requirement/Concern**	**Comments**
Threshold Issue: Failure to give proper notice of agency action. *Violates due process and statutory mandates*	Review of documents the Regional Board's website fail to advise the public concerning the nature of these proceedings. The Notice of Hearing simply states that the Regional Board intends "to hold a public hearing"… and "Upon adoption, at a later date, Order R9-2007-0002 will replace R9-2002-0001." The Tentative Order and the Fact Sheet/Technical Report.	• **Comment:** As a threshold matter, the Regional Board has not identified the procedural nature of the present proceedings. Neither the Tentative Order nor any other document on the Regional Board's website advises whether the Regional Board considers the instant proceeding quasi-legislative or quasi-adjudicative, subject to Cal. Gov. Code §11400 *et seq*. If the Regional Board considers the action quasi-legislative, we would have expected a "Notice of Proposed Rulemaking." If the Regional Board considers this action to be an administrative adjudication, we would expect full compliance with Cal. Gov. Code §11425.10 *et seq*. (Administrative Adjudication Bill of Rights), which requires, among other things, that a copy of the procedures to be followed be given to the individuals at whom the adjudication is directed. Cal. Gov. Code §11425.10 (a)(2). The nature of the proceeding, whether rulemaking or adjudication, has immense bearing on all aspects of the action, from the initial form and service of notice, to the specificity of the Findings and the substance of the evidence that

Issue	***Tentative Order* Requirement/Concern**	**Comments**
		supports the Regional Boards' decision. In addition to satisfying the Government Code, the Regional Board must also clarify the nature of the proceedings at the onset to ensure that the regulated community and other affected individuals' fundamental rights to due process under both the California and federal constitution are protected. Clearly, where the nature of the proceeding has not been disclosed adequate "notice" has not been given, and a full opportunity to be heard, including the right to challenge evidence and supplement the record, has not been provided.
1. Improper Regulation of Discharges "Into" Storm Drain Systems *Exceeds Legal Authority*	While we agree that source controls should generally be encouraged, Tentative Order No. R9-2007-0002 ("*Tentative Order*") provides: "Discharges *into* and from municipal separate storm sewer systems (MS4s) in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance …are prohibited." *Tentative Order,* Findings §§ D.3.b., D.3.c., D.3.d., D.3.e., at pp. 10-11; and § A.1., at p. 15. *See also*, Fact Sheet/Technical Report (Technical Report) Discussion of Finding § D.3.d, at p. 55. This provision shifts to Copermittees liability for pollution in stormwater, as well as non-stormwater discharges that may enter their MS4s as a result	• **Comment:** The Federal Water Pollution Control Act ("Clean Water Act" or "CWA") and its implementing regulations require that MS4 operators adopt means, measures and methods to control discharges into storm drains that may cause pollution (illicit discharges, non-stormwater discharges and other discharges that may be significant contributors of pollutants); but the CWA and federal regulations do *not* contemplate that Copermittees would be liable for, and subjected to civil and criminal penalties for the discharges of others into storm drains that could cause pollution if the methods, means and measures adopted by MS4 operators are ineffective in any particular instance to control such a discharge. *See* 33 U.S.C. § 1342(p)(3); 40 C.F.R. §122.26(d)(2); 40 C.F.R. §122.34(3). To the extent that the Board seeks to impose this requirement under its independent state authority, the requirement is both an unfunded mandate and, more importantly, a requirement that lacks any feasibility. As a result, the *Tentative Order* should be revised to mandate that Copermittees adopt means, methods and measures to control improper discharges into the MS4 system, and require investigation and follow up to control improper discharges if they occur. The *Tentative Order* should not, however, create a prohibition against discharges into the MS4, and in turn, a violation by, and liability for the Copermittees if those discharges occur, because the discharges are not in the immediate control of the MS4 operator. Per SWRCB Order WQ 2001-

Issue	*Tentative Order* Requirement/Concern	Comments
	of unknowing, accidental, and even *intentionally illicit* activity. These discharges may include, but are not limited to, industrial discharges, sewage discharges, residential hazardous materials spills, nursery and farming discharges, and non-compliant discharges from upstream MS4 systems. Even if the MS4 operator properly adopts, implements and enforces appropriate measures, ordinances and programs to control and prevent these types of unpermitted discharges in accordance with the Clean Water Act and its implementing regulations. While the Clean Water Act mandates that MS4 operators shall adopt means, methods and measures, and/or interagency agreements with other MS4 operators to identify and control illicit discharges that would introduce pollutants into an MS4 system, it does not contemplate that, as set forth in the proposed provision of the *Tentative Order*, the Copermittees would have strict	15, the Regional Board may encourage control of discharges into the MS4, but there is not authority for creating civil/criminal penalties for Copermittees due to the improper discharges of others to the MS4. The Basin Plan provision cited in the Technical Report as supporting prohibition of discharges "into" MS4s similarly prevents discharges of waste to waters of the state – not to MS4s. • **Comment:** State Water Resources Control Board ("State Board" or "SWRCB") Order 2001-15 found the exact language used in *Tentative Order* § A.1. invalid and overly broad because it regulates stormwater and non-stormwater discharges "into" MS4s, when the Clean Water Act and Porter-Cologne Water Quality Control Act ("Porter-Cologne") regulate discharges of waste and pollutants *from* MS4s to receiving waters. SWRCB Order WQ 2001-15 at pp. 9–10; *see also id*. at p 10 n.21. 33 U.S.C., §1342(p)(3)(B) authorizes the issuance of permits for discharge "from municipal storm sewers." 40 C.F.R. §122.26(a)(3). • **Comment:** Regional Water Quality Control Boards ("Regional Board" or "RWQCB") can emphasize control of discharges into the MS4 to improve the quality of discharges from MS4s, and can emphasize that dischargers into MS4s continue to be required to implement a full range of Best Management Practices ("BMPs"), and must establish legal authority to control discharges to the MS4. SWRCB Order WQ 2001-15, at pp. 9-10; 40 C.F.R. §122.26(d)(2)(iv)(D). However, MS4 permit prohibitions may not broadly restrict all discharges *into* an MS4 and subject Copermittees to civil/criminal enforcement and liability for such discharges, for policy as well as legal reasons. Discharges "into" MS4s should not be restricted in part because that approach does not allow flexibility to use regional solutions where they could be applied in a manner that fully protects receiving waters. *Id*. These provisions are therefore inconsistent with the provisions of the

Issue	*Tentative Order* Requirement/Concern	Comments
	liability for non-compliant stormwater and non-stormwater discharges as an NPDES Permit violation.	*Tentative Order* that allow implementation of 'shared BMPs.' • **Comment:** The *Tentative Order* attempts to justify control of discharge "into" MS4s and liability for Copermittees for the discharges of others into MS4s based on a finding that MS4 facilities often include natural water bodies as both receiving waters and MS4 facilities, thereby placing responsibility for any water quality impairment of those combined waterbodies/MS4s on Copermittees. *Tentative Order,* Findings §§ D.3.c. and D.3.d. These findings together supply the basis for *Tentative Order* requirements that create significant liability exposure for local governments for discharges of others "into" MS4s, regardless of whether Copermittees in fact own or operate natural receiving waters considered by the *Tentative Order* to be MS4 facilities. The State Board has already rejected the proposition that because some receiving waters are part of the MS4s, Regional Boards can broadly restrict discharges "into" the MS4 system, and hold Copermittees liable for violations of MS4 permits for such discharges. SWRCB Order WQ 2001-15, at p. 10. Therefore, *Tentative Order* provisions should be revised to be consistent with the State Board's holding. *See* Items 2, 9 and 10 below
2. Improper attempt to demand that Copermittees "terminate" access to MS4s. *Exceeds legal*	The Technical Report discussion of Finding § D.3.b. provides: "the municipality must demonstrate that it has adequate legal authority to control the contribution of pollutant in stormwater…*control* in this context, means not only to require disclosure	• **Comment:** The Regional Board misconstrues its authority under 33 U.S.C. § 1342(p)(3)(B)(ii) to prohibit illicit and non-stormwater discharges into MS4s. Instead, the Regional Board attempts in the Technical Report to bootstrap this provision into a requirement that MS4 operators ("municipalities") must "cut-off" access to MS4s for certain stormwater inflows. For reasons set forth more fully in Item 1 above, the *Tentative Order* exceeds the scope of the Regional Board's jurisdiction and authority. Even if it were technically possible for municipalities to

Issue	***Tentative Order* Requirement/Concern**	**Comments**
authority and creates significant liability for Copermittees. *Imposes technically infeasible requirement, and therefore is inconsistent with a proper interpretation of MEP. See Items 12 & 13 below.*	of information, but also to limit, discourage or *terminate* a stormwater discharge to the MS4. Technical Report at p 53. Regional Board staff comments at the March 12 public Workshop on the *Tentative Order* indicate that municipalities must *physically* terminate discharges from upstream dischargers, including small MS4s, as necessary to comply with the requirements of the *Tentative Order*. The imposition of an obligation to physically terminate stormwater discharges to a public MS4 system, is an interference with Copermittees governmental function and would exposure them to significant liability associated with any consequential flood and flood hazards. *See Geosyntec Memorandum* at p. 10.	terminate certain upstream discharges, such "closure" could cause significant flood damage to personal and public property, violating statutes and regulations related to the operation and maintenance of flood control structures and interfering with public and private agreements setting forth drainage rights. Cal. Water Code §§ 8100, 8128, 8157, 8158. *See generally*, Cal. Water Code § 8100 *et seq*.; 23 Cal. Code Regs. § 1 *et seq*. Compliance with this Regional Board mandate would pose significant legal consequences for the municipalities. *Mt. Healthy City Sch. Dist. Bd. of Educ. v. Doyle*, 429 U.S. 274, 280 (1977). *See generally*, *Hopkins v Clemson Agricultural College*, 221 U.S. 636 (1911) (counties, municipalities and other public corporations are not exempt from suit where it is alleged that their actions have injured private parties or their property.) Thus, it is likely that any state imposed permit condition that require municipalities to terminate stormwater inflows to their MS4 system in a manner that could result in a flood hazard, or 1) violate stormwater drainage rights would be unenforceable and void. EPA has argued that the obligation for municipalities to implement "*management -type controls*" to restrict third party discharges that would enter their MS4s does not violate the Tenth Amendment. 64 Fed. Reg. 68722, 68765-66 (Dec. 8, 1999). However, the federal government is not able to compel state (or municipal) governments in a way that would "excessively interfere with the functioning" of their political subdivisions. *Id. citing Printz* v. *United States,* 117 S.Ct. 2365, 2383 (1997). Here, the Regional Board is seeking to go well beyond "management type controls." To impose requirements like blocking access to MS4s, which would interfere with Copermittees obligations as a political subdivision to protect human health and property from the effect of flooding and to protect innocent parties property and drainage rights. Consequently, the Regional Board has no legal basis for this requirement and cannot use EPA's guidance to

Issue	***Tentative Order* Requirement/Concern**	**Comments**
		justify its more draconian approach. • **Comment**: In many circumstances, it is likely to be not only legally infeasible, but ***impossible*** to terminate discharges to an MS4, particularly those from upstream MS4s or relatively large tributary catchments. As a practical matter, there is no available technology or other known mechanism to safely terminate discharges to the MS4s taking into consideration the need to sever thousands of discharges - particularly storm flows rather than solely dry weather flows, which simply cannot be accomplished given soils, infiltration and/or sewer system capacity constraints. *See* Geosyntec Memo at p. 10.
3. Improper definition of runoff as "waste" *Exceeds Legal Authority* **-**	The *Tentative Order* incorrectly characterizes runoff as "waste." Findings §§ C.1. and C.3, at p. 3 Specifically, *Tentative Order,* Finding § C.1. at p. 3 states: "***The discharge of urban runoff from an MS4 is a 'discharge of pollutants*** from a point source into the waters of the U.S.(emphasis added.). *Tentative Order* § C. 3 also misstates this important point: "The discharge of pollutants ***and/or increased flows from MS4s*** may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives. . . ." *Tentative*	• **Comment:** Discharge of "runoff" is not a discharge of "waste." The State Board has clearly stated recognized this point, by finding: "An NPDES permit is properly issued for discharge of a pollutant to waters of the United States. Clean Water Act § 402(a).".SWRCB Order WQ 2001-15 at p.9. Further, the Clean Water Act regulates the discharge of pollutants, which may be contained in stormwater, rather than the discharge of stormwater without pollutants. 33 U.S.C. § 1342 (a). Notably, the Clean Water Act defines "pollution" as "the man-made or man-induced alteration of the [water's] chemical, physical, biological, and radiological integrity…." 33 U.S.C. § 1362(19). Similarly, Porter-Cologne regulates the discharge of waste to waters of the State. Cal. Water Code §§13260-1370, 13370-13389, and 13399.25-13399.43. Further, Cal. Water Code § 13241(b) requires the Board to take into account the "environmental characteristics of the hydrological unit at issue, including the quality of water available thereto." Similarly, the State Board has recognized this point: "…it is the waste or pollutants in the runoff that meet these definitions of "waste" and "pollutant" [under Cal Water Code § 13050(d) and 40 C.F.R. § 122.2], and not the runoff itself." SWRCB Order WQ

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	Order § C. 3 at p. 3 (emphasis added.).	2001-15, p. 12. While stormwater may contain waste, it is improper to characterize stormwater as waste *per se* or pollution *per se.* The *Tentative Order* should be revised to be consistent with SWRCB Order WQ 2001-15. • **Comment:** Moreover, in many instances, storm water will naturally contain significant loads of, for example, sediment. Such natural loads are not "pollution" as defined by the Clean Water Act. 33 U.S.C. § 1362 (19). Instead, the Clean Water Act has as its objective or aspiration "restor[ing] and maintain[ing]" the natural characteristics of waters. Similarly, California Water Code section 13241(b) requires considerations of the "[e]nvironmental characteristics of the hydrographic unit at issue, including the quality of water available thereto." Inherent in this balancing factor is the *natural* environmental characteristics – of course (i.e., natural loads). The Regional Board's definition of all storm water as "waste" violates these fundamental principles • **Comment:** By inappropriately equating runoff flows as waste, rather than correctly regulating the constituent pollutants, the Regional Board sets up an expansive jurisdictional framework for regulating treated and clean stormwater, and runoff volume, rather than pollutants. The Boards' authority is limited to regulating the discharge of pollutants. Per *Tentative Order* § A.3. at p. 2, the *Tentative Order* is intended to be inconsistent with SWRCB Orders WQ 2000-11 and 2001-15, and should be revised. Revision of the Tentative Order is necessary to assure that the requirements imposed are reasonably related to the control of specific pollutants, specifically and expressly found, based on current and local data and information, to cause excursions of receiving water quality standards. Cal. Water Code § 13263(a). In this way, Copermittees and the regulated community can better target their water quality efforts as needed to protect beneficial uses.

Building Industry Legal Defense Foundation ("BILD")
Building Industry Association of Orange County ("BIAOC")
Major Issues and Comments on Tentative Order No. R9-2007-0002
Orange County MS4 Permit
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Issue	***Tentative Order* Requirement/Concern**	**Comments**
4. Findings are an abuse of discretion and not supported by sufficient evidence. *Denies Due Process* *Results in improper determination of Maximum Extent Practicable ("MEP").* *See Items 12 13, 38 below.*	The RWQCB has failed to support many of its technical findings concerning discharge characteristics, hydromodification impacts and controls, and efficiency of BMPs with sufficient evidence in the record. Technically insufficient findings result in improper Tentative Order requirements and over-prescriptive and/or ineffective mandates. *Tentative Order*, Findings §§ C.3, C.4, C.5, C.8, C.9, C.10, D.1.b., D.1.c., D.2.b., D.2.c., D.3.b., D.3.c. We address technical deficiencies of the individual findings in Items 5,6,7,8,14,15,16,17,19 & 19 below.	• **Comment:** The Regional Board must support the requirements in the *Tentative Order* with specific findings supported by sufficient evidence. *City of Rancho Cucamonga v. Regional Water Quality Control Board*, 135 Cal. App. 4th 1377, (2006). In addition, the Regional Board must "set forth findings to bridge the analytical gap between the raw evidence and the ultimate decision or order." *Topanga Ass'n. for Scenic Community v. County of Los Angeles,* 11 Cal 3d 506, 515 (1974*); see also* In the Matter of the Petition of the City and County of San Francisco, et. al., SWRCB Order WQ 95-4 (1995 WL 576920 (Cal. St. Wat. Res. Bd. at pp. 4-5.)). • • **Comment:** The Regional Board fails to support *Tentative Order*, Findings §§ C.3, C.4, C.5, C.8, C.9, C.10, and D.1.b. with sufficient evidence presented in either the Technical Report or the *Tentative Order.* This failure makes it impossible to determine whether the Tentative Permit requirements are necessary or appropriate and denies the regulated community a full and complete opportunity to comment on the *Tentative Order*, and to participate in the regulatory process, in violation of state and federal rights to due process and the public participation requirements of the Clean Water Act, 33 USC § 1342(a)(1) and Water Code §13262(a). • **Comment:** In general, the *Report of Waste Discharge* ("ROWD") submitted by the County indicates that, based on available evidence and monitoring data, the Drainage Area Management Plan and locally adopted water quality ordinances and Model Water Quality Management Plans (called JURMPs in the *Tentative Order*) ***are sufficient*** and substantial water quality control progress has been made. Taken

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		in its entirety, the ROWD clearly shows that there is no reason for the *Tentative Order* to mandate sweeping changes to the existing local agency programs. Further, to the extent that changes are needed, they should be tailored to the specific areas in which the local programs have identified weaknesses, and any such weaknesses can only be assessed after evaluating available data. • **Comment:** In issuing the Tentative Order, the Regional Board has abused its discretion by 1) failing to support its findings with best available science, and 2) failing to consider current available and peer reviewed science that reaches conclusions that are different than those set forth in the findings. *See generally*, *Geosyntec Memo* identifying a numerous of cited studies as technically deficient and/or not supporting the positions that the Regional Board's use of them. • **Comment:** All the technical and scientific data on which the Regional Board has relied in creating the Tentative Order must be made available to Copermittees and the public. Further, if the Regional Board is using its technical staff, or consultants to interpret the cited studies, copies of any analysis or interpretive documents that inform the Findings in the Tentative Order must be included in the record. *See City of Rancho Cucamonga v. Regional Water Quality Control Board*, 135 Cal. App. 4th 1377, 1384-85 (2006). BILD and BIAOC hereby object to the present record as noted and hereby request that a full and complete copy of the administrative record be made available to Copermittees and the public in a timely manner so that they can consider the body of evidence and supplement it as necessary. *Id.* • **Comment**: The Regional Board's failure to evaluate and build upon any the many successful watershed management programs identified in the ROWD is of

Issue	***Tentative Order* Requirement/Concern**	**Comments**
		grave concern. We note that the Regional Board staff has been invited to participate in some of these programs. See generally, ROWD, especially Executive Summary, and Section 9 DAMP and Section 12 Watershed Action Plans. The Regional Board has failed to consider these current and on-going watershed efforts, and instead seeks to overlay a system of its own devising. There is no evidence in the record that would explain why the Regional Board has disregarded Copermittees programs. *See also* discussion in Items 5 - 7 below.
5. Findings not supported by sufficient evidence. *Denies Due Process* *Results in improper determination of MEP (See Items 12 and 13 below)*	In *Tentative Order*, findings §§C.3, C.4, and C.5, at p.3 and, the Regional Board makes a number of conclusory statements concerning urban storm water, but has failed to support these findings with current, local and relevant technical data.	• **Comment:** At present, the administrative record does not contain sufficient evidence to support the Regional Board's findings. Specifically, the Regional Board must identify all of the technical data that is relevant to making each finding, whether it supports or controverts the finding made, and should provide a weight of the evidence analysis to support its conclusions. *See Costle v Pacific Legal Foundation*, 445 U.S. 198 (1980) (Evidentiary public hearings are available and appropriate when NPDES permits are issued.). • **Comment:** In making *Tentative Order* Findings §§C.3. C.4, and C.5., at p.3 to support this rulemaking, the Regional Board failed to evaluate the totality of the available evidence to support conclusions. We note that the Technical Report at pages 8 and 25 reference monitoring data in the watershed, but this data has not been summarized or placed in the record, denying a proper opportunity for public review, comment and public participation. Moreover, the ROWD suggests that significant monitoring and assessment data has been developed for Southern Orange County, but these data and a summary of them are also missing from the record. Report of Waste Discharge ("ROWD") at p.1.

Issue	***Tentative Order* Requirement/Concern**	**Comments**
		• **Comment:** The few studies that have been identified in support of Finding § C.3 of the *Tentative Order* at p. 23 of the Technical Report are national studies and/or are significantly outdated, and do not reflect local conditions or post-MS4 Permit runoff water quality controls and programs. Further, more current and relevant data is available, but has not been evaluated or placed in the record.
6. Finding C.4. is not supported by sufficient evidence *Denies Due Process* *Results in improper determination of MEP (See Items 12 and 13 below).*	Finding § C.4 of the *Tentative Order* provides that "human illnesses have been linked to recreating near storm drains flowing to coastal waters" and that urban runoff pollutants can bioaccumulate in humans. *Tentative Order*, Finding, § C.4. at p.3. In reaching this conclusion the Regional Board has failed to review current data and studies reaching conclusion that differed than the conclusion in the finding. .	• **Comment:** The Regional Board has failed to provide sufficient evidence that supports Finding § C.4, and the Finding is contrary to a proper and complete summary of available scientific evidence as a whole. As a result, the finding is misleading and does not constitute a comprehensive summary of available scientific evidence. By way of example, a study conducted by PBS&J in coastal watersheds near Laguna Beach in Orange County (PBS&J, 1999) found that indicator bacteria concentrations in receiving waters downstream from the developed/urban watersheds were not significantly different than concentrations in receiving waters downstream from undeveloped watersheds. Additional analysis conducted by Paulsen and List (Paulsen and List, 2005) further supported these findings. These studies conclude that the occurrence of bacteria in surface water, and the resulting *assumed* potential for illness, cannot be directly linked to urban runoff, as opposed to runoff from natural areas. Further, Paulsen and List summarize the debate over the use of bacteria monitoring for pathogenic indicators, and point out that scientific studies show no correlation between bacteria levels and pathogens and therefore bacteria may not indicate a significant potential for causing human illness (Paulsen and List, 2005). In a recent field study conducted by Schroeder et al., pathogens (in the form of viruses, bacteria, or protozoa) were found to occur in 12 of 97 samples taken, but the samples that contained pathogens did not correlate with the concentrations of indicator organisms (Schroeder et. al.

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		2002). Further study by the Southern California Coastal Water Research Project ("SCCWRP") in Mission Bay, where efforts have been made to eliminate human sources of sewage, has demonstrated no link between concentrations of indicator bacteria and either an increased risk of human illness or the presence of human pathogens. Colford, J.M., Jr., T.J. Wade, K.C. Schiff, C. Wright, J.F. Griffith, S.K. Sandhu, S.B. Weisberg, *Recreational water Contact and Illness in Mission Bay, California*, Southern California Coastal Water Research Project (SCCWRP) Technical Report #449, 2005. These studies suggest that bacteria are not necessarily a proper indicator of pathogens or associated human health risk. The far-reaching statement in Finding § C.4 suggesting that human illness has unequivocally been directly linked to urban runoff is not supported by sufficient evidence, and contradicts the available scientific evidence.
7. Hydromodification position does not include in the record or take into account available information and data *Denies Due Process* *Results in improper determination of MEP (See Items 12 and 13 below)*	Finding § C.8 makes general and sweeping statements about the effect of hydromodification on the watershed. Technical Order Finding § C.8. at p.6, Technical Report at pp. 28-32. These findings should be revised to properly summarize available scientific and technical information as summarized in this comment and more specifically described in the Geosyntec Memorandum dated April 4, 2007, attached hereto and incorporated by reference. ("*Geosyntec Memo*")	• **Comment:** The conclusions set forth in the Regional Board's *Tentative Order,* Finding § C.8 regarding the impact of impervious surfaces (hydromodification) are arbitrary as well as inappropriate because they do not take into consideration the many factors that contribute to this issue – in particular all six of the Water Code section 13241 balancing factors (*see* discussion Item 12 below). As discussed in the *Geosyntec Memo* at pp. 1-3, the Regional Board has not accurately interpreted or considered the body of technical evidence regarding hydromodification and the effect of imperious surfaces on stormwater runoff. Some specific concerns include, but are not limited to: 1) the effect of imperiousness on hydromodification is more complicated than the Technical Order suggests. *Geosyntec Memo* p.1. 2) all cited studies of hydromodification impacts and potential control strategies have been conducted at the watershed and subwatershed scale,

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		and specifically state that the principles that may derived from them are only applicable at that broad planning scale; 3) the finding that the conclusion that 2 to 3% impervious area creates geomorphic channel response is valid <u>*only*</u> for small watersheds with certain in-stream characteristics; 4) dischargers who use treatment controls or combined volume reduction/and treatment controls can assure runoff characteristics that are substantially the same as runoff from pervious "natural" settings. This can assure runoff characteristics that avoid channel degradation. 5) only ***uncontrolled*** runoff from impervious surfaces may be significantly greater in volume, velocity, and duration. 6) increased runoff volume, velocity duration *may* increase erosion, or *may not*, depending on a variety of other factors in addition to site-specific runoff characteristics including: in-channel grade, bed and bank materials, channel susceptibility to destabilization v. reset events, condition of other areas (impervious/pervious/soils conditions) in tributary catchment. Not all watersheds respond to addition of impervious surface in the same manner, or even in accordance with general rules or formulas. 7) the fact that the studies cited by the Regional Board have not been conducted with sufficient scientific rigor to allow them to be used to support the conclusions the Regional Board has drawn. The *Tentative Order* must provide that any hydromodification control standard adopted should be based upon a watershed or subwatershed scaled

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		study and evaluation that takes into account all appropriate local factors to determine required level of hydromodification control. • **Comment:** As a result of the overgeneralization of information, the finding fails to provide an appropriate analytical link between the data summarized in the Technical Report in support of the finding and the regulatory requirements in the *Tentative Order* governing hydromodification. This lack of analytical link and thorough evaluation of available studies in turn creates an improper determination with respect to requirements that constitute MEP. See Items 12 & 13 below.
8. Insufficient relevant evidence to properly characterize the relationship between urbanization in Southern Orange County and increased pollution. *Denies Due Process* *Results in improper determination of MEP (See Items 12 and 13 below)*	*Tentative Order,* Finding § C.9 states: "Urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, … As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff…" *Tentative Order*, Finding, § C.9. at p. 6. However, there is no evidence in the record to suggest that the Finding applies to urbanization in Orange County. *Tentative Order,* Finding § D.1.e	• **Comment:** Available data indicate that the relationship between pollutant loads and land use is a much more complicated than *Tentative Order* Finding § C.9 indicates. *See Geosyntec Memo*, at pp. 3-4. Moreover, Finding § C.9. is not true of Orange County generally, although it may be true in some circumstances. Before this finding can be used as the basis for rulemaking, the Regional Board must support the finding with sufficient evidence in the record for each MS4 system to which it is applied. • **Comment:** Whether runoff from urban areas contains significantly greater pollutant loads than runoff from the same areas in the pre-development condition will depend on a number of factors, including pre-development land use, and the type of pollutant at issue. *See Geosyntec Memo*, at pp. 3-4. As a result, while the statement Finding § C.9 may be true for some pollutants depending upon pre-urban land uses, it certainly is not true for all situations. For example, urbanized areas typically contribute far smaller loads of TSS, nitrate, chloride and other pollutants that adhere to sediment in runoff from open space and agricultural uses. Similarly, urban areas generally contribute lower pesticide and nutrient loads than prior land

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	"Significant urban runoff challenges remain, broadly stating that Urban Runoff continues to be the leading cause of water quality impairment in the region." Technical Report p 8. *Tentative Order*, Finding § C.10 states: "[d]evelopment and urbanization especially threaten environmentally sensitive areas (ESAs) such as water bodies designated as supporting a RARE beneficial use and CWA § 303(d) impaired water bodies. *Tentative Order* § C.10. at p. 6.	uses associated with agriculture. *See Geosyntec Memo*, at p. 3. Further, this finding fails to take into account the substantial effect that post-development BMPs have on urban runoff water generally. This Finding should be revised to accurately reflect the complex relationship of pollutant loads for urbanized areas v. those associated with pre-development conditions. In its current form, Finding § C.9. is too simplistic and, as a result is inaccurate and misleading. • **Comment:** New development and redevelopment do not necessarily *increase* atmospheric deposition on regional basis. While population growth can increase air emissions that, in turn, can result in increased water quality issues related to atmospheric deposition, to the extent that new development or redevelopment is only accommodating an existing population level, that activity alone does not increase emissions or atmospheric deposition. It may change the location in a watershed of emissions and their deposition within the air basin, but new development does not generate new or increased emissions or atmospheric deposition. This finding lacks sufficient evidence to the extent that it intends to affirmatively establish a link between land use and atmospheric deposition. • **Comment:** The Regional Board cites no evidence to support Finding § C.10 at p. 6. The only study cited, *Mitigation of Storm Water Impacts From New Developments in Environmentally Sensitive Areas*, deals with mitigation measures *not* the alleged causal connection between new development and water quality impairment. Technical Report p. 32. The Regional Board must have evidentiary support for the connection relevant to the waterbodies of the South Orange County subregion at issue. Once the causation element is established, the Finding must take into account treatment control BMPs as well as creation /restoration and mitigation required for direct and indirect impacts to function, values, habitat and

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		hydrology when a new development or redevelopment impacts an ESA. Such restoration, mitigation, and creation is required by *inter alia,* NEPA, CEQA, CWA §§401, 401,and implementing regulations, Cal. Fish & Game Code 1600, *et. seq.,* and state and federal Endangered Species Acts. • **Comment:** Although the first clause of Finding § C.10 concludes that "[d]evelopment and urbanization especially threaten environmentally sensitive areas (ESAs)", the remainder of the sentence lumps ESAs together indiscriminately with all CWA 303(d) listed waterbodies. To the extent that the Regional Board acts to implement this Finding by imposing additional restrictions on discharges of urban runoff, it must do so with regard to *specific* ESAs (such as those with RARE beneficial uses, ASBA, and/or NCCP/Reserve areas), and then solely based upon the listed POCs that have been shown by sufficient evidence to be related to land use activity. The *Tentative Order* and/or the Technical Report should identify with specificity these ESAs and the POCs related to urban developments that threaten them. Further, guidance for where to apply the restrictions that implement this Finding and the content of those restrictions should be both ESA and pollutant specific and clear. • **Comment:** Further, to the extent that the Regional Board intends to make Findings §§ C.9. and C.10 the bases for regulation in the *Tentative Order,* both state and federal law require that water quality regulation be linked to listed pollutants of concern for specific water bodies on the CWA 303(d) list. 33 U.S.C. §1313(d). We note that *Tentative Order* Table 2a fails to support either Finding § C 9 or §C.10.
9. Misstatement of Municipal	The Technical Report discussion of *Tentative Order*, Finding § D (2)(f.)	• **Comment:.** MS4 Permits are ***NOT*** issued to municipalities ***because*** of their

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Authority and Improper Copermittee Liability. *Exceeds Legal Authority*	(at pp. 43-44), (i) misstates the basis on which MS4 permits are issued to municipalities, and (ii) improperly expands Copermittee liability for illicit or noncompliant discharges. For example, the Technical Report improperly states that the permits are issued to municipalities "because of their land use authority." The Regional Board further claims "the ultimate responsibility for the pollution discharges, increased runoff, and inevitable long-term water quality degradation that results form urbanization lies with local government." Technical Report p.43. In addition, the Technical Report states: "The Order holds the local government accountable for this direct link between its land use decisions and water quality degradation." Technical Report discussion of finding D.1.f., p. 44. In addition, other provisions of the	land use authority. Under the CWA, MS4 permits are issued to municipalities because they are owners/operators of MS4s and as such are required to apply to NPDES permits. 40 C.F.R. §122.26(a)(3); §122.26(d). Similarly, under Porter-Cologne, waste discharge requirements are issued to dischargers of waste, not to local agencies due to their land use authority. *See* Cal. Water Code § 13374, (wastewater discharge requirements established by the regional boards are the equivalent of the NPDES permits required by federal law.). • **Comment:** There is no liability under CWA or Porter Cologne for land use decisions made by municipalities. The Regional Board statements of municipal liability are not correct under CWA or Porter Cologne, which holds dischargers liable for their discharges. See, *e.g.,* Technical Report, Discussion of Finding, § D(2)(f)., at pp. 43-. 44. Under the CWA, municipalities must adopt, implement and enforce legal authority to detect, inspect, prevent and provide recourse against illegal, improper or pollutant-laden discharges, but ***municipalities are not responsible for insuring the absence of illegal or noncompliant discharges by others***. 40 C.F.R. §§ 122.26(a)(3); 122.26(d); 122.34. By way of example, the discussion at Technical Report at p. 44 states that municipalities must regulate and inspect construction sites to assure compliance with the MS4 and the SWRCB General Construction Permit because if improper construction discharges occur, the Copermittees will be liable for those discharges. However, it is the construction site owner/operator who is legally responsible—not the municipality—so long as the municipality is implementing and enforcing an adopted water quality control ordinance governing construction site discharges. (*See* 40 C.F.R. §122.34(a).) This approach is consistent with the environmental regulatory scheme generally, which is designed to hold polluters responsible for pollution they create. Water

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	Tentative Order mandate that the Copermittees perform compliance actions for other dischargers under their jurisdiction, or risk enforcement for non-compliance with the Permit. *See*, *e.g., Tentative Order* §§ 2(d)(c) and (d); 3(c)(d) and (e). The combination of these provisions results in an improper statement of the legal basis for issuance of MS4 permits, and an improper expansion of Copermittee liability for the discharges of others.	Code §§ 13350(a),(b) and (c)(4)-(5). • **Comment:** The Regional Board's broad-brush statements create major liability issues for municipal governments. These statements are not only without basis in law, but are also both unwarranted and counter productive. Further, these statements ignore that local government land use discretionary actions must be taken in compliance with CEQA. Pub. Res. Code §21151. Under CEQA, the Regional Board is a trustee and a responsible agency, and as a result must be consulted by local agencies and provided an opportunity to comment on, and demand provision of additional information regarding, and imposition of additional mitigation measures for land use approvals. Cal. Pub. Res. Code §15040 – 15045 (Authorities Granted to Public Agencies by CEQA). Further, any land use review for a project involving an Army Corp of Engineers CWA § 404 permit necessarily entails Regional Board review of the project and its impacts, and issuance of a CWA § 401 water quality certification containing appropriate conditions and mitigation measures to address water quality impacts associated with the land use project permitted. In light of the Regional Board's role in approving discretionary land use and development decisions, the statements of the Technical Report not only create significant liability for local government, but also fail to recognize the substantial role that the Regional Board is authorized to play in the issuance of land use approvals. • **Comment:** The *Tentative Order* may require each municipality to mandate BMPs for others in their jurisdiction, but should only do so at a programmatic level. SWRCB Order WQ 2001-15, at pp. 2-4. However, the *Tentative Order* goes farther than mandating programmatic requirements for runoff control, and includes provisions that require the municipality to implement BMPs to control

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		specific discharges from construction sites and high threat residential areas if certain dischargers fail to respond to the local agency Ordinance mandating them. See, *e.g., Tentative Order* §§ 2(d)(c) and (d); 3(c)(d) and (e). These provisions are not authorized under the CWA, and are improper in that they create improper Copermittee liability for implementation of local ordinances and for noncompliant discharges of other operators. 40 C.F.R. §§126.26(a)(l)(i); 122.34.
10. Legal Exposure of Local Governments with Regard to Water Quality Standards *Exceeds Legal Authority* *Creates a stricter standard for discharge control and Copermittee compliance than MEP* *Denies due process*	The *Tentative Order* improperly exposes local governments to legal liability for receiving water exceedances, even when their MS4 discharges comply with MEP requirements. While the receiving water limits language of *Tentative Order* § A.3.a. and b. do comply with SWRCB Order WQ 99-05, the requirements of *Tentative Order* § A.3.c and the discussion at Technical Report p. 65 do not. The Technical Report states: "While implementation of the iterative BMP process is a means to achieve compliance and water quality objectives, it does not shield the discharger from enforcement actions for continued non-compliance with	• **Comment:** Pursuant to *Tentative Order* § A.3.c, as interpreted by the Technical Report, Copermittees are subjected to liability that regardless even when they are properly implementing measures to control MS4 discharges to the MEP, and regardless of whether it is technically feasible, or even possible to take further action. Good faith pursuit of the "iterative process" does "not shield the discharger from enforcement actions if discharges cause or contribute to a violation of water quality standards" for receiving waters. Technical Report at p. 65. These provisions are clearly intended to impose liability on Copermittees when receiving waters fail to achieve water quality standard, which is inconsistent with State Water Board orders, federal regulations, and state and federal policy and guidance. • **Comment:** Per SWRCB Orders WQ 99-05 and WQ 2001-11 the iterative process (adaptive management of BMPs) is the appropriate recourse for failure to comply with all discharge prohibitions of MS4 Permits. In addition, the iterative process is the proper response to all receiving water limit violations, including violations of Attachment A Basin Plan Prohibitions. *Id.* There is *no* State or federal order or guidance recommending or requiring that Copermittees be or remain liable for civil/criminal enforcement of MS4 Permits due to receiving water limit violations when the Copermittee is proceeding with the requirements of the iterative process. As a result, *Tentative Order* § A.3.c and the Technical Report

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	water quality standards. Consistent with EPA guidance, regardless of whether or not an iterative process is being implemented, discharges that cause or contribute to a violation of water quality standards are in violation of Order No R9-2007-002." *Tentative Order*. *See also*, Technical Report, at p. 74. The *Tentative Order* does not adequately address situations where Copermittees implement water quality controls to the MEP as required by federal law (Clean Water Act, § 402(p)(3)(B)(iii)), but receiving water violations are nonetheless detected. *Tentative Order*, § A.3, at p. 15.	language at p. 65 and p. 74 should be deleted or revised to comport with that appropriate implementation of the iterative process constitutes compliance with the MS4 Permit. See also, 64 Fed. Reg. 68722, 68753,(December 8, 1999)(the BMP iterative process is designed to achieve MEP). • **Comment:** By requiring Copermittees to take further action beyond the adaptive management of BMPs, particularly when the Copermittee is requiring implementation of all available water quality controls that are technologically feasible for use at a cost that is reasonably related to pollution control benefits (Memorandum dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," by Elizabeth Jennings, Senior Staff Counsel, SWRCB), the *Tentative Order* requires implementation measures that exceed an appropriate determination of requirements and measures necessary to control water quality to the MEP. • **Comment:** The *Tentative Order* and Technical Report should be revised such that the iterative process of improving and adaptively managing BMPs is the sole required response to address persistent exceedances in receiving water quality conditions caused or contributed to by MS4 discharges. Without these revisions, the *Tentative Order* requirements exceed an appropriate application and determination of measures necessary to control water quality to the MEP. Clean Water Act, 33 U.S.C. §1342(p)(3)(B)(iii); Cal. Water Code §§ 13256, 13375, and 13376.
11. Nullifies Copermittee's Land Use Authority *Exceeds Legal*	The *Tentative Order* mandates certain planning and design decisions, such as requiring construction of streets to minimum widths, minimizing the impervious footprint of the project,	• **Comment:** Federal law specifies that "permits for discharges from municipal storm sewers…shall require controls to reduce the discharge of pollutants to the maximum extend practicable ("MEP"), including management practices, control techniques and systems, design and engineering methods,…" 33 U.S.C. §

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Authority	directing runoff into landscaping, and to minimize soil compaction. *Tentative Order*, § D(1)(c)(2) at p. 21. The Regional Board's mandate of certain planning and design activities is an unlawful usurpation of the authority of local jurisdictions, which do have legal authority to make these decisions with respect to land use planning and development in their jurisdictions. These requirements go beyond the programmatic specification of available storm water quality controls and technologies.	1342(p)(3)(B)(iii). In California, the State and regional boards are vested with the primary responsibility for controlling water quality. Cal. Water Code § 13001; *County of Los Angeles v. State Water Resources Control Bd.* 143 Cal.App.4th 985, 1003, (2006). Local jurisdictions, however, retain the authority to determine appropriate land use and planning decisions. Cal. Const. art. XI, section 7. "Under the police power granted by the Constitution, counties and cities have plenary authority to govern…" *Candid Enterprises, Inc. v. Grossmont Union High School Dist.* 39 Cal.3d 878, 885 (1985). Thus, the local jurisdictions, not the Regional Board, have plenary authority over local land use decisions. "[L]and use planning in essence chooses particular uses for the land; while environmental regulation, at its core, does not mandate particular uses of the land but requires only that, however the land is used, damage to the environment is kept within prescribed limits." *California Coastal Com'n. v. Granite Rock Co*. 480 U.S. 572 (1987). Further, "The CWA is not a land-use code; it is a paradigm of environmental regulation..." *Solid Waste Agency v. United States Army Corps of Engineers*, 531 U.S. 159, 191 (2001) dissent by Justice Stevens. The Porter-Cologne respects the authority of state and regional boards, on the one hand, and local jurisdictions, on the other. For example, California Water Code § 13360(a) expressly precludes regional boards orders and waste discharge requirements from specifying the particular design location, type of construction or particular manner in which compliance with water quality standards must be achieved. In short, the Regional Board has the job of enforcing the Clean Water Act and the Porter-Cologne, but it does not have the job of making land use decisions. When the Regional Board very specifically mandates certain planning and design activities to local jurisdictions with respect to their land use planning decisions, the Regional Board is unlawfully usurping the authority of the local jurisdictions whose job it is

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		to make decisions with respect to land use planning and development. In considering the current MS4 Permit previously adopted by the San Diego Regional Board, the State Water Resources Control Board (SWRCB) recognized the importance of respecting the very different roles of local agencies and regional boards in the issuance of MS4 Permits. In reviewing the current MS4 Permit, the SWRCB found that the best management practices (BMPs) specified as controls to reduce the discharge of pollutant to the MEP consisted of "programmatic and planning requirements for the permittees…similar to those in other MS4 Permits" and designed to control pollutants in stormwater. SWRCB Order WQ 2001-15, p.2, The SWRCB concluded that it was appropriate to include *programmatic* requirements in MS4 Permits to control pollutants to the MEP, including numeric design criteria for certain treatment control BMPs. The *Tentative Order* goes too far in mandating certain development planning approaches as BMPs, and therefore unlawfully exercises land use authority in violation of the separation of powers doctrine, unnecessarily contrary to Cal. Water Code §13360, and contrary to SWRCB Order WQ 2001-15. Instead of identifying a menu of land use related BMPs and design standards for those BMPs that are necessary to protect water quality, the proposed requirements of the *Tentative Order* mandate certain planning and design decisions, and thereby impinge upon the exercise of discretion by the local agencies with planning and land use jurisdiction. As a result, the Regional Board's approach to site design BMPs and hydromodification control, including the set forth in the *Tentative Order* comprise an unlawful usurpation of the Constitutional land use authority of local jurisdictions.
12. Cal. Water	The Regional Board's position is that	• **Comment:** Cal. Water Code §13241 balancing is not "elective", it is the sole

Building Industry Legal Defense Foundation ("BILD")
Building Industry Association of Orange County ("BIAOC")
Major Issues and Comments on Tentative Order No. R9-2007-0002
Orange County MS4 Permit
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Code §13241 Balancing *Improper, arbitrary and capricious exercise of discretion* *Failure to follow State and federal law requirements and to comply with conditions under which EPA has delegated NPDES permitting authority*	"[r]equirements in this Order that are more explicit than the federal storm water regulations . . . are prescribed in accordance with the [Clean Water Act]" and are the measures "necessary to meet the [Maximum Extent Practicable] standard." *Tentative Order*, Findings § E.6., at p. 13. Although federal law does not preclude California from adopting "more stringent standards," in exercising their discretion to determine the degree to which they regulate stormwater discharges, in establishing requirements for the	method sanctioned under state and federal law for the Regional Board to exercise discretion when establishing MEP**.** In May 1973, the United States Environmental Protection Agency ("EPA") delegated responsibility for enforcing the CWA, including the authority to issue NPDES permits, to the State and Regional Boards. Porter-Cologne is the statutory framework that sets forth the obligations of Boards when setting permit conditions for the protection of water quality. In delegating responsibility for CWA enforcement and permitting, EPA expressly embraced the Porter-Cologne legislative scheme and statutory framework as adequate to protect the waters of the United States under the Clean Water Act. 54 Fed.Reg. 40664 (Oct. 3, 1989); *WaterKeepers Northern California v. State Water Resources Control Bd.*, 102 Cal. App. 4th 1448, 1452 (2002); Cal. Water Code § 13370 *et seq***.** When the federal government delegated enforcement and permitting powers under the CWA to the State and Regional Boards, EPA consented to the *entire* statutory scheme under the Porter-Cologne, including Cal. Water Code §§ 13241[1] and 13263.[2] *See generally NPDES Memorandum of Agreement Between*

[1] "Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance; however, it is recognized that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses. Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following: (a) Past, present, and probable future beneficial uses of water; (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto; (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area; (d) Economic considerations; (e) The need for developing housing within the region; and (f) The need to develop and use recycled water." Cal. Water Code § 13241.

[2] "The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge, except discharges into a community sewer system, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans

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to the State. *Results in improper determination of MEP. See Also, Item 12 below.*	control of water quality to the MEP, the Regional Boards are not free to disregard either 1) applicable California law, or 2) the terms and conditions under which EPA delegated to the State the authority to administer the federal program. State and federal law and guidance, including Cal. Water Code§ 13241, set forth factors to be considered and evaluated in determining requirements of a permit necessary to control runoff water quality to the MEP. As a result, Regional Boards do not have unfettered discretion in establishing MEP, but must as a matter of law and good policy and practice, exercise discretion in a disciplined manner that	*US Environmental Protection Agency and the California State Water Resources Control Board,* approved September 25, 1989. The plain language of Sections 13241 and 13263 require that when a Regional Board considers waste discharge requirements ("WDRs") and permit conditions, it must consider all of the factors described in Section 13241, including costs of compliance with those WDRs and permit conditions. *City of Burbank v. State Water Resources Control Board*, 26 Cal. Rptr. 3d 304, 35 Cal. 4th 613, 625 (2005). These statutes were adopted and in place at the time that EPA approved State delegation of the federal water quality program. *Id.* Thus, EPA accepted and approved such balancing by Regional Boards in the exercise of their permitting authority when EPA approved the delegation of the federal water quality program to the State of California. Within Porter-Cologne, Cal. Water Code §§13241 and 13263 combine to obligate the Regional Board to consider a number of carefully prescribed, individual balancing factors whenever fashioning WDRs and permit conditions for discharges into waters of the State. In addition, Regional Boards must assure that all permits and WDRs are in compliance with the Clean Water Act, as amended. Cal. Water Code § 13377. *City of Burbank,* supra, 35 Cal. 4th at p. 626. These two obligations are not in conflict. *See id.* ("[S]ection 13377 forbids a regional board's consideration of any economic hardship … if doing so would result in the *dilution*

that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241." Cal. Water Code § 13263(a).

[3] The consideration of cost is also part of CWA §404 (b)(1) implementation. As directed by statute, the Army Corp of Engineer Guidelines for dredge and fill provides in pertinent part: "No discharge of dredged or fill material shall be permitted if there is a *practicable alternative* to the proposed discharge. . . (2) An *alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project."* 40 C.F.R. § 230.10 (a) 1-2 (emphases added).

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	is transparent to the regulated community by explicitly evaluating *Tentative Order* requirements in light of Cal. Water Code § 13241, and other applicable factors, including those discussed in comment 12 below. Such an explicit and express evaluation is absent from the Technical Report and administrative record.	of the requirements set … in the Clean Water Act.") (emphasis added); *see also id.* at p. 627 ("The Clean Water Act reserves to the states significant aspects of water policy (33 U.S.C. § 1251(b)), and it specifically grants the states authority to 'enforce any effluent limitation' that is not '*less stringent*' than the federal standard (*id.* § 1370, italics added [by the Court])." Section 13377 does not forbid Regional Boards from evaluating appropriate factors when exercising its discretion to determine technology based standards consistent with, and as mandated by the CWA. The Regional Board may not use the MEP requirement as a rationale for avoiding its obligation to undertake section 13241 balancing. The Regional Board's obligation to conduct a proper and thorough balancing of pertinent factors under Section 13241 is an integral part of determing permit requirements. In fact, it is *the method* that a Regional Board must use to exercise its discretion to determine appropriate permit requirements to meet the broadly worded and discretion-intensive MEP standard. The Regional Board cannot simply avoid complying with the balancing mandate of Porter-Cologne by holding out *everything* they do in their municipal storm water permits as 'within' or 'necessary to comply with' the MEP standard. In exercising the broad discretion to determine what constitutes MEP under the Clean Water Act, the Regional Board must comply with Porter-Cologne, including the consideration of the factors in section 13241, as determined to be appropriate by EPA when it approved delegation of permitting and enforcement authority to the State of California. Further, in the case of stormwater permits, there is nothing in state or applicable federal law that prevents the Regional Boards from considering costs or other section 13241 factors in determining those permit requirements and pollutant restrictions that are necessary to *meet* the MEP standard, particularly because federal and state law provide broad discretion to the

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		Regional Boards to undertake this task along with guidance in Cal. Water Code Section 13241 and 13263 with respect to accomplishing it. See, *City of Burbank v. State Water Resources Control Board,* supra, 35 Cal. 4th at pp. 613, and 628 ("The states are free to manage their own water quality programs so long as they do not compromise the federal clean water standards"). *Cf.* 33 U.S.C. § 1311(a); 33 U.S.C. § 1342(p). A prohibition that precludes consideration of costs in establishing MEP would be a particularly nonsensical prohibition, because the very definition of MEP - a technology-based standard - mandates consideration of cost and economics. SWRCB Order WQ 2000-11 at p. 20; *Building Industry Ass'n., supra*, 124 Cal. App. 4th at p. 883. [3] In issuing the Tentative Order, the Regional Board has stated that it is not required to, and has not fully considered the requirements proposed pursuant to Section 13241. This position is not tenable in light of the broad discretion the Board has to determine what constitutes MEP under federal law, and the direction that state law gives the Regional Boards for exercising that discretion. Given the breadth of the Board's delegated discretion, the Board cannot fairly argue that it lacks the discretion to apply and reconcile the six specific balancing factors which the California Legislature carefully prescribed in Water Code section 13241 when determining what controls are necessary to comply with MEP. Accordingly, BILD and BIAOC individually call out in the comments below many specific aspects of the Tentative Order, which reflect the Board's failure follow Porter-Cologne in determining permit requirements that constitute MEP. • **Comment: The Balancing Requirements of Section 13241 Are Not Preempted by the Federal Clean Water Act.** Recent California case law creates some confusion about whether the MEP standard is itself "preemptive" so as to

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		nullify a Regional Board's state-law obligation to undertake the Section 13241 balancing. The confusion is reflected particularly in two recent cases, *City of Burbank* and *City of Rancho Cucamonga*. In *City of Burbank v. State Water Resources Control Board*, 35 Cal.4th 613 (2005), the California Supreme Court ruled that the state and regional agencies responsible for regulating state water quality (*e.g.*, the Board) must comply with Porter-Cologne – including the need to balance the Section 13241 factors – to the extent the agencies impose terms or restrictions that "exceed the requirements of the Clean Water Act." *Id*. at p. 627. In doing so, the Court concluded that the record before it was insufficiently developed for it to determine whether the permit conditions at issue there exceeded the requirements of the Clean Water Act. *Id*. at p. 628. In addressing the confusion regarding preemption of balancing, two preliminary notes are important. First, while confusion exists in recent cases, it has long been settled that the question of whether federal preemption exists is a question of law - not of fact. *See, e.g., Industrial Trucking Association v. Henry*, 125 F.3d 1305, 1309 (9th Cir. 1997), citing *Inland Empire Chapter of Associated Gen. Contractors v. Dear,* 77 F.3d 296, 299 (9th Cir. 1996) and *Aloha Airlines, Inc. v. Ahue,* 12 F.3d 1498, 1500 (9th Cir. 1993). *Bammerlin v. Navistar International Transportation Corp.*, 30 F.3d 898, 901 (7th Cir. 1994). Second, the burden of demonstrating to a court that federal preemption rests with the agency asserting the preemption. Preemption is an affirmative defense. *See Bronco Wine Co. v. Jolly*, 33 Cal.4th 943, 956-57 (2004); *United States v. Skinna,* 931 F.2d 530, 533 (9th Cir. 1990). Therefore, a Regional Board asserting that federal law preempts the application of the Porter-Cologne Act's balancing requirements in exercising

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		discretion to establish requirements that meet a federally mandated technology – based standard would itself bear the burden of demonstrating, as a matter of law, that actions required of the Board under state law are preempted by federal law. Accordingly, under a proper interpretation of preemption rules, the Regional Board faces an uphill battle procedurally to establish federal preemption. Substantive rules regarding finding preemption also must be considered. Second, the Supreme Court of the United States has opined that courts should always attempt to reconcile the clash of laws to *avoid preemption. See Merrill Lynch, Pierce, Fenner & Smith v. Ware*, 414 U.S. 117, 127 (1973); *see also Rice v. Norman Williams Co*., 458 U.S. 654, 659 (1982) ("[T]he inquiry is whether there exists an *irreconcilable conflict* between the federal and state regulatory schemes.") (emphasis added). Both state and federal courts generally recognize a presumption against preemption, even when there is express preemptive language, and there is a strong presumption against preemption or displacement of state laws. *See Washington Mutual Bank, FA v. Superior Court*, 75 Cal.App.4th 773, (1999) *citing Cipollone v. Liggett Group, Inc*., 505 U.S. 504, 523 (1992) and *Medtronic, Inc. v. Lohr*, 518 U.S. 470, 485 (1996). In the absence of express federal preemptive language, the presumption against preemption is even stronger: if preemption is not express, the federal statute must clearly indicate that Congress 'left no room' for supplementary state regulation. *Hillsborough County v. Automated Medical Labs*, 471 U.S. 707, 713 (1985). In light of these well-settled principles, despite the confusion of recent cases, the Regional Board cannot reasonably argue that the federal regulatory scheme at issue here preempts adherence to Cal. Water Code section 13241 balancing factors. First, there is no express federal preemption here that would

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		negate Section 13241 balancing. Accordingly, if preemption exists, it must be implied – and overcome the strong presumption against it. Second, it cannot be fairly argued that the federal regulatory scheme at issue here "left no room" for supplementary state regulation. To the contrary, the federal regulatory scheme here elevates the state agencies acting under Porter-Cologne to the level of the primary governmental actor, and EPA via its delegation has authorized the State to carry out its federal water quality duties *by following* Porter-Cologne, including Section 13241. Finally, as discussed in the Comment above, the Regional Board enjoys broad discretion under federal law to apply the Cal. Water Code section 13241 balancing factors (as mandated by the California Legislature) consistent with the requirement to issue stormwater permits controlling pollution to the MEP and pursuant to the broad delegation of authority from EPA that the Regional Board enjoys. Because determination of permit requirements that comply with MEP does not preempt Section 13241 balancing, the Regional Board should, but has not, considered the factors under Section 13241 in determining appropriate permit standards and requirements for inclusion in the Tentative Order.
13. The MEP Determinations Are Arbitrary and Not Supported by Sufficient Evidence. *Improper, arbitrary and capricious*	The Technical Report discussing Finding D.1. a. notes that MEP requires the use of the most effective BMPs available ***that are not cost prohibitive***. "Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will	• **Comment:** Because the Regional Board has failed, to date, to conduct or document the proper analysis of proposed WDRs and permit requirements set forth in the *Tentative Order,* as required to properly implement the federal MEP standard in issuing the permit, numerous provisions in the *Tentative Order* are not reasonably designed to control pollutants in discharges to the MEP as circumspectly defined. As discussed above, the Regional Board must consider the WDRs and permits requirements of the *Tentative Order* in light of all of the factors set forth in Cal. Water Code §§ 13263 and 13241, including but not limited to costs

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exercise of discretion. *Failure to follow State and federal law requirements in exercising permitting authority.* *Results in improper determination of MEP.*	serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibited." Technical Report Discussion of Finding D.1.a., at p. 34. See also, *Tentative Order,* Attachment C, at p. C-5. However, in developing the *Tentative Order*, the RWQCB has failed properly determine requirements that constitute MEP by failing to evaluate the proposed requirements of the *Tentative Order* in light of appropriate factors. Specifically, the RWQCB has failed to consider: 1. ***Cost***: Will the cost of implementing the Permit requirements have a reasonable relationship to the pollution control benefits to be achieved? 2. ***Technical Feasibility***: Are the Permit requirements technically feasible to comply with, considering	and natural baseline conditions, to determine WDRs and permit requirements that constitute regulation of discharges to the MEP. The Regional Board has failed to consider the *Tentative Order* provisions in light of Cal. Water Code § 13241 factors, as discussed above, and further, has failed to consider the *Tentative Order* provisions in light of the definition of MEP, as established by case law, and in light of other factors determined by the State Board to be appropriate to evaluating achievement of MEP. As a result, many of the current provisions of the *Tentative Order* do not comport with appropriate legal parameters that circumscribe MEP. Pursuant to case law and administrative determinations, MEP is a technology-based standard established by CWA § 1342(p)(3)(B)(iii). *Building Industry Ass'n. of San Diego County v. State Water Resources Control* Board, 124 Cal. App. 4th 866, 889 (4th Dist. 2004). MEP is a highly flexible concept that depends on balancing numerous factors, including the technical feasibility, cost, public acceptance, regulatory compliance and effectiveness of the controls mandated by the Permit designed to achieve that technology-based standard. Id. MEP generally emphasizes pollution prevention and source control BMPs (as a first line of defense), in combination with treatment BMPs (as a second line of defense). *Id.* MEP considers economics, and is generally less stringent than BAT, which is an acronym for "best *available* technology economically achievable." *Id.* MEP does not require that all *possible* water quality controls are implemented. *Id.* The State Board has also issued a guidance memorandum addressing the factors that should be considered in determining whether permit standards and/or compliance actions achieve the MEP standard. This guidance provides: "To achieve the MEP standard, municipalities must employ" [and therefore

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	soils, geography, water resources, etc. 3. **Public Acceptance:** Do the Permit requirements have Public support.	MS4 Permits should be designed to require,] "whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means [devising an MS4 Permit to require] choosing effective BMPs and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or BMPs would not be technically feasible, or the cost would be prohibitive." State Water Resources Control Board Memorandum, entitled "Definition of Maximum Extent Practicable," prepared by Elizabeth Jennings, Senior Staff Counsel, February 11, 1993; parenthetical added. To ascertain requirements necessary to achieve the MEP standard, the State Board recommends consideration of several factors, including, *inter alia*: • Effectiveness: Will BMPs address a pollutant of concern? • Public Acceptance: Does the BMP have public support? • Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved? • Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc.? *Id.* Accordingly, issuance by the Regional Board of WDRs and permit conditions that are reasonably designed to achieve MEP as required by Cal. Water Code §§ 13263, 13377 and Clean Water Act §1342(p)(3) requires that the Regional Board identify and incorporate standards and conditions into municipal permits that will result in Copermittee implementation of source and treatment control BMPs, that are, among other things: (i) available, (ii) effective to control pollutants of

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		concern, (iii) technologically feasible, (iv) not cost-prohibitive, and (v) the cost of which is reasonably related to pollution control achieved. In establishing the WDRs and permit requirements, many of the provisions set forth in the *Tentative Order* do not currently comport with a proper interpretation of MEP, and thus do not comply with either state or federal law. As explained in greater detail in the *Geosyntec Memo* and the Regional Board has failed to expressly and explicitly conduct a proper evaluation of *Tentative Order* requirements to the extent that the provisions Our concerns about the Tentative Order are summarized as follows: ❖ Require implementation of technologies that are not currently available (*e.g.*:(1) provisions requiring municipalities to physically exclude stormwater discharges from entering MS4 systems (see Item 2 above); (2) provisions requiring municipalities to develop technologies to comply with receiving water quality standards, even after all measures constituting MEP have been employed via an iterative process (See Item 10 above); (3) mandated use of Advanced Sediment Treatment for all construction sites regardless of size (no minimum acreage) (*Tentative Order* § D.2.3.(1)(c); ❖ Are not designed to consistently result in effective water quality benefits (*e.g.* (1), application of site design BMPs and buffer zones for all infill and redevelopment projects, regardless of relevant subwatershed conditions, including receiving water geomorphological conditions (*Tentative Order*, §§ D.1.c(2) and (3)); (2) pretreatment requirements before stormwater is discharged into treatment BMPs using infiltration processes (*Tentative Order*, § D.1.c (6); (3) "one-size-fits all" application of site design BMPs for

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		all Priority Development Projects, including infill and redevelopment, at the project scale, rather than at the subwatershed or watershed planning scale ((*Tentative Order*, § D.1.d(4);(4) interim hydromodification control requirements mandating hydrograph matching, infiltration and buffer zones regardless of existing site, soils and channel conditions for all project 20 acres and greater D.1.h.(5)) ❖ Are technically infeasible, unrealistic or too stringent to implement using BMPs (*e.g.:*,(1) pretreatment requirements before stormwater is discharged into treatment BMPs using infiltration processes (*Tentative Order*, § D.1.c (6); (2) application within 3 years from the adoption of the *Tentative Order* of all SUSMP requirements to all development and redevelopment projects disturbing 1 acre or more of land (*Tentative Order*, § D.1d.(1)(c)); (3) "one-size-fits all" application of site design BMPs for all Priority Development Projects, including infill and redevelopment, at the project scale, rather than at the subwatershed or watershed planning scale ((*Tentative Order*, § D.1.d(4); (4) interim hydromodification control requirements mandating hydrograph matching, infiltration and buffer zones regardless of existing site, soils, and channel conditions for all project 20 acres and greater (*Tentative Order* § D.1.h.(5)); (5) mandated use of Advanced Sediment Treatment for all construction sites regardless of size (no minimum acreage) (*Tentative Order* § D.2.3.(1)(c)); ❖ The cost would exceed the water quality benefit of implementation (*e.g.:*.(1) application of site design BMPs and buffer zones for all

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		infill and redevelopment projects, regardless of relevant subwatershed conditions, including receiving water geomorphological conditions (*Tentative Order*, §§ D.1.c (2) and (3)); (2) application within 3 years from the adoption of the *Tentative Order* of all SUSMP requirements to all development and redevelopment projects disturbing 1 acre or more of land (*Tentative Order*, § D.1d.(1)(c)); (3) "one-size-fits all" application of site design BMPs for all Priority Development Projects, including infill and redevelopment, at the project scale, rather than at the subwatershed or watershed planning scale (*Tentative Order*, § D.1.d(4)) ; (4) requirement to size and design treatment control BMPs landscaped areas, when infiltration in landscaping can be a BMP (*Tentative Order* § D.1.d.6(b)); (5) interim hydromodification control requirements mandating infiltration, hydrograph matching, buffer zones regardless of existing site, soils or channel conditions for all project 20 acres and greater (*Tentative Order* § D.1.h.(5)); (6) mandated use of Advanced Sediment Treatment for all construction sites regardless of size (no minimum acreage) (*Tentative Order* § D.2.3.(1)(c); 40 C.F.R. §122)
14. Pollution Source Reduction is laudable, but RWQCB exceeds its jurisdiction by regulating inflows, and	While we agree with Finding §D.1.e, that "pollutants can be effective reduced in urban runoff by a combination of pollution prevention, source control, and BMPs, the RWQCB must take care not to over-reach the extent of its jurisdiction by	• **Comment:** Although CWA § 402(p)(3) encourages control of illicit and non-stormwater discharges into MS4s, the point of regulation is the discharge ***from*** storm drains. (See discussion and legal analysis in Item 1 above). • **Comment:** We agree with Regional Board's conclusion that source controls are necessary to effectively reduce pollutant discharges. However we do not agree with the conclusions of Finding § D.1.e and the Technical Report discussion

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should avoid discouraging proper use of "end-of-pipe" controls. *Exceeds legal authority* *Findings are not supported by sufficient evidence.* *Results in improper determination MEP.*	regulating discharges "into" MS4s. *Tentative Order* Findings §§ D.1.e., D.1.b, regional and shared BMPs and related discussions at Technical Report p 39-42. In addition, the conclusion in Finding § D.1.c. Technical Report Discussion that studies cited demonstrate that "[t]reatment at MS4 outfalls for pollutants that have already been discharged into MS4s is generally unlikely to redress pollutant concentration to levels that would support water quality objectives," is not applicable to the types of treatment control BMPs concurrently in use in South Orange County. See Item 8 and15 below.	thereof. When considered in light of Findings §§ D.3.b. (S*ee* Items 1 & 2 above) and § D.2.b (*See* Item 15 below) and the Technical Report discussions of them, the Regional Board's position is that "end-of-pipe" BMPs can never effectively control water quality at the outfall. This conclusion is inaccurate, not supported by sufficient evidence, and undermines the regulated parties ability to implement shared BMPs and/or WQMPs (called SUSMPs in the *Tentative Order*) that incorporate a combination of source control and end-of-pipe or shared treatment control BMPs. Due to the effectiveness of certain end-of-pipe or shared BMPs, the inaccurate conclusion results in poor water quality policy. • **Comment:** d is not supported by sufficient evidence. In fact, studies indicate that a combination of source control and treatment control BMPs, including end-of-pipe BMPs can be the most effective water quality control strategy for urban development, providing a 'treatment train' effect when implemented.
15. Proposed BMPs do not provide for alternative approaches employing subwatershed and watershed level	While we agree with the Regional Board's statement in *Tentative Order* Finding § D.2.b. that it is important to control urban runoff by a combination of onsite source control and Low Impact Development ("LID") site design BMPs augmented with	• **Comment:** Federal law recognizes and authorizes "end-of-pipe" treatment of stormwater. • **Comment*:*** The *Tentative Order*'s conclusions regarding inefficacy of subregional, and "end-of-pipe", regional or shared BMPs are not supported by sufficient evidence, and they improperly discourage or eliminate the use of such BMPs despite the fact they are very effective tools in controlling urban runoff

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hydrologic, geomorphic and aquatic resource protection planning principles. *Exceeds legal authority* *Findings are not supported by sufficient evidence.* *Denies Due Process* *Results in improper determination MEP.*	treatment control BMPs, the conclusion that all of these BMPs must be implemented *before* the runoff enters the MS4 is not justified. *Tentative Order* Finding § D.(2).(b). p. 9, and Technical Report pp. at 47-48. Further, the conclusions of Finding § D.(2).(b) and the Technical Report discussion that end-of-pipe regional, or shared BMPs are generally ineffective and incapable of capturing and treating a wide range of storm events and pollutants is not supported by sufficient evidence. See *Geosyntec Memo* pp 5-7, 9.	water quality. *Geosyntec Memo* at pp. 5-7. The San Joaquin Marsh water quality wetlands water quality treatment program is a prime example of a regional treatment system designed to handle flows from existing development at the "end of the pipe." The treats stormwater flows from San Diego Creek immediately before they enter Upper Newport Bay. • **Comment*:*** The efficacy of shared or regional BMPs is explicitly recognized by the State Board. SWRCB Order WQ 2001-15. *See generally* State Water Resources Control Board- California Coastal Commission ("SWRCB-CCC"), *Nonpoint Source Program Strategy and Implementation Plan, 1998-2013 (PROSIP)*, SWRCB-CCC, Non Point Source-Coastal Zone Act Reauthorization Act (NPS-CZARA) Program, Fact Sheet 6. Further, the Environmental Protection Agency ("EPA") has also recognized the efficacy of creating and developing wetlands as BMPs. *See generally,* EPA NPS-CZARA guidance: http://www.epa.gov/owow/nps; http://www.epa.gov/OWOW/wetlands/facts/fact25.html; and http://www.epa.gov/owow/wetlands. In view of the acceptance by both the State Board and EPA of the value of such BMPS, it is inappropriate for the Regional Board to discourage or prevent subregional storm water mitigation planning in the *Tentative Order*. • **Comment:** Finding § D.(2).(b) and the related Technical Report discussion concludes that end-of-pipe treatment BMPs are ineffective for several reasons, many of those conclusions, including the following, are not supported by sufficient evidence because they do not take into account the types of treatment control BMPs being implemented in Orange County, the range of treatment control BMPs available, or the overall water quality control strategy , combining source control

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		and regional end-of-pipe BMPs, used in the region governed by the Tentative Order**:** 1) The Finding and Technical Report discussion assert end-of-pipe BMPs are ineffective because they do not capture and treat pollutants during significant storm events. However, the Finding and Technical Report discussion do not take into account that ***all*** structural BMPs are effective only for the design storm event they are constructed to address. All structural treatment control BMPs have limited capacity, whether deployed end-of-pipe or prior-to-pipe will not change the structural BMP capacity, which is determined by the sizing criteria set forth in the *Tentative Order*. While structural BMPs should be accompanied by source control and site design BMPs, the current MS4 Permit and Drainage Area Management Plan ("DAMP") do not preclude, prevent or discourage the use of end-of-pipe BMPs. The Finding and Technical Report discussion conclude that end-of-pipe BMPs do not have the ability to treat the same range of pollutants that onsite treatment control BMPs can treat. End-of-pipe structural BMPs have the ability to treat the same range of pollutants as pre-MS4 structural BMPs depending on this type of treatment control BMP chosen. The range of pollutants treated is determined primarily by the BMP chosen, not its location. Because different BMPs treat different pollutants of concern ("POCs" with different levels of efficiacy, a range of BMPs must be used as required by the current DAMP and MS4 Permit, but the location of their deployment does not primarily affect treatment efficacy. The combination of BMPs chosen does. 3) The Finding and Technical Report discussion conclude that end-of-pipe BMPs are not desired because they do not effectively educate the public

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		regarding water quality control. While we agree that the success of source minimization depends upon effective public education, appropriate use of offsite or end-of-pipe treatment control BMPs does not preclude public education. In fact, naturalization treatment BMPs, like the Natural Treatment System and San Joaquin Marsh present extensive public education materials. See *Geosyntec Memo*, pp 7-8, and http://nrs.ucop.edu/San-Joaquin-Marsh.htm. Moreover, the use of offsite shared or regional end-of-pipe BMPs does not exempt projects or municipalities from requirements to implement source controls or provide pubic education. • **Comment:** Several Regional shared or end-of-pipe BMPs implemented in Orange County, including the San Joaquin March, the San Diego Creek Sediment Basins, and the Natural Treatment System, have been an effective and useful component of the Copermittees water quality programs. See *Geosyntec Memo* pp 7-8. • **Comment:** To properly allow and encourage watershed planning, this Finding and its implementing provisions must be amended to recognize the water quality and educational value of subregional and regional, offsite and/or end-of-pipe treatment BMPs like those implemented in Orange County. The value of these BMPs is significant when they are implemented in combination with other source controls, consistent with current DAMP guidance and MS4 Permit requirements.
16. Mandatory BMPs and counter-productive site design and treatment control provisions reduce	The *Tentative Order* fails to allow consideration of relative resource values when mandating site design and treatment control policies. *Tentative Order* §§ D.1.(d)(1)(c)(3);	• **Comment:** Although the *Tentative Order* places considerable emphasis on hydrologic conditions of concern and watershed planning, many of the project-specific site design BMPs and treatment control BMPs fail to allow evaluation of site-specific factors to determine appropriate BMPs for implementation. This

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environmental benefit that could otherwise be achieved with watershed and sub-watershed planning efforts. *Poor Policy* *Results in improper determination MEP*	D.1.(d)(1)(c)(6); D.1.d(4), at p. 26; D.1.d(6)(c) at p. 28; D.1.d(9),at p. 31; Technical Report at pp. 34-73. In addition, the *Tentative Order* precludes restoration of habitat, water quality and infiltration values in jurisdictional waters exhibiting low function and value. *Tentative Order* § 26-29. The combination of these provisions prevents maximization of water quality benefit, and is therefore poor policy and contrary to legal principles supporting watershed planning.	failure will result in counter-productive site design and treatment control decisions. Watershed and aquatic resource planning statutes and regulations and associated planning guidelines provide regulatory and planning guidance defining factors conditions and factors must be evaluated in preparing watershed plans e.g., Corps 404(b)(1) Guidelines specifically addressing water quality, the SAMP Tenets for the Southern Orange County SAMP, The Southern HCP advisors reserve design tenet focusing on hydrologic/geologic planning principles, the Southern Orange County SAMP/HCP Watershed and Sub-Watershed Planning Principles]. Contrary to these principles, thee Regional Board has failed to allow for evaluation of several of these critical factors in implementing site design and treatment control decisions, which will undermine watershed planning efforts and will lead to results contrary to long-term water quality benefit and sustained hydrologic conditions necessary to support aquatic systems. Examples factors that the *Tentative Order* should specifically provide may be considered include: 1. <u>Soils/Terrains Differences</u> - Runoff/infiltration characteristics of sandy soils as contrasted with clayey soils are dramatically different. Sandy soils are extremely important to infiltration of stormwater runoff and serve as a source of coarse sediments beneficial to aquatic systems and beach sand. To the extent feasible, development should be sited away from sandy soils. In contrast, stormwater runoff is generally rapid from clayey soils and clayey soils generate fine sediments that do not benefit aquatic systems and beach sand replenishment. In many areas, it may be much more beneficial, from a sub-watershed and watershed perspective to actually concentrate development at higher densities

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		in clayey soils and hardpan and avoid sandy soils – in other words, in some circumstances more impervious surface is better than less. Evaluation of these considerations, which are critical to protection of water quality, are not permitted when site design BMPs are mandated for all Priority Development projects at a project-by-project scale. 2. Infiltration and Treatment of Runoff – Given the hilly terrain of Southern Orange County, vast areas qualify as Waters of the U.S. and Waters of the State. The prohibition on the use of any area that is considered Waters of the U.S. and Waters of the State (regardless of low resource value and permission for fill pursuant to CWA Section 404 permits and Section 401 water quality certifications) will preclude riparian and wetland restoration efforts, and the creation/restoration of chemical, biological and physical integrity of waters of the United States pursuant to CWA §404; 40 C.F.R. §122 via restoration of vegetation, water quality wetlands and infiltration functions and values in locations where they can be most effectively accomplished. The goal of achieving the most effective wetland, riparian, water quality treatment and infiltration prior to discharging runoff to mainstem creeks and wetlands cannot be achieved under the *Tentative Order* due to its prohibitions against siting water quality wetlands, restoration projects and similar projects with "treatment control" benefits in any area meeting broad jurisdictional standards notwithstanding a lack of resource values. 3. Buffers –The Tentative Order requirements for buffers should take into account the geographic sc ale at which the project is proposed

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		and the value of the drainages that may be present on sige. *Geosyntec Memo*, at p. 10. In addition, Copermittees must have flexibility to consider watershed and resource planning principles in determining whether and where buffers might be appropriate. *Geosyntec Memo*, at p. 10. This is particularily true where large-scale planning watershed and conservation planning has taken place within the framework of state and federal aquatic resource protection programs, as it has in South Orange County, buffers should be defined by the areas selected for inclusion in habitat reserves rather than continuing to apply buffer criteria on a project-by-project basis.
17. Certain *Tentative Order* LID requirements are inflexible "one-size fits all" requirements *Improper and an abuse of discretion.* *Failure to follow State and federal law requirements in exercising permitting authority.*	The *Tentative Order* includes requirements for municipalities to mandate that all Priority Developments Project implement certain LID site design BMPs. *Tentative Order,* Finding §D.2.c Technical Report, at pp. 48-49; *Tentative Order* §D.1.d(4).. As presently included in the *Tentative Order*, certain LID requirements are inflexible, applied on a project-by-project basis, at an improper scale, and without regard to need or efficacy in light or watershed planning, and CWA Section 404 permits and Section 401	• **Comment:** There is no sufficient evidence supporting the assertion that small scale (rather than sub-watershed or watershed scale) infiltration or application of LID practices is necessary to avoid degradation and prevent water quality and hydromodification impacts. In fact, those conclusions are contrary to the conclusions of *Coleman, Derrick et al. 2005, Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams*, Technical Report No. 450 of the Southern California Coastal Waters Research Project (SCCWRP Study)), the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2005 Hydromodification Plan (SCVURPPP HMP), and other scientific literature. See *Geosyntec Memo* at pp. 1-3; 7-9. Further, there is no evidence that LID techniques applied on a project-by-project basis to even the smallest projects (in three years, all project disturbing 1 acre will be Priority Development Projects) are more effective for controlling hydromodification impacts than the implementation of IWRM strategies or vegetated regional BMPs. There is evidence that LID alone cannot fully mitigate hydromodification impacts,

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Results in improper determination MEP.	water quality certifications. See also, Findings §§ D.3.b; D.3.c; D.3.d; D.3.f. Technical Report at pp. 53-55; § D.1.d.(4).	particularly when applied to very small, infill and redevelopment projects that discharge to hardened or substantially degraded channels, and/or which are located in largely impervious sub-watersheds. See *Geosyntec Memo* at pp. 1-3; 7-9. • **Comment:** There is no evidence or discussion of the water quality benefits that will result from project-by-project, very small scale application of LID requirements. In fact, these requirements may actually preclude certain storm water conservation and reuse BMP. In many circumstances, the LID requirements would be contrary to implementing smart growth principles, which would concentrate development in already impervious areas, when viewed on the watershed scale. Similarly it precludes siting development in more impervious soils. Finally, it would prevent regional BMP solutions that benefit existing untreated development storm water. In circumstances where sites discharge to waterbodies that are not subject to destabilization (concrete channels, large lakes, bays estuaries), these measures will provide only a very small incremental water quality benefit, and will therefore not be cost effective. At the same time, there are extraordinary costs associated with these requirements. According to work done in San Diego, the additional costs associated with imposition of stringent LID requirements on a lot-by-lot basis for Priority infill and redevelopment projects with land constraints, particularly when combined with application of the other hydromodification standards set forth in the *Draft Permit,* results in significant land-take, and can result in costs averaging $30,000 to $50,000 per lot, for those projects where implementation of the standards is even technically feasible. For many types of projects, the application of standardized LID and other hydromodification control requirements will be technically infeasible based on local soils conditions, infiltration restrictions, groundwater conditions and similar

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		physical parameters. • **Comment:** The bias in the *Tentative Order* provisions against regional application of volume reduction BMPs eliminates tools that should be available to Copermittees and project applicants to address hydromodification control. • **Comment:** Stringent application of LID principles on a lot-by-lot scale are technically infeasible for a variety of sites, including small new development infill sites, most redevelopment sites, and sites with high groundwater, or contaminated groundwater that should not be impacted. • **Comment:** The *Tentative Order* LID requirements are technically infeasible, are not cost effective, and/or are ineffective in controlling water quality and hydromodification impacts, for the reasons outlined in the *Geosyntec Memo* at pp. 1-3; 7-9. Therefore, these requirements constitute an improper application of MEP, are arbitrary, and violate Cal. Water Code § 13263(a), which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment:** The balancing of these provisions in light of the Cal. Water Code section 13241 and State Board recommended factors in properly determining the MEP standard is especially critical with respect to standardized Site Design BMP, LID and hydromodification requirements, which would apply on a 'one-size fits all' basis throughout the South Orange County region. *See* Cal. Water Code § 13241(b) ("Environmental characteristics of the hydrographic unit under consideration…"). Failure to engage in such balancing, which takes into account local conditions, including the need for housing and economic considerations and

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		the degree to which a particular development constitutes infill and therefore is consistent with LID at a watershed scale, violates the state and federal provisions applicable to the Regional Boards exercise of permitting authority under its federally delegated powers. • **Comment:** Application of LID to small Priority redevelopment projects is poor policy because (1) it will discourage infill because in many situations the requirements will not be capable of being met without reserving a great deal of project site area in newly created open space, (2) the costs of implementation will not provide significant water quality benefit since most redevelopment and infill sites will discharge to already concrete flood control channels and/or are located in substantially built-out and impervious watersheds, and (3) lot-by-lot application of the requirements prevents adoption of IWRM and other more regional solutions that would better benefit water quality, particularly in the context of redevelopment, by providing some volume reduction BMPs for existing development that isn't served by BMPs. There are some types of LID techniques that can be implemented on small sites, such as planter boxes; however, for many redevelopment projects meeting a broad mandate to incorporate significant site design and LID practices will be technically and/or economically infeasible. Further, improving water quality of runoff from one lot that is being redeveloped will not substantially improve overall water quality unless the adjacent lots are also redeveloped. And so in this case, lot-by-lot imposition of these requirements do not make policy sense and do not result in substantial water quality improvements, but will result in substantial compliance costs. • **Comment:** The *Tentative Order* should be revised to limit application of LID Site Design BMP requirements to projects of sufficient size, and with acceptable

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		site and groundwater conditions to allow for feasible and beneficial implementation of site design BMPs and LID technologies. Further, LID/Site Design requirements should be implemented at the planning and sub-watershed planning scale, and not on a lot-by-lot basis, and the bias against regional volume and treatment control BMPs should be eliminated from the *Tentative Order*. In addition to these revisions, we recommend replacing the LID and other hydromodification control standards proposed in the *Tentative Order* with the hydromodification control approach recommended in the *Geosyntec Memo* at pp. 1-3, 7-9,12-17. . *See* summary description of potentially appropriate hydromodification control approach as recommended by Geosyntec in Item 19 below.
18. Hydro-modification control assessments, strategy and criteria should be complete before implementation is mandated. *Premature mandatory compliance results in an abuse of discretion and improper determination of MEP.*	The *Tentative Order* Contains several provisions related to Site Design BMPs, infiltration of runoff, and hydromodification control, which create confusion in implementation. *Tentative Order* §§ D.1.h (1)-(4) appear to set forth requirements for Copermittees to follow in preparing a hydromodification control study to guide development of hydromodification criteria, which must be incorporated into an update of the DAMP and local Copermittee Model WQMPs, within 2 years of Permit adoption. It appears	• **Comment***:* The timing for compliance with the hydromodification requirements is unclear, and improper timing of mandatory compliance with hydromodification control measures will result in application of mandates for technically infeasible and cost-ineffective controls. .*Tentative Order* §§ D.1.h (1) – (4) should be clarified to expressly state that Copermittees are to comply with *Tentative Order* §§ D.1.h (1)-(3) in developing the hydromodification management strategy and criteria to be incorporated into the DAMP and the Model WQMPs within 2 years of Permit adoption pursuant to *Tentative Order* §§D.1.h(4). On the flipside, the *Tentative Order* should also be revised to clarify that compliance with *Tentative Order* §D.1.h.(3) is required as set forth in § D.1.h.(4), and in no event is required prior to the assessments mandated by §§ D.1.h.(1) and (2). Absent that clarification, it appears that compliance with hydromodification control requirements may be mandated before the work can be done to properly develop hydromodification strategies that are appropriate in light of the Copermittees' assessment of geomorphological conditions of receiving waters, pre- and post-development runoff characteristics for various subwatersheds, and other factors

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Failure to follow State and federal law requirements in exercising permitting authority.	Copermittees are required to comply with these provisions by conducting assessments of factors relevant to hydromodification control, then developing and a hydromodification control strategy and criteria within 2 years of Permit adoption. With some adjustments (*See* Item 18) such an approach would comply with MEP. However, mandated compliance with certain hydromodification control measures prior to completion of the contemplated hydromodification control assessments and preparation of a strategy and related control criteria would result in mandatory hydromodification control requirements that would be technically infeasible, and cost ineffective.	pertinent to hydromodification control. If the Regional Board requires immediate compliance with hydromodification standards without first giving proper consideration to relevant factors, this action would be inconsistent with the conclusions and recommendation of the technical studies cited in the Technical Report (*e.g.,* at pp. 28-32). Such premature mandated compliance would be an abuse of discretion and violate Cal. Water §13263(a), which mandates that waste discharge requirements (WDRs) shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. See Item 17 below. • **Comment:** Mandating implementation of hydromodification control measures on a project-by-project basis under *Tentative Order* §D.1.h.(3) before the assessments mandated by §§ D.1.h.(1) and (2) are completed would also result in mandatory hydromodification measures for all Priority Development projects (resulting in an increase of only 5,000 square feet of impervious surface or more), even when such measures are (1) technically infeasible due to inappropriate soils or groundwater characteristics, or (2) not cost effective, in light of small incremental water quality benefit to be attained given in-channel conditions or tributary catchment runoff characteristics. As a result, such an interpretation would be inconsistent with a proper determination of MEP, and out of compliance with applicable State and federal law and guidance. *See* Items 12 and 13 above. • **Comment:** Mandating implementation of hydromodification control measures on a project-by-project basis under *Tentative Order* §D.1.h.(3) before the assessments mandated by §§ D.1.h.(1) and (2) are completed would result in a "one-size-fits all" approach to hydromodification control, As such, that interpretation of the *Tentative Order* would be inconsistent with the recommendations of the scientific community, which generally advocate an

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		approach to hydromodification control that involves appropriate assessment and evaluation of locate factors pertinent to channel destablization at a sub-watershed or watershed level, including amount of impervious surface in a tributary catchment area, soils characteristic, runoff characteristics, channel characteristics and project size. [*e.g., see* Southern Orange County SAMP/HCP Watershed Planning Principles] See *Geosyntech Memo* at pp. 1-3, 7-9, 12-15. • **Comment:** Clarification of the *Tentative Order* to assure completion of studies assessing relevant factors would be consistent with the approach advocated by the scientific community, (including *Coleman, Derrick et al. 2005,* Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams, Technical Report No. 450 of the Southern California Coastal Watersheds Research Project (SCCWRP Study)), and used in the development of the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2005 Hydromodification Plan (SCVURPPP HMP). With some modification with respect to scale of implementation when developed (*See* Item 18 below), the preparation of hydromodification assessments and resulting strategies and control criteria is the scientifically supported approach for the *Tentative Order* to take in regulating hydromodification impacts, and, with some adjustments, complies with a proper determination of MEP.
19. Mandatory Interim Hydromodification Requirements are not consistent with the scientifically	*Tentative Order* § D.1.h (5) sets forth interim criteria for hydromodification control measures that must be adopted within 180 days of Permit adoption and applied to every Priority Development Project greater than 20	• **Comment:** Compliance with interim hydromodification standards is required within 180 days of Permit adoption. That period is not sufficient to conduct watershed and sub-watershed scale assessments of conditions and factors pertinent to technically feasible and cost-effective hydromodification control measures as recommended by the scientific literature cited and discussed in the Technical Report. As a result, develop appropriate and protective water quality control

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recommended approach to hydromodification control. *Abuse of discretion and improper determination of MEP.* *Failure to follow State and federal law requirements in exercising permitting authority.*	acres, prior to conducting, and without the benefit of the information to be developed and assessed in the hydromodification control study. These requirements include implementation of four mandatory control measures, regardless of site conditions, runoff conditions, or in-channel geomorphological conditions, including the following: ❖ Disconnect impervious areas from the drainage network and adjacent impervious areas regardless of soils or groundwater conditions ("DCIA requirements") ❖ Control runoff through hydrograph matching for a range of return period from 1 year to 10 years ("Hydrograph Matching Requirements") ❖ Establish buffer zones and setbacks for channel movement ("Buffer Requirements") *Tentative Order* § D.1.h (5)	measures are arbitrary and capricious and in violation of Cal. Water §13263(a), which mandates that waste discharge requirements (WDRs) shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment**: Mandating implementation of hydromodification control measures on a project-by-project basis under *Tentative Order* §D.1.h.(5) without allowing for assessment of pertinent to technically feasible and cost-effect hydromodification control measures as recommended by the scientific literature results in "on-size fits all" mandatory disconnection of impervious surface for all Priority Development projects (resulting in an increase of only 5,000 square feet of impervious surface or more), even when such measures are (1) technically infeasible due to inappropriate soils or groundwater characteristics, or (2) not cost effective, in light of small incremental water quality benefit to be attained given in-channel conditions or tributary catchment runoff characteristics. Similarly, all Priority Development Projects must implement buffer zones and setbacks for channel movement, regardless of in-stream channel conditions (*e.g.*, even when the channel is hardened and buffers are not required for "movement"). As a result, such an interpretation would be inconsistent with a proper determination of MEP, and out of compliance with applicable State and federal law and guidance. *See* Items 12 and 13 above. ***Specifically,*** the *Tentative Order* appears to preclude granting exemptions from the interim hydromodification control measures, even where such exemption is appropriate and scientifically warranted. Instead the *Tentative Order* only allows a waiver of hydromodification control requirements under *Tentative Order* provisions governing Copermittees' development of the long-term hydromodification control strategy and criteria. *Tentative Order* § D.1.h.(3)(c).

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		The interim hydromodification control provisions do not appear to allow the exemption of any Priority Development Projects from the mandatory measures based on scientifically appropriate facts, such an assessment of whether or not a project discharges to a receiving water susceptible to destabilization. Moreover, these mandatory requirements apply on a project-by-project basis without prior assessment and consideration of pertinent factors, raising the following issues related to compliance with scientific literature, technical feasibility, and cost effectiveness: ❖ The *Tentative Order* proposes mandatory hydromodification measures, including hydrograph matching, buffer and DCIA requirements, as interim 'one-size-fits all' hydromodification standards applicable to all Priority Development Projects greater than 20 acres. As such, the standard is inconsistent with the recommendations of the scientific community for hydromodification control, which generally advocate an approach to hydromodification control that involves appropriate assessment and evaluation of local factors pertinent to channel destabilization at a sub-watershed level, including amount of impervious surface in a tributary area, soils characteristics, groundwater characteristics, runoff characteristics, channel characteristics, and watershed and project size. ❖ The *Tentative Order* imposes mandatory hydromodification measures, including hydrograph matching requirements, on all Priority Development projects 20 acres or greater. There is no evidence in the record that application of these requirements is appropriate for projects of 20 acres (50 acres or 100 acres). In fact, hydromodification science supports application of hydromodification control measures at watershed

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		or subwatershed scale. Project-by-project application is not likely to effectively control hydromodification. ❖ Available scientific literature, such as the SCCWRP Study and SCVURPPP HMP, indicate that hydrograph matching, or matching of volume, flow and duration, is not an appropriate hydromodification control measure or strategy because some level of duration and flow increase is tolerated even by channels subject to destabilization, so pre- and post- development matching is not reasonably tailored to protect water quality as indicated by the best available science. Moreover, in some situations, hydrograph matching can actually hurt channel stabilization and water quality more than it helps. ❖ There is no scientific evidence in the record that such stringent hydrograph matching, buffer and DCIA standards are necessary to protect water quality and receiving water beneficial uses, particularly for sites that are (i) characterized by impervious (clayey) soils; (i) located in largely built-out and impervious watersheds,(iii) discharge to improved channels; or (iv) that discharge into already degraded channels, pipes, concrete channels or other receiving waters that are not susceptible to material further destabilization, erosion and sedimentation due to their size, configuration, or geomorphological regime (including "reset" systems). See *Geosyntec Memo.* ❖ Application of hydrograph matching requirements to infill and redevelopment projects is poor policy because (1) it will discourage larger infill projects because in many situations the requirements will not be capable of being met without a great deal of land take, (2) the costs of implementation will not provide significant water quality benefit since

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		most redevelopment and infill sites will discharge to already concrete flood control channels and/or are located in substantially built-out and impervious watersheds, and (3) project-by-project application of hydrograph matching requirements prevents adoption of IWRM and other more regional solutions that would better benefit water quality, particularly in the context of redevelopment, by providing some volume reduction BMPs for existing development that isn't served by BMPs. • **Comment:** As a result, the interim hydromodification control provisions are not based on the recommendations of scientific literature, and fail to consider technical feasibility, economic feasibility and effectiveness in light of substantial costs. As such, they are poor policy, an improper application of the MEP standard, are arbitrary and capricious, and violate Cal. Water Code § 13263(a), which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. These standards should be therefore be eliminated from the *Tentative Order* as interim requirements. The *Tentative Order* provisions should be revised to eliminate the "one-size fits all" hydromodification control interim requirements, and particularly the pre- v. post-development hydrograph matching requirements. Instead, the *Tentative Order* should rely on development by Copermittees and/or larger project applicants of (i) an appropriate and geomorphically referenced local interim hydromodification control tool for application on a sub-watershed basis within two years of *Tentative Order* approval (a short, but potentially sufficient time for this process, and (ii) the development of a long-term hydromodification control standard within three to four years of *Tentative Order* adoption after completion of the SMC study process and then to allow for consideration of SMC proposals. A

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		longer time frame is appropriate for development of the longer term hydromodification control standard because (1) the SMC study is not scheduled for completion until 2010 or 2011, and (2) using an appropriately developed geomorphically referenced interim hydromodification control tool at the proper scale and consistent with scientific literature will adequately protect water quality in the interim. the Regional Board should cure the current deficiencies in the *Tentative Order* by providing for the Copermittees and/or larger project (50 acres or greater) applicants to develop appropriate, local interim hydromodification control tools, applicable on a sub-watershed basis to Priority Development Projects within the sub-watershed that have the actual potential for substantial hydromodification impacts based on consideration of relevant factors. These tools should be developed by preparing a hydromodification assessment and strategy (HAS), and currently contemplated by *Tentative Order* §§ d.1.h.(1)-(3). As recommended by Geosyntec, the HAS should include an appropriate evaluation of pertinent local conditions on a sub-watershed basis, including total area of impervious surface, soils conditions, groundwater conditions, runoff characteristics, in-stream conditions and erosive flow potential and should apply the following protocol: First, an assessment of the physical sensitivity of the downstream system in light of tributary area characteristics should be conducted. If the downstream areas are not sensitive to destabilization due to their configuration, the existing condition of impervious surface within the tributary watershed, the size of potential projects in the tributary watershed, in-stream conditions, erosive flow potential, or other pertinent factors, hydromodification control requirements should not be applicable to development within the related watershed. Second, for those sub-watersheds susceptible to destabilization as determined in step one, a tool should be developed for sizing hydromodification control BMPs pending completion of the

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		SMC study process. This tool should be based on the relationship between percent impervious area soils type (infiltration rates) and runoff characteristics. The tool will then be applied to appropriate development and redevelopment projects in identified sensitive sub-watersheds to guide sizing of hydromodification control BMPs. Appropriate projects would then implement the tool to determine appropriate sizing for any one of a menu of potential hydromodification control BMPs necessary to protect sensitive down-stream systems from destabilization as a result of changes in flows. Shared hydromodification control BMPs could also be used. In addition to Copermittee HAS programs to develop such interim hydromodification control tools and standards, larger projects (sub-watershed or watershed scale) should be allowed to prepare their own HAS documents meeting similar requirements and using a similar protocol to that described above, allowing preparation by projects of sufficient scale of appropriate interim hydromodification control requirements. .
20. Hydro-modification waivers are unworkable *Improper, arbitrary and capricious exercise of discretion.* *Failure to follow State and federal law requirements in exercising permitting*	Technical Order § D.1(h)(3)(c) provides for hydromodification waivers, but the criteria for granting a waiver are too stringent to allow issuance of waivers.	• **Comment:** The hydromodification waiver policy will not be effective, and will not provide for exemption of Priority Development projects that cannot technically or cost effectively comply with hydromodification control mandatory measures. 1) Waivers are only possible when the total connection impervious area ("TCIA") will increase by less than 5% or when infill will decrease TCIA by 30%. This strategy is contrary to smart growth and discourages infill. This requirement is inconsistent with scientific literature for three reasons. First, it is inconsistent with the evolution of the science of hydromodification and geomorphological influence. The scientific literature now recognizes that DCIA, and not TCIA is the primary anthropogenic factor affecting channel stability. *Geosyntec Memo* at

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authority. *Results in improper determination MEP.*		pp. 12-15. Limiting increases in TCIA literally means that only 30% of the site can be developed with impervious surface, whether or not that impervious surface is appropriately "disconnected" from the MS4 system. As a result, for a 20 acre Priority Development site, only 6 of the 20 acres could be developed, making a waiver economically infeasible. Second, there is no evidence in the record that this 5% maximum TCIA prescriptive waiver standard is required to protect receiving waters susceptible to de-stabilization. The SCCWRP Study and other documents cited in the Technical Report do not recommend this prescriptive standard. See *Geosyntec Memo* at pp. 12-15. The Regional Board has not provided substantial evidence to support that the 5% limit is necessary or reasonably tailored to avoid impacts to beneficial. Therefore, the standard is arbitrary and capricious and violates Cal. Water Code § 13263(a), which requires WDR requirements shall be those reasonably required to protect beneficial uses and implement water quality objectives. Third, there is no evidence or discussion offered by the Regional Board that the 5% standard is necessary to protect water quality where sites discharge to waterbodies that are not subject to de-stabilization (concrete channels, large lakes, bays, estuaries, and large waterbodies subject to a "reset" geomorphological regime). In these situations, these measures will provide only a very small incremental water quality benefit. At the same time, there are extraordinary costs associated with the land necessary to these requirements, particularly for constrained infill and redevelopment projects, creates economic feasibility issues. 2) A waiver can only be granted if the entire drainage channel is concrete, even well beyond the point of any area of influence from a

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		particular outfall. Based on the scientific literature, hydromodification control requirements should target natural systems and should be applied in those locations where their application will improve stability of a channel. See, the SCVURPPP HMP. 3) All projects, even infill, must contribute to in stream measures that will address deficient in stream conditions that were not created by the proposed new development. This waiver requirement shifts responsibility for curing existing deficient channel conditions cause by others to Priority Development Projects. There is no nexus to require new development and redevelopment to correct the deficiencies created by historic development and flood control practices, yet obtaining a waiver requires Priority Development to accept an improper exaction. For these reasons, the waiver requirements are arbitrary and capricious and violate Cal. Water Code § 13263(a) which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment:** Application of the interim hydromodification control standards to infill and redevelopment projects without sufficient waiver provisions is poor policy because (1) it will discourage infill because the requirements can't be met without a significant land take to accommodate infiltration and/or storage, (2) the costs of implementation will not provide significant water quality benefit since most redevelopment and infill sites will discharge to already concrete flood control channels, and (3) project-by-project application of the requirements prevents adoption of other more regional solutions that would better benefit water quality, particularly in the context of redevelopment, by providing some volume reduction

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		BMPs for existing development that isn't served by BMPs.
21. Unlawful Delegation of Authority to Define Hydromodification Criteria to Entities Other than the Regional Board. *Exceeds legal authority.* *Poor policy.*	The *Tentative Order* provides that "Within two years of adoption of this Order, each Copermittee must revise its SUSMP/WQMP (*see* Section D.1.d) to implement updated hydromodification criteria for all Priority Development Projects. "***If SMC and SCCWRP publications include descriptive or numeric criteria applicable to the San Juan Hydrologic Unit****, then those criteria must be used." Tentative Order* D.1.h(5), at p. 35. It is an improper delegation of authority to require adoption of criteria from a study that is not yet finished, much less at a point that it can be determined whether study conclusions are adequate for use as regulatory standards.	• **Comment**: As a regulatory agency, the Regional Board may not delegate its authority to set standards/criteria to a non-regulatory entity. Any proposed criteria that would be required to be applied as hydromodification criteria for all Priority Development Projects must be considered and approved for regulatory purpose by the Regional Board itself and must be subject to full public comment as a part of the Regional Board's hearing processes. Alternatively, such criteria, when developed (the study schedule does not propose completion of the SMC report within two years, but rather anticipates publication in 2010-2011) may be voluntarily implemented by Copermittees in the exercise of their discretion in complying with the MS4 Permit. • **Comment:** The Tentative Order should provide that Copermittees integrate the SMC with criteria where available into the subwatershed and watershed scale hydromodification assessments and should consider them in developing and updating their long-term hydromodification control strategies.
22. Redundant Local Review of SWPPP. *Results in improper determination MEP.*	*Tentative Order* requires local agency review of storm water pollutant prevention plan (SWPPP). *Tentative Order* § 2.c (2)	• **Comment:** The *Tentative Order* requires local agency review of the storm water pollutant prevention plan (SWPPP). This provision is burdensome for Copermittees and does not improve water quality in the field, so the cost does not bear a reasonable relationship to the water quality benefit. In addition, the additional review is unnecessary because the proposed Statewide General Construction NPDES Permit provides for public review of SWPPPs for 90 days.

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Poor policy		The local agency review is duplicative, of no substantial additional benefit and should be eliminated.
23. Advanced Treatment Requirements Are technically infeasible and constitute the addition of pollutants to runoff. *Results in improper determination MEP.* *Exceeds legal authority.*	The Regional Board has imposed requirements for advanced sediment treatment for 'high threat' construction project, regardless of project size. *Tentative Order* §D.2.d(i), at p. 41. Mandated implementation of Advanced Sediment Treatment is technically infeasible pursuant to *The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm water Associated with Municpal, Industrial and Construction Activities* ("Blue Ribbon Panel Report") and requires the addition of chemical polymers, the residue of which may constitute pollution of construction site discharges. Advanced Treatment is neither "cost effective" nor "available" for every site the Tentative Order requires that it be used to control.	• **Comment:** Contrary to the Blue Ribbon Report, the *Tentative Order* mandates identification of "high threat" construction sites for which Advanced Sediment Treatment (AST) will be required, but has failed to perform recommended studies regarding baseline sediment production and discharge under natural conditions prior to proposing AST. Depriving highly alluvial systems of course sediment in runoff can create "hungry" water that results in greater erosion impacts in natural stream channels, and therefore ATS should not be mandated without reference to existing sediment discharge conditions. • **Comment**: As the Blue Ribbon Report discusses, the chemical substances that serve to assist in the removal of sediment in ATS systems result in alteration of natural sediment loads, and requires the addition of chemicals which may leave residues in runoff, both in derogation of the Clean Water Act, which defines "pollution" as the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of the water. 33 U.S.C. § 1362(19). The introduction of polymers and resulting "pollution" of the waters also is an improper application of MEP because it runs contrary to the section 13241 balancing factors in that it actively corrupts the physical integrity of the waters. • **Comment:** The findings and recommendations of the Blue Ribbon Report set forth at least 5 prerequisite studies and conditions that need to precede imposition of ATS to control construction site runoff, including consideration of issues associated with toxicity associated with active treatment systems, issues associated with long-term use of chemicals and consideration of runoff flow and peak volume.

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		See Blue Ribbon Report, at pp. 16-17. The Regional Board has not done any of these prerequisite studies and conditions, and therefore the imposition of numeric limits is technically infeasible, does not constitute an appropriate application of MEP, and is contrary to the findings and recommendations of the Blue Ribbon Panel. • • **Comment:** Research conducted by CICWQ determined that implementation of an advanced treatment system using chemical polymer addition would result in direct costs between $2400 and $9000 per acre for an example site handling anywhere from 1-inch to 20-inches, respectively, of total runoff per season. Key variables include the size of the construction site, total gallons of stormwater treated (direct correlation to amount of polymer required), flow rate, and the amount of detention time needed and associated mixing, piping and pumping systems to treat and release stormwater. All advanced treatment vendors interviewed by CICWQ stated that advanced treatment systems achieve 10 NTU effluent *when combined* with existing erosion control BMPs that reduce the concentration of influent sediment. Therefore, the cost of advanced treatment is *in addition to* existing erosion and sediment control stormwater BMPs that are required in Orange County. • **Comment**: An effective set of erosion and sediment control BMPs could accomplish the goal of reduced construction site erosion and sediment transport without requiring advanced treatment; however, based on the way that the *Tentative Order* is written, that option, even if it would be adequately protective of water quality, taking into account background levels, would not be permitted. Therefore, we recommend the Regional Board cure this arbitrary and capricious provision by implementing the recommendations of the *Geosyntec Memo* for

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		application of enhanced construction site runoff water quality controls to 'high threat' sites.
24. Construction BMP requirements for very small lots and/or projects *Not cost effective so results in improper determination MEP.* *Poor policy*	• All construction sites must implement a prescriptive set of construction BMPs at all times, regardless of site or receiving water conditions. While BMPs are appropriate for all construction sites, implementation of a prescriptive set of BMPs is not likely to attain water quality benefit.	• **Comment:** EPA stormwater regulations determined that regulation of small grading projects less than one acre is typically not necessary for adequate protection of water quality. 40 C.F.R. §122.26 *et seq*. There is no evidence in the documents provided that control of such small construction sites, is necessary to protect water quality. As a result, the requirements are arbitrary and capricious and violate Cal. Water Code § 13263(a), which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. Further, it is unclear why certain sites, like strip malls, are subject to these requirements while other sites that have similar characteristics are not subject to these requirements. The Regional Board has failed to adequately provide why certain sites are subject to these requirements while other are not. As a result, the requirements are arbitrary and capricious in and violate Cal Water Code § 13262(a), which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment:** The imposition of such requirements is not an effective approach to storm water regulation of these types of sites because important site-specific and receiving water considerations are not taken into account, and these conditions will impose significant costs as compared to the water quality benefits. A better approach to regulation of these types of sites is through ordinances that require preparation of an erosion control plan for construction sites of all sizes. In preparing an erosion control plan, site-specific conditions, receiving water conditions and site hydrology must be considered.
25. Unnecessary	The Regional Board is creating and	• **Comment:** The *Tentative Order* Section E includes pro forma requirements to

Issue	***Tentative Order* Requirement/Concern**	**Comments**
New Watershed Programs *Poor policy*	implementing two new watershed activities is not justified. *Tentative Order,* §E.	create and implement two new watershed activities. These requirements do not make sense in view of the fact that there already are several watershed activities underway in the region. The imposition of these programs will re-direct already sparse funding from implementation of existing programs, which are designed to address water quality problems, to new activities directed to meet the arbitrary new requirements. Instead, the Regional Board should assess the existing programs, identify any gaps in these watershed efforts and redirect resources only if the Board finds gaps in water quality protection. *See also* Item 4 above for a discussion of the Regional Board's failure to evaluate and consider existing watershed programs.
26. Under Appropriate Circumstance Wetlands Should Be Allowed As BMP. *Poor policy.* *Exceeds legal authority to extent it precludes compliance with CWA §§ 404 and 401 and Cal. Fish and Game Code §§ 1600 et seq.*	As drafted, *Technical Order* Finding § E.7 would prohibit establishing a wetland as a BMP. *Technical Order* Finding § E.7, at p. 14. Technical Report at p. 70.	• **Comment:** Finding E.7 must be revised to exempt "structural BMPs" such as natural wetlands, which are created in receiving waters as well as in MS4s with natural bottoms, etc. While some look at wetlands as BMPs, they are designed under CWA § 404, 401 and Cal. Fish and Game Code §§ 1600 *et seq*. 1) to restore the physical, biological and chemical integrity of existing receiving waters; 2) to restore wetland and riparian function and value; 3) to assure no net loss of wetlands 4) to replace historical losses of wetlands; and 5) to mitigate for permitted losses of wetlands pursuant to Army Corps of Engineers and Regional Board approvals. See *Constructed Wetlands for Wastewater Treatment and Wildlife Habitat,* EPA832-R-93-005 (1993). The *Tentative Order* must be revised to allow creation of wetlands for these purposes and to avoid conflict with state and federal laws prescribing wetlands.
27. Failure to Conduct	The Regional Board takes the position that compliance with California	• **Comment:** Unless an appropriate determination of *Tentative Order* requirements necessary to achieve MEP is made, the requirements of the *Tentative*

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Environmental Review of State-Authorized MS4 Provisions As Required by CEQA *Invalid Approval*	Environmental Quality Act ("CEQA") is not required in issuing the *Tentative Order*. *Tentative Order*, Findings § E.8., at p. 14, Technical Report at pp. 70-71. Finding § D.3.b, *Tentative Order* §§ A.1, A.3; Technical Report at pp. 72-74	*Order* do not comport with proper implementation of MEP and the Clean Water Act, and by default must be adopted pursuant to State law. CEQA analysis (using functional equivalent) must be conducted for provisions of the *Draft Permit* adopted pursuant to State law. *County of Los Angeles v. State Water Resources Control Board,* 143 Cal.App.4th 985, (2006) *modified by* Cal.App.LEXIS 1744 Cal App. 2d Dist. Nov. 6, (2006). • **Comment:** Cal Water Code § 13389 was part of Porter-Cologne adopted to accomplish the delegation of administration of the Clean Water Act, including the issuance of NPDES permits, to California. It does not exempt from CEQA other permits and/or requirements imposed by the Regional Board under Porter-Cologne. Cal. Water Code § 13372. Cal. Water Code § 13372 provides that the provisions of Chapter 5.5 of Porter-Cologne "apply only to actions required under the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto." Section 13389 is part of Chapter 5.5 of Porter-Cologne. • **Comment:** The court in *Committee for a Progressive Gilroy v. State Water Resources Control Board*, 192 Cal.App.3d 847 (1987) held that orders restoring water waste discharge levels to originally approved levels for a wastewater treatment plant were not exempt from compliance with CEQA by section 13389 because that section applies only to actions required under the Clean Water Act. Orders of the Regional and State Boards regarding wastewater discharge issued under the authority of the Porter-Cologne Water Quality Control Act were not required by the Clean Water Act and thus not exempt from CEQA review. In its discussion of Cal. Water Code Section 13389 a California appellate court stated, "Chapter 5.5 of the Porter-Cologne Act was enacted to allow the State of California to administer the National Pollutant Discharge Elimination System (NPDES)

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		permits program. This chapter was patterned after the Federal Water Pollution Control Act, which created the NPDES permit system. Section 1371 of that act excludes the issuance of NPDES permits from the requirements of the National Environmental Policy Act after which CEQA was patterned. It is fairly apparent that the exemption for the promulgation of waste discharge requirements from CEQA contained in Water Code section 13389 was meant to parallel the exemption for the issuance of NPDES permits from the requirements of NEPA found in section 1371 of the federal act." *Pacific Water Conditioning Ass'n., Inc. v. City Council,* 73 Cal.App.3d 546, 557 (1977). Thus, the purpose of section 13389 was to exempt from CEQA permits issued by the State under the Clean Water Act – not WDRs that are adopted under Porter-Cologne. Because the Regional Board is adopting WDRs under Porter-Cologne rather than simply implementing the NPDES program mandated by the Clean Water Act, section 13389 does not apply to exempt such an action from CEQA review.
28. State Unfunded Mandates	The *Tentative Order* imposes significant fiscal burdens on local governments, by imposing a number of stringent mandatory duties on Copermittees. We illustrate with four examples of many unfunded mandates: "Watershed Permittees must annually assess the success of ***each*** implemented BMP through monitoring, surveillance, and other effective means." *Tentative Order*,	• **Comment:** Regional Board has the legal authority under State law to impose mandates that "exceed" or are "more explicit" than the mandates or specific requirements of federal law. However, this discretion is not unbounded. When the Regional Board elects to use its discretion to impose mandates that are "more explicit" than or "exceed" the requirements of federal law, it is electing to impose a state mandate within the meaning of California Constitution, Art. XIII B, Section 6. The Board may impose such state mandates; but once imposed the California Constitution requires that the cost of meeting them must be funded by the State. Since portions of the permit "are more explicit" than and "exceed" the specific requirements of federal law, these provision are illegal unless they are funded by the State. The California Supreme Court explained that the purpose of

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	§ E.1.e. (2), at p. 70, emphasis added. *Tentative Order*, §§ D.1.(f); D.3.a.(6) Impose unnecessarily stringent inspection and inventory requirements for each approved treatment control BMP within a particular jurisdiction creates a huge cost burden for relatively little water quality gain when compared to the existing rolling inspections "Each Copermittee must conduct an annual fiscal analysis" that "must include a qualitative or quantitative description of fiscal benefits realized from implementation of the storm water protection program" and prior to the expiration of the Order "must submit to the Board a Municipal Storm Water Funding Business Plan that identifies a long-term funding strategy for program evolution and funding decisions." *Tentative Order*, § F. at p.74. The *Tentative Order* prescribes a specific methodology for undertaking	Art. XIII B, section 6 is to "preclude the state from shifting financial responsibility for carrying out governmental functions to local agencies, which are 'ill-equipped' to assume increased financial responsibilities because of the taxing and spending limitations that articles XIII A and XIII B impose." *Dept. of Finance v. Commission on State Mandates* 30 Cal.4th 727, 735, (2003) *quoting County of San Diego v. State of California* 15 Cal.4th 68, 81 (1997).

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	Urban Stream Bioassessment Monitoring that has inherent fiscal implications and that has not been subject to review until the publication of the *Tentative Order*. (*Tentative Order*, Attachment E, at pp. 5-6) The Regional Board's position is that the Copermittees are responsible for funding the implementation of all provisions of the *Tentative Order* from general funds, district assessments, plan review fees, permit fees, industrial/commercial user fees, revenue bonds, grants or other **local** funding mechanisms. *Tentative Order* § F.1., at p. 74.	
29. Unclear Protections for Vested /Approved Projects.	The grandfathering provision of the *Tentative Order* does not appear to be tailored for the various timeframes set forth for implementation of new site design BMPs, hydromodification requirements and other SUSMP requirements of the Order. As a result, the grandfathering provision provides only partial relief. *Tentative Order,* §D.1.d, n. 4.	• **Comment:** Because the *Tentative Order* contains several different mandatory site design BMP provisions and hydromodification control provisions, in addition to new SUSMP requirements, it is not clear the extent to which footnote 4 will "grandfather" projects that have reached that stage in the development process where re-design is impractical. Footnote 4 states that if a "lawful prior approval exists, whereby application of an updated SUSMP or hydromodification requirement of the project is illegal," the new requirement need not apply. However, the footnote is unclear as to how "illegal" is to be determined and whether the Copermittee has the authority to make such a determination. The provision should be clarified.

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		For example, a project that is nearing completion of the design/approval process it may still be required to redesign its streets, sidewalks, and storm drain systems under *Tentative Order* §§ D.1.c. and D.1.d.(4) despite the provisions of footnote 4. Tentative maps, final maps and development agreements are intended to provide protection-- allowing the developer to proceed with development in substantial compliance with the ordinances, policies and standards in effect on the date on which the subdivider's application was deemed complete, or in the case of a development agreement, on the effective date of that agreement. Cal. Gov. Code, § 66498.1(b). The applicable statutes related to vested rights are not unconditional, but they only provide an exception 1) when the project would pose a danger to the health and safety of residents of the community, or 2) when the condition or denial is required by federal or state law. *See*, *e.g.*, Cal. Gov. Code § 66498.1(c). • **Comment:** Failure to properly consider effects of the *Tentative Order* provisions on projects that are vested, approved, and/or under construction is arbitrary and capricious, constitutes a misapplication of the MEP standard, and violates Cal. Water Code section 13262(a), which requires adoption of conditions r*easonably* required to protect beneficial uses and implement water quality objectives. • **Comment**: Footnote 4 (p. 23) of the *Tentative Order* should be made a stand-alone provision of the Order, and its language should be revised to clearly define the scope of the grandfathering clause. The following grandfathering provision is an example of a provision that would be appropriate to incorporate into the *Tentative Order* to address the issues outlined in the preceding comments:

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		"Updated Development Planning requirements set forth in Sections D.1. (a) through (h) of this Order shall apply to all projects or phases of project, unless, at the time any updated Development Planning requirement commences, the projects or project phases meet any one of the following conditions: (i) the project or phase has received final tentative tract map approvals; (ii) the project or phase has begun grading or construction activities; or (iii) a Copermittee determines that lawful prior approval rights for a project or project phase exist, whereby application of the Updated Development Planning requirement to the project is practically or legally infeasible. Where feasible, the Copermittees shall utilize the SUSMP and hydromodification update periods to ensure that projects undergoing approval processes include application of the updated SUSMP and hydromodification requirements in their plans."
30. Requirements to Condition all Development to provide Water Quality Mitigation consistent with New Permit, Regardless of Legal Authority of Local Agencies to do so	The *Tentative Order* requires that the Copermittees develop authority to condition projects to provide storm water mitigation consistent with new *Tentative Order* requirements, regardless of whether any further discretionary permits for the project are necessary. *Tentative Order* §§ D.1.c.(1)-(5), at p. 21; D.2.c, at p. 39; Technical Report, at p. 77.	• **Comment:** Local agencies have limited land use authority to condition projects that have already completed CEQA review and received all discretionary permits and approvals. By definition, issuance of ministerial permits do not involve discretionary action, and, while local agencies can enforce all conditions or approval and mitigation measures specified for a project prior to issuance of ministerial permits, they cannot impose new conditions to ministerial permits. 14 C.C.R. § 15041; Cal. Pub. Res. Code § 21166. Further, common law and statutory vested rights can impact the ability of any local agency to impose additional requirements on certain projects. *See* Cal. Gov. Code § 65864 *et seq*. (development agreements); Cal. Gov. Code § 66498.1 *et seq.* (subdivision map act); *Avco Community Developers, Inc. v. South Coast Reg'l Comm'n*, 17 Cal.3d 785, 791 (1976) (common law vesting rights). As a result, this mandate that projects be

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		conditioned, regardless of whether any discretionary approvals are still necessary for development of the project, by the Regional Board forces municipalities to violate State law and therefore constitutes an *ultra vires* act on the part of the Regional Board.
31. Collaboration on SUSMPs *Poor policy.*	The *Tentative Order* requires Copermittees to implement an updated Standard Urban Storm water Mitigation Plan ("SUSMP") within 12 months of adoption of the Order. *Tentative Order*, § D.1.d., at p. 23.	• **Comment:** The *Tentative Order* requires Copermittees to develop and then require project applicants to use specific criteria for determining the applicability and feasibility of BMPs within one year of permit adoption. This short time frame does not provide Copermittees sufficient opportunity to work together in developing the criteria and undercuts public participation. This also assures different criteria will be developed and implemented in each Copermittee's jurisdiction. • **Comment:** A collaborative approach should instead be pursued requiring Copermittees to work together to update the Model SUSMP to include site design BMPs instead of individually tasking each Copermittee with developing and implementing significant new content in a single year.
32. Collaboration with HOAs, COAs, and other groups *Poor policy*	The *Tentative Order* requires Copermittees to regulate, but does not allow Copermittees to collaborate with other groups and entities, including Homeowners Associations ("HOAs"), Commercial Property Owners Associations ("COAs"), and similar associations and industry groups. *Tentative Order* § D.3.c.(5), at p. 60.	• **Comment:** The *Tentative Order* does not sufficiently encourage cooperation of Copermittees with other groups in a manner that can benefit water quality. Agreements with HOAs, COAs and similar entities may improve water quality and such collaboration may allow the Copermittees to expand their water quality reach, which allows for greater water quality benefits. • **Comment:** Copermittees should be allowed to collaborate with HOAs and COAs on methods for oversight of residential areas and on the regional residential education program requirements. *See* § D.3.c.(5), at p. 60. The HOAs are likely going to play an important part in implementing such programs, and thus it makes

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		sense for the HOAs to be involved in development of such program requirements. Involvement of the HOAs during the creation of such programs will allow for more effective programs to be developed that have a greater chance of success in terms of implementation, education, and ultimately greater water quality benefits.
33. Collaboration on Inspection should be encouraged. *Poor policy*	The *Tentative Order* does not allow sufficient flexibility for the Copermittees to collaborate with third parties on certain compliance responsibilities, including Provisions §§ D.1.e, D.1.f., D.3.a.(6) and D.3.a.(8) which require BMP maintenance, inspection and verification be undertaken by the Copermittees and do not allow such activities to be performed by third parties, eliminating assistance to the Copermittees that can be provided by proprietary BMP vendors, HOAs, COAs, etc.	• **Comment:** The Regional Board should encourage Copermittees and the regulated community to collaborate on all aspects of storm water program implementation, inspection and enforcement. The Tentative Order takes a contrary position - precluding Copermittees from entering into cooperative agreements with third parties to perform maintenance, verification and/or inspection activities. If allowed to cooperate with third parties, like vendors, subcontractors, HOAs and COAs, with respect to maintenance, inspection and BMP implementation obligations, Copermittees will be able to implement more effective programs, which will result in greater water quality benefits. Thus, these provisions should be revised to allow sufficient flexibility for Copermittees to engage in partnerships with third parties to more effectively implement programs and achieve greater water quality benefits.
34. Program effectiveness provisions	The Program Effectiveness conditions in the *Tentative Order* seem to require that when "water quality problems" are determined to exist, that the Copermittees must "correct" those problems. The *Tentative Order* appears to mandate nothing less than	• **Comment:** The Program Effectiveness provisions seem to apply regardless of whether the water quality problems at issue are factually related to MS4 discharges, regardless of whether they are the result of a failure of Copermittees to implement BMPs and water quality controls to the MEP standard, and regardless of whether there are additional water quality controls that are available and technologically feasible to implement.

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	that Copermittees implement a solution for receiving water quality, whether or not the primary source of the receiving water quality problem is a proximate result of the MS4 discharges. *Tentative Order*, § G., at p. 75.	• **Comment:** It is unclear that the Copermittees' implementation of water quality control measures addressing discharges from the MS4 to the MEP will be sufficient to establish Copermittees' compliance with the Order in the event that receiving waters continue to exhibit exceedances.
35. The *Tentative Order* appears to impermissibly expand the application of CEQA, Cal. Pub. Res. Code § 21000 *et seq*., by mandating environmental review of projects not already subject to environmental review under CEQA. *Exceeds legal authority.*	*Tentative Order***,** Attachment C defines "development project" as "new development or redevelopment with land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces, public agency projects or land subdivision." *Tentative Order* § D.1.b requires Copermittees to review and revise their current environmental review processes to require evaluation of water quality impacts and cumulative impacts and identification of appropriate measures to avoid, minimize and mitigate those impacts for *all* Development Projects. The definition contained in the *Tentative*	• **Comment:** The Tentative Order appears to impermissibly expand the application of CEQA, Cal. Pub. Res. Code § 21000 *et seq*., by mandating environmental review of projects not already subject to environmental review under CEQA. Sections D.1.b. and D.1.c. of the *Tentative Order* apply to all development projects, as no acreage or other thresholds are applied in the current definition of "development project" found in Attachment C to the *Tentative Order*.). The RWQCB has no authority to mandate environmental review for projects not otherwise subject to CEQA. The Regional Board should revise the *Tentative Order* to clarify that these requirements only apply to those projects that are already subject to environmental review under CEQA.

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	Order encompasses projects that are not already subject to environmental review under CEQA (*e.g.,* nondiscretionary projects, exempt projects, ministerial actions, and emergency projects.)	
36. Failure to Integrate Existing Programmatic Water Quality Program *Poor policy*	The *Tentative Order* should recognize, approve and integrate the programmatic water quality management programs comparable to the Special Area Management Plan ("SAMP"), Habitat Conservation Plan ("HCP"), Southern Subregion Natural Community Conservation Plan ("NCCP") and other large-scale aquatic and uplands resource programs that have been carried out in Orange County.	• **Comment:** Many of the prescriptive measures in the *Tentative Order* do not take into account-and may even contradict-conditions of approval in programs, such as the SAMP and HCP, that are specifically directed toward the protection of aquatic systems. Similarly, the *Tentative Order* does not allow the requisite flexibility to allow coordination between adaptive management undertaken within the framework of SAMP and HCP provisions and adaptive management undertaken as part of the Water Quality Management Program ("WQMP"), which is identified as a "coordinated management program" by SAMP and HCP. Some examples of pertinent and relevant information include: 1. Section I. D. of the Corps Special Permit Conditions for the Southern SAMP contains geographic specific conditions for the protection of aquatic resources and water quality that must be factored into the implementation of the WQMP. Likewise, the HCP Appendix U contains similar provisions that were coordinated with the SAMP. 2. Section II of the Corps Special Permit Conditions set forth detailed "Project Construction" conditions for controlling sediment runoff and protecting aquatic resources that must be coordinated with implementation of the WQMP. 3. The SAMP and HCP provide for an integrated Habitat Reserve

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		Management Program with which the WQMP is required to be coordinated. The provisions of the *Tentative Order* must allow for flexibility in assuring such coordination. 4 Thus, some form of programmatic review and approval by the Regional Board of the WQMP framework and strategies is required to assure integration with the SAMP and HCP and with other watershed planning efforts in Southern Orange County.
37. Groundwater protection provisions conflict with site design BMP and hydro-modification controls *Inconsistent requirements, precluding compliance.* *Technically infeasible requirements*	The provision of *Tentative Order* §D.1.c (6), at p. 22., and their location in D. 1 related to planning BMPs for development, appears to limit the use of treatment control BMPs functioning as infiltration devices, and sets stringent requirements with respect to design of such BMPs so as to discourage and minimize their use. At the same time, *Tentative Order* §§ D.1.c, D.1.d, and D.1.h, among other provisions, strongly encourage and even mandate the use of Site Design and hydromodification BMPs that increase infiltration and rely on natural infiltration functions to control volume and pollution loads and treat urban runoff.	• **Comment:** This provision seems to limit and/or discourage BMPs relying on infiltration for treatment control or volume reductions. See, *e.g., Tentative Order* §§ D.1.c.(2); D.1.h.. At the workshop, staff indicated these restrictions are only necessary where recharge facilities and spreading grounds are contemplated. Therefore this provision should be substantially revised to apply only in the situation where such facilities are concerned, and to eliminate conflict with other provisions of the Order encouraging or mandating infiltration. • **Comment:** The substantive limitations on infiltration created by §D.1.c.(6) of the *Tentative Order* related to infiltration of dry weather flows and minimum depth to groundwater, soil specifications, and types of land uses required to permit infiltration are to strict to permit proper implementation of infiltration to accomplish treatment and hydromodification control. The language of this section must be revised to allow implementation of BMPs employing infiltration as described in the *Geosyntech Memo*, at pp. 10-12.
38. *Denies due*	In its entirety and as to individual	• **Comment**: The Tentative Order deprives the regulated community of due

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process because permit conditions and requirements are vague and or overbroad .and do not give notice concerning how to comply or when a violation occurs.	provisions noted above, the Tentative Order is vague as to its terms and conditions and fails to provide adequate notice as to what constitutes a violation. We address technical deficiencies of the individual findings in Items 4, 5,6,7,8, 10, 12, 13,14,15,16,17,& 19 above.	process because many of the terms, conditions and requirements are so vaguely stated that the regulated community does not have adequate notice of what is required to comply. In addition, the Tentative Order fails to provide adequate notice as to what constitutes a violation of its provisions. "Notice is fundamental to due process." 7 Witkin § 638 (10th ed. 2006). The lack of an adequate definition constitutes improper notice to the regulated community in violation of due process. Cal. Const. Art. I, §§ 7, 15; Cal. Gov. Code § 11340 *et seq*. (A "standard that has no content is no standard at all and is unreasonable." *Wheeler* v. *State Bd. of Forestry*, 144 Cal.App.3d 522, 527-528 (1983) • **Comment:** Perhaps the most critical example of insufficient notice in the Tentative Order involves the level of water quality control that Copermittees must attain. Specifically, the Tentative Order as interpreted by the Technical Report, at p. 65 appears to provide that even when Copermittees are implementing water quality controls to the MEP, as required by federal law and other provisions of the Tentative Order, but receiving water violations are nonetheless detected, the Copermittees shall be liable for civil/criminal enforcement actions. The receiving water violations may be technically infeasible for Copermittees to correct, particularly if (i) it is not possible to determine whether discharges from MS4 systems are proximately causing or contributing to receiving water violations, and/or (ii) if no additional best management practices (BMPs) can be identified to provide additional water quality control. As a result, Copermittees cannot discern from the current Tentative Order whether their planned water quality activities are sufficient and in compliance, or insufficient and the basis for criminal/civil enforcement. *See* Items 4, 10, 12 and 13. • **Comment:** The creation of a "moving target" for water quality compliance will discourage Copermittee and regulated stakeholder water quality control

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		activities. The Tentative Order must be revised to make it clear that when Copermittees implement water quality control measures meeting the MEP standard, which standard inherently requires review and implementation of better available BMPs if MS4 system discharges are causing or contributing to receiving water quality standard violations, they are in full compliance with the Tentative Order. These clarifications to provisions of the Tentative Order and Technical Report, including Discharge Prohibition A.3, are critical to providing adequate notice to the regulated community of, and encouraging implementation of appropriate water quality activities required under to establish compliance and avoid enforcement actions

Construction Industry Coalition on Water Quality

April 4, 2007

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RE: Tentative Order No. R9-2007-0002 (NPDES Permit No. CAS0108740) Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of Orange, the Incorporated Cities of Orange County, and the Orange County Flood Control District within the San Diego Region

On behalf of the more than 3,300 member companies of the Construction Industry Coalition on Water Quality (CICWQ) and the 2,000 member companies of the Building Industry Association of Southern California, we would like to thank the San Diego Regional Water Quality Control Board (Regional Board) for the opportunity to express our interest in the Draft south Orange County Municipal Separate Storm Sewer System Permit (Draft Permit). This cover letter outlines the issues and constructive suggestions that we have with the Draft Permit as written and is supported by a detailed technical memorandum authored by Geosyntec Consultants on behalf of CICWQ.

CICWQ is comprised of the four major construction and building industry trade associations in Southern California: the Associated General Contractors of California (AGC), the Building Industry Association of Southern California (BIA/SC), the Engineering Contractors Association (ECA) and the Southern California Contractors Association (SCCA). The membership of CICWQ is comprised of construction contractors, labor unions, landowners, developers, and homebuilders throughout the region and state.

These organizations work collectively to provide the necessary infrastructure and support for the region's business and residential needs. Members of all of the above-referenced organizations are affected by the Draft Permit, as are hundreds of thousands of construction employees and builders working to meet the ever-growing demand for modern infrastructure and housing in Orange County. Our organizations support efforts to improve water quality cost effectively and our comments and our suggestions were developed and presented in that context.

The Draft Permit introduces many new provisions that fundamentally change how land development and building projects are designed and perhaps more importantly, how they are conditioned and approved by the co-permittees. The attached technical memorandum is organized sequentially beginning with comments on page 6 of the Draft Permit and ending on page 41.

The technical memorandum goes into great detail in several areas and suggests alternative approaches that the land development and building community feel will properly protect water quality while balancing the need to provide affordable housing and commercial development opportunities. These areas include implementation of LID approaches that truly consider all project scales within a watershed (not just lot-by-lot), consideration of watershed level planning for hydromodification control including using flow duration control methodologies during an interim period until the SCCWRP study is completed and management tools developed, and the utility of regional or shared treatment control BMPs to address a range of pollutants that are discharged within a watershed. Numerous other thoughts and ideas on alternative approaches are introduced and we respectfully ask for your consideration of these approaches.

The attached technical memorandum also addresses our approach to what constitutes "enhanced measures" for construction site BMPs and goes into detail about what enhanced measures could be implemented short of requiring expensive and technically challenging advanced stormwater treatment systems. The technical memorandum introduces but does not completely address the unknown question of what is the water quality cost-benefit of using advanced stormwater treatment systems in addition to or in lieu of existing erosion and sediment control BPS?

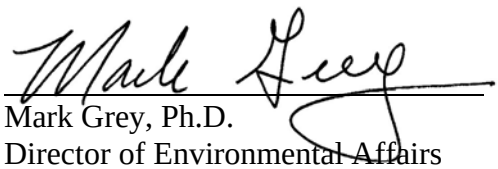
CICWQ has conducted extensive research over the past year into the feasibility of using advanced treatment systems, the capability of vendors to meet the demand required if existing MS4 permits are adopted as written, and the operational requirements of using such systems. Numerous questions still remain: paramount is what is the incremental water quality benefit (especially considering natural background loads of sediment in the receiving waters) that will be achieved in using these systems compared to a well managed construction site using a combined treatment train BMP scheme of erosion and sediment control BMPs? What is known, however, is that these systems are extremely expensive to plan for, install and operate, and that insufficient infrastructure exists on the part of system service providers to meet project demands.

With respect to cost, CICWQ's analysis shows that requiring installation of an advanced treatment system to control sediment at any given site is on the order of $30,000 to $50,000 per acre for sites generally larger than 10 acres. Costs for sites less than 10 acres are not necessarily much less expensive because the costs to mobilize, staff the equipment, operate it, and monitor effluent are generally fixed.

We are confident that by working together, CICWQ can assist the Regional Board in achieving regulatory balance that will improve water quality while also meeting Ventura County's housing and infrastructure needs. We thank you for your consideration of our comments.

If you have any questions, please feel free to contact me at (909) 396-9993 or mgrey@biasc.org.

Respectfully,



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Memorandum

Date:	April 4, 2007
To:	Mark Grey, CICWQ
From:	Lisa Austin and Eric Strecker, Geosyntec Consultants
Subject:	Comments on Draft South Orange County MS4 Permit, Tentative Order No. R9-2007-0002, NPDES No. CAS0108740

We have reviewed the Draft Orange County MS4 Permit (NPDES No. Tentative Order No. R9-2007-0002), dated February 9, 2007. We understand that protection of receiving water quality and beneficial uses is the ultimate objective of the Tentative Order and support that objective. In that light, we have identified and commented on the following technical issues, and have provided suggested alternative permit language:

Page	Comment
Pg. 6	**Finding C.8** discusses the relationship between the degree of imperviousness in a watershed and the degradation of the receiving water. Finding C.8 states that 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 imperviousness. The studies to date that have related imperviousness to stream impacts occurred in watersheds that did not include stormwater mitigation facilities, or may have included flood control facilities or minimal treatment control BMPs that were not designed to current standards. Therefore, the finding would be more accurately stated to say that 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 of uncontrolled imperviousness. The effect of imperviousness on hydromodification impacts is more complicated than a simple correlation with imperviousness. The limited hydromodification impact research to date has focused on empirical evidence of channel failures in relationship to directly connected impervious area (DCIA) or total impervious

area[1]. However, more recent research has established the importance of size of watershed; watershed soils; large scale watershed impacts such as grazing, fires, and agriculture; channel slope and bed/bank composition; vegetation types and conditions; sediment supply impacts of reservoirs or faults; and climatic and precipitation patterns (SCCWRP 2005a, Balance Hydrologics, 2005).

Booth et al. (1997) reported finding a correlation between loss of channel stability and increases in DCIA. In Washington State, streams were found to display the onset of degradation when the DCIA increased to ten percent or more, and a lower imperviousness of five percent was found to cause significant degradation in sensitive watersheds (Booth 1997). The Center for Watershed Protection (Schuler and Holland, 2000) described the impacts of urbanization on stream channels and established thresholds based on total imperviousness within the tributary drainage area. It states "a threshold for urban stream stability exists at about 10 percent imperviousness." It further states that a "sharp threshold in habitat quality exists at approximately 10 percent to 15 percent imperviousness." These studies, however, addressed changes in very different climatic regions than Southern California (e.g. the Pacific Northwest and the Mid-Atlantic areas).

Although physical degradation of stream channels in semi-arid climates of California may be detectable when watershed imperviousness is between three and five percent, not all streams will respond in the same manner (SCCWRP, 2005b). Management strategies should account for differences in stream type, stage of channel adjustment, current and expected amount of basin imperviousness, and existing or planned hydromodification control strategies. The absolute measure of watershed imperviousness that could cause stream instability depends on many factors, including watershed area, topography, land cover, vegetation types, and soil types and compaction levels; development impervious area and connectedness; longitudinal slope of the river; channel geometry; and local boundary materials, such as bed and bank material properties and bank vegetation characteristics. For instance, the nature of terrains within a watershed is an important factor. Development that occurs on clayey soils will

[1] Impervious area that drains directly to a storm drain system and then to the receiving water is considered "directly connected," whereas impervious area that drains through vegetation prior to surface waters or to infiltration facilities is considered "disconnected."

not alter uncontrolled runoff rates as much as development that occurs in areas with sandy soils. Sandy soils have considerable capacity to infiltrate stormwater and therefore development located within sandy terrains combined with hardened conveyances may significantly alter runoff conditions compared with natural conditions.

In summary, while the research on impervious cover and stream quality is compelling, it is doubtful whether is can serve as the sole foundation for legally defensible regulatory actions at this time. Key reasons include: 1) the research has not been standardized, so different investigators have used different methods to define and measure/estimate imperviousness; 2) the relative measure of watershed imperviousness that could cause stream instability depends on many factors, including watershed area, land cover, vegetative cover/condition, topography, and soil type and compaction level; historical land uses such as farming or ranching that have changed watershed conditions; recent fires; development impervious area and connectedness; longitudinal slope of the river; channel geometry; and local boundary materials, such as bed and bank material properties and vegetation characteristics; 3) most of the studies have been confined to a few ecoregions and few studies have been conducted in Southern California; 4) researchers have employed a wide number of techniques to measure stream quality characteristics that are not always comparable to each other; and 5) none of the studies has yet examined the effect of widespread application of effective stormwater treatment, LID controls, and/or hydromodification control practices on impervious cover/stream quality relationships.

Pg. 6 **Finding C.9** states: "Urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, … As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff." This conclusion does not reflect the complex relationship between urban development land uses and pollutant loads and concentrations, or the effect that treatment control has on the quality of urban runoff. Nor does it take into account conversion of agricultural lands to urban land uses that, for many pollutants (e.g., nutrients) will reduce pollutant concentrations in runoff. Whether runoff from urban areas contains significantly greater pollutant loads than runoff from the same areas in the pre-development condition depends on pre-development land use and the type of pollutant.

The Los Angeles County Department of Public Works monitored pollutant concentrations from eight land use stations from 1995 through 2001 (LACDPW, 2000; LACDPW, 2001). The Ventura County Watershed Protection District monitored a station that collected drainage from the Oxnard Agricultural Plain, which is comprised almost entirely of agricultural land (primarily row crops), from 1997 through 2003 (VCFCD, 1997 - 2003). These monitoring data represent untreated urban and agricultural runoff quality. A statistical analysis of these data is provided in Table 1 below.

This analysis shows that stormwater runoff from open space had higher average total suspended solids, nitrate, and chloride concentrations than the runoff from some or all of the urban land uses. The agricultural runoff had higher concentrations of pollutants than runoff from all of the urban land uses, except for dissolved copper concentrations in runoff from the transportation land use area. Runoff treatment could further reduce pollutant concentrations in post-development runoff. Thus, pollutant concentrations in post-development runoff may have lower concentrations of pollutants than pre-development runoff, depending on the pre-development land use. For some pollutants, even though urban runoff concentrations may be lower, the pollutant loading may be higher due to increases in runoff volume. Lakes and estuaries would be more sensitive to load increases, while streams are generally more sensitive to concentration increases. Finding C.9 should consider the available technical data.

Table 1: Arithmetic Mean Concentrations from Lognormal Statistics for Land Use Monitoring Data[2]

Land Use	TSS mg/L	TP mg/L	NH3 mg/L	NO3 mg/L	NO2 mg/L	TKN mg/L	Diss Cu µg/L	Tot Pb µg/L	Diss Zn µg/L	Cl mg/L
Commercial	63.5	0.364	0.913	0.505	0.115	2.81	11.5	9.55	152	44.5
Education	92.1	0.289	0.295	0.575	0.088	1.61	11.4	3.23	70.9	24.0
Light Industrial	151	0.265	0.345	0.563	0.071	2.19	10.4	7.34	268	9.38
Transportation	72.4	0.478	0.338	0.666	0.086	1.75	30.8	8.17	205	5.80
Multi-Family Residential	35.4	0.218	0.442	1.29	0.098	1.65	6.92	3.66	67.7	15.6
Single Family Residential	110	0.381	0.457	0.665	0.083	2.75	8.81	9.57	19.7	4.97
Vacant / Open Space	159	0.083	0.064	1.12	0.021	0.860	0.237	1.06	8.61[2]	6.62
Agriculture	998	3.00	1.81	13.8	0.120	7.54	19.7	27.3	37.0	49.6

1 – Urban and vacant/open space land use data collected by the Los Angeles County Department of Public Works (LACDPW, 2000; LACDPW, 2001). Agricultural land use data collected by the Ventura County Watershed Protection District (VCFCD, 1997; VCFCD, 1998; VCFCD, 1999; VCFCD, 2001; VCFCD, 2002; VCFCD, 2003).

2 – Dissolved zinc for open space was estimated from the total zinc analysis of LACDPW monitoring data. Four data points for dissolved and total zinc from the National Stormwater Quality Database gave an average ratio of dissolved to total zinc of 50 percent. For the open space land uses the variation of dissolved zinc was assumed to equal that of total zinc (i.e. same standard deviation) and the lognormal mean was set to give an average concentration of 8.6 µg/L for the open space land use, half of the average total zinc concentration of 17.2 µg/L.

Pg. 8 The Technical Report discussion of **Finding D.1.e.** cites several studies conducted in the last few years that have measured the effectiveness of urban runoff treatment BMPs in Southern Orange County. The report states that the results of these studies "demonstrate that treatment at MS4 outfalls for pollutants that have already been discharged into the MS4 is generally unlikely to reduce pollutant concentrations to levels that would support water quality objectives." These studies primarily focused on dry weather flow treatment systems and wet weather hydrodynamic devices, which would not be expected to be effective on a number of pollutants. These studies did not investigate many of the types of treatment control BMPs that are likely to be implemented in Southern Orange County, such as dry extended detention basins, wetponds, vegetated swales, filter strips, and bioretention systems. A summary of the performance data for these types of treatment control BMPs generally implemented for new development in South Orange County, provided in Table 2 below, shows that unlike the BMPs studied in the dry weather flow reports cited, these BMPs are likely to support water quality objectives in the receiving water. Finding D.1.e. should be based upon a more comprehensive look at treatment control BMP effectiveness, rather then using selected studies.

Pg. 9 **Finding D.2.b** states that end-of-pipe BMPs are: 1) typically ineffective during significant storm events, 2) often incapable of capturing and treating the wide range of pollutants that can be generated on a sub-watershed scale, 3) more effective when used as polishing BMPs, 4) do not protect the quality or beneficial uses of receiving waters between the pollutant source and the BMP, and 5) do not aid in the effort to educate the public regarding sources of pollution and their prevention.

When the entire range of treatment control BMPs is considered, the statements in this finding are unsupported. Treatment control BMPs that are selected to address the pollutants of concern for a project, sized to collect and treat the water quality design storm, are installed correctly, and are adequately maintained can be effective at removing pollutants to below the water quality objectives (see Table 2 below).

Table 2: ASCE/EPA International BMP Database Mean Effluent Concentrations

Treatment Control BMP	TSS	TP	NO_3	TKN	Diss Cu	Tot Pb	Diss Zn
Wetponds/Wetlands	27.6	0.15	0.05	1.06	5.5	0.72	14.6
Dry Extended Detention Basins	42.7	0.33	0.89	1.81	12.8	31	56.5
Biofiltration (Swales, strips, bioretention)	30.7	0.46	0.46	1.67	7.8	9.6	32.6
Water Quality Objective/ Acute CTR Criteria (@ hardness = 100 mg/L)	Water shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses	5 – 10 mg/L	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses	13.0	82	120

End-of-pipe or shared treatment control BMPs provided at a sub-watershed scale provide many benefits as compared to only relying on smaller, distributed treatment control BMPs. Regional facilities can facilitate maintenance, incorporate multiple benefits such as irrigation water supply and recreational opportunities, and provide opportunities for public education. They also can be used to treat existing development areas along with new development if projects are encouraged to do so. Regional systems constructed as a part of a development project that provide retrofit treatment of existing development provide a cost-effective approach for addressing runoff from existing development areas.

End-of-pipe, shared treatment BMPs at a sub-watershed scale can be effective at capturing and treating pollutants. For example, the Natural Treatment System (NTS) Master Plan, comprised of a network of constructed wetlands, was evaluated for treatment effectiveness of dry weather base flows and runoff from smaller more frequent storms in the Upper Newport Bay watershed (Strecker, et al, 2003; www.naturaltreatmentsystem.org) in Orange County. The goal of the "regional retrofit" wetland network is to serve as an integral component in a watershed-wide water quality control strategy, supplementing onsite BMPs to enhance compliance with water quality standards and pollutant loading limits (TMDLs) for many pollutants of concern, including sediments, nutrients, pathogen indicators, pesticides, toxic organics, heavy metals, and selenium. The NTS Plan was assessed with planning-level water quality models that accounted for the integrated effects of the 44 planned NTS facilities. The NTS Plan was estimated to achieve total nitrogen (TN) TMDL for base flows, and in-stream TN concentrations would be reduced below current standards at most locations. Total phosphorous TMDL targets would be met in all but the wettest years. The fecal coliform TMDL would be met during the dry season, but not all wet season base flow conditions, and not under storm conditions. The NTS Plan was not designed to completely meet the sediment TMDL, as much of the sediment sources are in-stream, but would capture on average about 1,900 tons/yr (1,724,000 kg/yr) of sediment from urban areas. The wetlands were estimated to remove 11 percent of the total copper and lead, and 18 percent of the total zinc in storm runoff from the entire, mostly built-out watershed.

The San Joaquin Marsh, a NTS System wetland located at the bottom of the San Diego Creek Watershed is another example of a regional treatment BMP that is helping to remove pollutants of concern from runoff from existing development on a watershed-scale and also provides significant opportunities for public

education. The San Joaquin Marsh is a 202-acre facility, consisting mostly of a series of lakes, permanent wetlands, and riparian habitat areas. It is a managed system. Surface water flows from San Diego Creek are diverted through the Marsh, where flows remain for about two weeks and are then returned to the Creek. Monitoring data indicates removal of about 200 lbs/day or nitrate during dry weather, substantially improving water quality in Upper Newport Bay (BonTerra Consulting, 2004).

The NTS Plan provides a cost-effective alternative to routing dry-weather flows to the sanitary treatment system or to expensive dry weather flow treatment plants. This type of system also provides for retrofit of existing, but partially modified (semi-natural/semi-improved) channels, as well as flood control facilities, in a manner that restores some natural water quality and biological function and value to the watershed. Finally, the NTS program includes an agency (the Irvine Ranch Water District) that will provide maintenance of the facilities in perpetuity. As a result, the NTS restores some natural treatment of stormwater runoff from existing development. Although site design and source control BMPs are very important, regional end-of-pipe treatment control facilities can also be used to effectively support water quality objectives in receiving waters.

Finding D.2.b should be amended to reflect the above considerations.

Pgs. 9 & 26 **Finding D.2.c** states that Low Impact Design (LID) site design BMPs at new development projects can be an effective means for minimizing the impact of urban runoff discharges from development projects on receiving waters. **Section D.1.d(4)** requires each Priority Development Project to implement site design BMPs and lists required site design techniques for all projects. These proposed site design BMP requirements do not provide for projects that have addressed site design at a sub-watershed and/or watershed scale as part of a larger plan of development. From the perspective of geomorphologically-based watershed planning principles, in many instances, applying the proposed BMP site requirements at a project level may lead to poor project design compared to applying these requirements at a broader sub-watershed and watershed level of analysis.

The imposition of standardized site design BMP for all projects, without consideration of project scale or geographic location, is particularly contrary to

smart growth concepts. Smart growth is best described as a set of 10 principles (U.S. EPA, 2005):

1. Create a range of housing opportunities and choices.
2. Create walkable neighborhoods.
3. Encourage community and stakeholder collaboration.
4. Foster distinctive, attractive places with a strong sense of place.
5. Make development decisions predictable, fair, and cost effective.
6. Mix land use.
7. Preserve open space, farmland, natural beauty, and critical environmental areas.
8. Provide a variety of transportation choices.
9. Strengthen and direct development toward existing communities.
10. Take advantage of compact building design.

As discussed in the EPA document (page 23), requirements for conventional and site design BMPs should be related to the development context. Some approaches will work in most settings (at different levels of implementation), while others pose challenges in existing urban areas and in the development of new town centers or other compact districts that are constructed in greenfield projects. The imposition of a standardized site design BMPs without consideration of other watershed factors and land use considerations could lead to more "sprawl" as projects will require more land to meet the requirement. In the case of urban infill, redevelopment, and dense districts in new development projects as identified in the smart growth principles, the use of LID techniques may be difficult at the individual project or lot level because sufficient space on a particular lot may not be available for devotion to permeable area for irrigation. However, these types of projects could be considered a LID practice (clustering development and/or locating it per smart growth principles) if examined at the watershed scale. Another consideration is that when a new project can also provide treatment for existing development runoff in a larger regional treatment

system along with runoff from the new project (i.e., provide retrofit of existing development), requiring that LID must be employed instead of providing regional treatment could reduce the opportunities and resources for retrofit treatment.

The use of some LID techniques in Brownfield (contaminated sites) situations can be problematic and should be considered in how these techniques are being mandated.

Site design BMP requirements should not be mandated for projects desiring to reuse stormwater for irrigation (integrated water resource management). In the case of reuse, site design techniques would reduce the volume of runoff that could be stored and reused.

Pg. 10 The Technical Report discussion of **Finding D.3.b.** cites a 1992 USEPA guidance document that provides: "the municipality must demonstrate that it has adequate legal authority to control the contribution of pollutant in stormwater…control in this context, means not only to require disclosure of information, but also to limit, discourage or terminate a stormwater discharge to the MS4." Technical Report page 53. It may not be feasible to safely terminate an existing stormwater discharge into the MS4 in many circumstances. Presumably, the only alternative discharge location for an existing stormwater discharge would be onsite infiltration, as stormwater discharge to the sanitary sewer (as opposed to discharge of *dry weather flows* or *process wastewater*) is not an acceptable alternative due to a number of practical and NPDES permit issues. Opportunities to implement such a solution would be limited and could potentially cause flooding, geotechnical, and/or public safety hazards. Also, if the stormwater discharge from a site is contaminated to the extent that termination of the discharge to the MS4 is considered, then infiltration of this discharge to groundwater is unlikely to be a better alternative. Development and implementation of BMPs to control the pollutants in the stormwater discharge is a practicable requirement. The Technical Report should be revised to state that the Regional Board does not consider the termination of an existing stormwater discharge into the MS4 to constitute MEP in most circumstances.

Pg. 22 **Section D.1.c(6)** includes requirements for infiltration and groundwater protection. Infiltration will be an important implementation method for hydromodification control, so it is important that these provisions be protective of groundwater quality but not so overly conservative as to impede the use of

infiltration. Provided below are comments on the requirements in this section of the tentative order.

(b) Dry weather flows. Infiltration of pretreated dry weather flows is an important management method to prevent dry weather flow impacts to receiving waters. As this subsection is written in the Tentative Order, it is difficult to interpret the term "dry weather flows containing significant pollutant loads." A suggested alternative is to eliminate this subsection, and to incorporate dry weather flows into subsection a, such that suggest language for subsection a is:

(a) Urban runoff, <u>including dry weather and stormwater flows</u>, must undergo pretreatment such as sedimentation or filtration prior to infiltration to remove pollutants of concern to groundwater and to remove suspended solids that may cause the infiltration facility to fail.

(e) Depth to groundwater. Most BMP design documents recommend or require a minimum depth to groundwater of 3 feet or more. This criterion is a based on the hydraulic consideration of groundwater mounding, as well as the treatment consideration of soil filtration. If the native soil has low organic matter or CEC or if there is fractured bedrock, a minimum depth to groundwater of 10 feet is appropriate and additional pretreatment should be required as is stated in the Tentative Order. However, if the soils have a high adsorptive capacity, as required by subsection (f) of this provision, a minimum depth of 3 feet should be adequate to be protective of groundwater quality.

Also, infiltration of treated runoff for hydromodification control purposes should be allowed with a minimum of 3 feet of separation to groundwater. In this case, infiltration relies on the use of highly draining soils and the concern is strictly related to the hydraulic considerations of mounding versus relying on the soil properties to provide runoff treatment.

Suggested language for subsection (e) is:

(e) The vertical distance from the base of any infiltration treatment control BMP to the seasonal high groundwater mark must be at least 10 feet, <u>except as provided in this subsection</u>. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained. <u>If infiltration soils have a high adsorptive capacity, as required by subsection (f) of this provision, a minimum depth of</u>

at least three feet is allowed. Additionally, infiltration of runoff that is treated, prior to infiltration, in a treatment control BMP that addresses the pollutants of concern in groundwater and is implemented in accordance with Section D.1.d(6) of this permit is allowed with a minimum of 3 feet of separation to groundwater.

(f) Soil specifications. The soil specifications in this subsection are applicable to the use of infiltration for runoff treatment, but not the use of infiltration for hydromodification control. These soils specifications will limit infiltration rates, and therefore are not amenable to infiltration used for hydromodification control. Coarse soils that allow for rapid infiltration should be allowed for infiltration of fully treated runoff as indicated in the comment for subsection (e) above.

Suggested alternative language would be to add the following at the end of subsection (f):

Infiltration of treated urban runoff is allowed for hydromodification purposes in other soils as set forth in subsection (e) above.

(g) High threat to water quality land uses. Areas of mixed land uses that include the land uses listed in this subsection should be allowed to use infiltration for treatment control and/or hydromodification control. Suggested alternative language would be to add the following at the end of subsection (g):

Areas of mixed land uses that include a low percentage of high threat to water quality land uses and activities may use infiltration treatment control BMPs, provided sufficient pre-treatment is provided. Also, runoff from these areas that is treated, prior to infiltration, in a treatment control BMP that addresses the pollutants of concern in groundwater and is implemented in accordance with Section D.1.d(6) of this permit may be infiltrated for hydromodification control purposes.

(h) Separation from water supply wells. Water supply wells used for agricultural consumption should not be included in the 100 feet separation requirement. The language at the end of subsection (h) should be edited to state:

(h) Infiltration treatment control BMPs must be located a minimum of 100 feet horizontally from any water supply wells used for domestic consumption.

Pg 25 **Section D.1.d(2)(g)** includes a trigger for priority development projects to include those located within or directly adjacent to or discharging directly to an ESA that increase the area of imperviousness on a proposed project site to 10 percent or more of its naturally occurring condition. This trigger is presumably based on the existing literature that correlates watershed imperviousness with the biological integrity and physical habitat of streams and other receiving waters. Use of this 10 percent value is premature as it has not been developed for local watersheds, nor considers the impact avoidance effects of BMPs. Also, the proposed trigger also does not consider spatial scale on which the project occurs. As the correlation between watershed imperviousness and receiving water impact is based on a watershed scale, the trigger should be tied to the increase in imperviousness in the project's watershed, not project site imperviousness. As is, this requirement would encourage sprawl.

Pg. 34 The following comments are all related to ***Section D.1.h***, requirements for hydromodification and downstream erosion.

Section D.1.h(1) The onsite hydromodification control waiver included in D.1.h(3)(c) should excuse a project from further compliance with the requirements in D.1.h(2) and (3)(a) and (3)(b). Therefore, D.1.h(3)(c) would be better located as D.1.h(1)(b), after the existing first paragraph as D.1.h(1)(a). See further the comment on D.1.h(3)(c) below.

Section D.1.h (3)(c). The proposed waiver thresholds (an increase of less than 5% total impervious cover on a new development site and at least a 30% decrease in total impervious cover in a redevelopment project) seem arbitrary and are not based on the current knowledge of hydromodification impacts.

There is much discussion about the reliability of imperviousness as a "predictor" of potential impacts from new development. In fact, the effects of imperviousness on hydromodification impacts is much more complicated than a simple correlation with imperviousness. The limited hydromodification impact research to date has focused on empirical evidence of channel failures in relationship to directly connected impervious area (DCIA) or total impervious area. However, the more recent research has established that channel failures correlate, though loosely, more directly with DCIA. Therefore, waiver conditions tied to total impervious area do not reflect the most current available scientific information.

Further, more recent research has established that, in addition to the amount of DCIA present, the size of the watershed, channel slope and materials, vegetation types, and climatic and precipitation patterns are critical to accurately predicting receiving water response to DCIA (SCCWRP 2005a) (see discussion above).

Although physical degradation of stream channels in semi-arid climates of California may be detectable when watershed imperviousness is between three and five percent, not all streams will respond in the same manner (SCCWRP 2005b). Management strategies need to account for differences in stream type, stage of channel adjustment, current and expected amount of basin imperviousness, and existing or planned hydromodification control strategies.

The absolute measure of watershed imperviousness that could cause stream instability depends on many factors, including watershed area, topography, land cover, and soil type; development impervious area and connectedness; longitudinal slope of the river; channel geometry; and local boundary materials, such as bed and bank material properties and vegetation characteristics.

The first part of the waiver, as written, also does not account for the existing imperviousness in the project's watershed, nor the potential cumulative imperviousness of non-priority projects that could occur within the subject watershed.

In summary, it is important to not prejudge these thresholds without proper consideration of local watershed and channel stability factors. Instead, the Tentative Order should allow the SMC study and Copermittee hydromodification control planning process to occur, so as to develop appropriate thresholds based on best available science and localized watershed conditions.

Section D.1.h(1) should be revised as follows. Section D.1.h(3)(c) should then be deleted.

(1) Assessment of Downstream Erosion

(a) Each Copermittee must require evaluation of the adjacent and downstream conditions of receiving waters (i.e., waters of the U.S. and State) when evaluating Priority Development Projects. Factors to evaluate must include the designated beneficial uses of the receiving waters, type of channel receiving discharges, the stage of channel adjustment/alteration, channel

slope, composition of bed and bank materials, underlying geology, watershed position (e.g., stream order and location), and connections between the streams and adjacent floodplains.

(b) Onsite hydromodification control waivers: Copermittees may develop a strategy for waiving hydromodification requirements for onsite hydromodification controls (not site design BMPs) in situations where assessments of downstream channel conditions and proposed discharge hydrology clearly indicate that adverse hydromodification effects to present and future beneficial uses are unlikely. The waivers must be based on the following determinations:

(i) Watershed-specific waivers: Waivers may be implemented for new development and redevelopment projects within a watershed where a watershed management plan or study has been prepared that establishes thresholds for project waiver based on watershed-specific factors. The watershed plan or study shall establish when potential for substantial hydromodification impacts is not present based on appropriate assessment and evaluation of relevant factors, including: runoff characteristics, soils conditions, watershed conditions, channel conditions, and proposed levels of development within the watershed. The plan or study may also indicated systems where, due to current hydromodification impacts, the best course of action is to address hydromodification with in-stream restoration techniques.

(ii) Redevelopment project waivers: Waivers may be implemented where redevelopment projects do not increase the potential for hydromodification impacts over the existing site conditions, by both no increase in impervious area and no decrease in the infiltration capacity of pervious areas.

(iii) Degraded stream channel condition: Waivers may be implemented in situations ~~where receiving waters are severely degraded (highly unstable due to irrevocable changes to its form);~~ the receiving system is concrete-lined or significantly hardened (e.g., with rip-rap, sackcrete, etc.) downstream to their outfall in bays or the ocean; or the project would discharge into underground storm drains discharging directly to bays or the ocean.

(iv) Modified channel conditions: Conditional waivers for onsite controls may be implemented in situations where receiving waters are severely degraded (highly unstable due to irrevocable changes to its form). In this situation, conditional waivers shall include requirements for in-stream measures designed to improve the beneficial uses adversely affected by hydromodification. The measures must be implemented within the same watershed as the Priority Development Project.

(c) The requirements in sections D.1.h(2) and (3) below do not apply to Priority Development Projects that meet the waiver requirements in subsection (b) above.

Section D.1.h (5) Hydromodification Criteria Interim Requirements for Large Projects requires that *all* Priority Development Projects larger than 20 acres implement specific hydrologic control measures to address hydromodification impacts. This requirement should not apply to Priority Development Projects where the project discharges stormwater runoff into creeks or storm drains where the potential for erosion, or other impacts to beneficial uses, is minimal or nonexistent. Such situations may include discharges into creeks that are concrete-lined or significantly hardened (e.g., with rip-rap, sackrete, etc.), storm drains discharging directly to the ocean, lake, or other waterbody that is not susceptible to erosion, and construction of infill projects in highly developed watersheds where the potential for single-project and/or cumulative impacts is minimal. This condition should also not apply to redevelopment projects that do not increase impervious surfaces, or that reduce impervious surfaces, as these projects would not cause new hydrologic impacts. Having the last few projects being developed employ significant hydromodification controls in watershed where channel degradation is already occurring would not solve the existing hydromodification problem. There should be an allowance for the use of geomorphically-referenced stream stabilization techniques and/or larger regional hydromodification control where possible in these cases.

Section D.1.h (5)(a)(ii). Hydromodification Criteria Interim Requirements for Large Projects subsection (ii) requires disconnecting impervious areas from the drainage network and adjacent impervious areas. This requirement is redundant of the requirement in subsection (i), and should not be required if the impervious area is being directly connected to a downstream regional hydromodification control facility prior to discharge to a sensitive receiving water.

Subsection (i) should be revised to read as follows:

(i) On-site or off-site storm water reuse, evapotranspiration, and/or infiltration for small precipitation events, based on limitations imposed by soil conditions and groundwater contamination potential, prior to discharge to the receiving water;

Subsection (ii) should be deleted.

Section D.1.h (5)(a)(iii). Hydromodification Criteria Interim Requirements for Large Projects subsection (iii) provides for a hydrograph matching interim hydromodification control criterion. Palhegyi et al (2005) compared three flow control criteria in terms of effectiveness at controlling potential channel erosion: peak flow controls, hydrograph matching, and flow duration matching. While hydrograph matching was found to be far more effective than peak flow control, the analysis indicated an unacceptably high risk of future instability with hydrograph matching. Study results showed that hydrograph matching based on the 2-year discrete event resulted in a 100% probability of channel instability, based on field observations at over 45 study sites across 3 sub-watersheds in the Santa Clara Valley (SCVURPPP, 2005). Even matching the hydrograph of the 50-year discrete event corresponded to an approximately 70% probability of instability. Flow duration control, which maintains the continuous distribution of pre-development sediment transporting flows, was the only flow control method that was sufficiently protective.

A suggested flow duration control-based interim hydromodification criteria to replace the proposed Interim Hydromodification Criteria in subsection (iii) is as follows:

(iii) Control runoff by matching the pre-development flows and durations for the continuous range of return periods from 10 percent of the two year to the 10-year, based on long-term rainfall records. Within this range, the post-project flow duration curve shall not deviate above the pre-project flow duration curve flows by more than 10 percent, and shall not deviate above the pre-project flow duration curve flows over more than 10 percent of the length of the curve. A site specific critical flow may substitute for the lower return period (10 percent of the two year) if available.

Revise subsection (iv) to read as follows:

(iv) Establish buffer zones and setbacks for channel movement where appropriate based on the resource value of the drainage and consistent with watershed and subwatershed planning. ~~Consider various alternatives where in-stream controls are necessary.~~ Where in-stream controls are necessary, use geomorphically-referenced channel design techniques for channels that are substantially natural in the existing condition.

To assist in the implementation of the interim hydromodification control requirement for large projects, a local implementation tool based on flow duration control in the form of nomographs relating percent impervious area and soil type (infiltration rates) to BMP volume and land area requirements could be to developed within a 6 month to one year timeframe. The nomographs would be derived from continuous simulation modeling, using Southern Orange County-specific rain gauge records and local soil types. Ideally, the model would be calibrated using local, undeveloped and gauged watershed data. Each large development project, and/or the Copermittee, would be required to assess appropriate hydromodification standards and controls via the following protocol, as recommended by available literature: first conduct an assessment of the physical sensitivity of the downstream system. Then, if needed based on downstream sensitivity and ability to effect change in the watershed, implement hydrological source control BMPs and size hydromodification controls using the nomograph tool based on the percent imperviousness of the proposed project. Finally, require the project proponent to provide the indicated storage and infiltration volume and area, either in the form of a single basin or in smaller units distributed throughout the project.

Pg. 41 ***Section D.2.d(1)(c)*** Designate enhanced BMPS for 303(d) impairments and ESAs. It is unclear what constitutes "enhanced measures" for construction site BMPs. It should be clarified that "enhanced measures" are not exclusively "Advanced Sediment Treatment". The following discussion provides some proactive erosion and sediment control requirements for consideration by the regional board.

The stormwater provisions of the Clean Water Act require the implementation of BMPs to control and abate the discharge of pollutants in stormwater discharges from construction sites utilizing the best available technology economically

achievable (BAT) and best conventional pollutant control technology (BCT). In order to achieve this goal with respect to the discharge of sediment from construction sites, the following five major objectives should be accomplished at every construction site:

- To minimize exposed areas and provide erosion control practices on disturbed areas during the rainy season;
- To provide properly designed drainage facilities to control concentrated flows;
- To provide sediment control practices around the perimeter of the construction site and at all internal inlets to the storm drain system during the rainy season;
- To reduce the tracking of sediment off site all year; and
- To reduce wind erosion all year.

However, stating these objectives alone in a permit does not provide the desired degree of specificity and guidance for the designer and contractor to decide when and what types of erosion and sediment control practices are needed, and how much erosion and sediment control is enough. Adding language with more specific design criteria applicable to all sites is suggested below. In addition, suggestions for "Enhanced Measures" for high risk sites (e.g., those that drain directly to water bodies that are 303(d)-listed for sediment constituents or that drain to other water quality sensitive areas as determined by the local jurisdiction) are provided below.

1. Require that **erosion control practices** be provided on disturbed areas during the rainy season. In order to address the timing of implementation of these measures, the permit should specify that all disturbed areas that will not be re-disturbed for a certain length of time (e.g., 20 days) shall be provided with erosion control measures within a certain length of time (e.g., 10 days) from last disturbance. The erosion control practices should achieve and maintain a specified minimum soil coverage (e.g., 90 percent of the soil being treated shall be covered) until the permanent vegetation or other permanent stabilization provides the intended long-term erosion control function at the site. In addition, more guidance should be provided through the California BMP Handbooks or other appropriate mechanism to for minimum erosion and sediment controls based on slope, season, and anticipated duration of inactivity. Dry season requirements should be based predominately on wind erosion control requirements, below.

Enhanced practices to consider for high risk sites include increased BMP inspection and maintenance requirements for high risk sites (e.g., requiring inspection by the SWPPP preparer/engineer or third party inspector at the time of BMP installation and at specified frequencies during the wet and dry seasons, limitations (but not necessarily prohibitions) on wet weather grading, and limiting the area of disturbance to the area that can be effectively controlled during wet weather.

2. Require that on-site **drainage facilities** for carrying concentrated flows be designed to control erosion, to return flows to their natural drainage courses, and to prevent damage to downstream properties.

3. Require that **sediment control practices** be provided around the down gradient perimeter of the construction site and at all internal inlets to the storm drain system during the rainy season. These sediment control measures may include filtration devices (such as silt fences, straw bale barriers, and inlet filters) and/or settling devices (such as sediment traps or basins). Filtration devices that are designed for sheet flow shall be installed and maintained properly in order to perform effectively. Sediment traps or basins shall be designed and maintained in accordance with requirements of the California General Construction Permit.

   Enhanced practices to consider for high risk sites include enhanced sediment basin controls such as the addition of baffles or other controls required to meet water quality objectives on a site-specific basis. Enhanced sediment basin controls should target portions of the site that cannot be effectively controlled by standard proactive erosion and sediment controls described above and not necessarily required throughout a site.

4. Require that practices be implemented and maintained to **reduce the tracking of sediment off site** at all times. This may be accomplished by stabilized construction entrances, wheel wash facilities, or other appropriate and effective measures designed in accordance with the most current CA BMP Handbooks; and

5. Require that practices be implemented and maintained to **reduce wind erosion** at all times. This may be accomplished by limiting the area of disturbance, applying dust control measures, and stabilizing disturbed areas in

a timely manner, and should be designed in accordance with the most current CA BMP Handbooks.

The standard principles of proactive and effective construction site erosion and sediment control identified above are consistent with the current erosion and sediment control manuals. However, these principles are not necessarily implemented appropriately at all construction sites due to a lack of permit specificity and design guidance. Additionally, these requirements would be relatively easy for a designer to specify, a contractor to implement, and a resident engineer, site superintendent, or site inspector to evaluate and enforce in the field.

Pg. 41 ***Section D.2.d(1)(c)(i).*** This subsection requires the use of "Advanced Sediment Treatment" for construction sites that are determined by the Copermittee to be an exceptional threat to water quality. The report by the State Water Resource Control Board's Stormwater Panel on Numeric Limits (SWRCB, 2007) included the following "reservations and concerns" on Advanced Sediment Treatment (called Active Treatment Systems in the Report):

1. The active treatment systems have generally been employed on sites five acres or larger. While the systems are technically feasible for sites of any size, including sites or drainages as small as an acre or less, the cost may be prohibitive. The cost-effectiveness of active treatment systems is greatly enhanced for large drainage areas, at which construction occurs for an extended period of time, over one or more wet season. There is also a more "passive" active system that is employed in New Zealand that uses captured rainfall to release the chemical into flows entering a detention system that requires less instrumentation and flow measurement infrastructure. Even more passive systems such as the use of polymer logs and filter bags are currently under development for small sites. Regardless, the Panel recommends that the Board give particular attention to improving the application of cost-effective source controls to small construction sites.
2. In considering widespread use of active treatment systems, full consideration must be given to whether issues related to toxicity or other environmental effects of the use of chemicals has been fully answered. Consideration should be given to longer-term effects of chemical use, including operational and equipment failures or other accidental excess releases.
3. Active treatment systems could result in turbidity and TSS levels well below natural levels, which can also be a problem for receiving waters. One of the

causes of stream degradation impacts is the elimination of sediment producing areas in a watershed. Releasing runoff with virtually no sediment load can increase channel downcutting or bank erosion

These concerns and recommendations should be considered by the Board prior to requiring the use of active treatment systems.

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April 3, 2007

RE: Comments on Tentative Order No. 09-2007-0002

Dear Sirs,

Orange County Coastkeeper is a grass roots environmental organization with the mission to preserve, protect and restore the marine environment and watersheds of Orange County. We have reviewed Tentative Order No. 09-2007-0002 and respectfully submit the following comments for your consideration.

1. The tentative permit is a significant improvement over the previous version. We believe that the full implementation of the requirements outlined in the tentative permit will facilitate the improvement of water quality in Orange County. In section D.1.b the document states that the permittees have been "generally" implementing the required Urban Runoff Management plans. The new permit language should stress the need for full implementation of the permit requirements. Full implementation of the permit requirements is necessary to fulfill the goal of improving water quality in Orange County.
2. The inclusion of Low Impact Development (LID) site design BMP's for new developments is a good step forward. The permit should also encourage the inclusion of LID site design BMP's in the many retrofit activities that occur in Orange County such as individual commercial and residential roof and parking lot/driveway replacements.
3. Section D.4.e requires the development, updating and use of action criteria to determine when follow up investigations will be preformed in response to water monitoring. We support this first step toward the establishment of numeric criteria for stormdrain discharges. We also would like to see a process to include the public in the process of developing and updating the action criteria. We think that the development and use of appropriate numeric criteria will be a useful tool to improve water quality.
4. *E.Coli* should be added to the list of bacteriological parameters to be monitored at mass loading stations detailed in Table 1 of the Receiving Waters and Urban Runoff Monitoring and Reporting Program.
5. Bioassessments should include the monitoring of periphyton within one year of approval of the permit. There is need to wait until 2010 to begin monitoring this sensitive indicator of stream health.
6. Section 2d of the Receiving Waters and Urban Runoff Monitoring and Reporting Program should be modified to allow universities, NGO's and other qualified organizations to collect samples for biassessments. This will allow continued high quality sample collection along with the potential for substantial cost savings to the county.
7. The Inland Aquatic Habitat Monitoring Program should be implemented within on year of the approval of the permit rather than in summer 2009.
8. Section D.2.b discusses the importance of using on site source controls and site design BMP's for new developments to protect and improve water quality. While we agree with this idea in principle, for practicality we encourage the regional board to allow the permitees the use of discretion during the planning process to address water quality. By allowing the permittees flexibility choosing the methods to address water quality issues, problems can be addressed at the watershed level resulting in a greater overall benefit to water quality.

We thank you for this opportunity to comment on the Tentative Order No. 09-2007-0002. We look forward to working with the Regional Board, County and Cities in the future to continue to improve water quality in Orange County.

Sincerely,

Ray Hiemstra
Associate Director-Programs
Orange County Coastkeeper

NRDC
THE EARTH'S BEST DEFENSE

NATURAL RESOURCES DEFENSE COUNCIL

April 3, 2007

Via Federal Express

Executive Officer and Members of the Board
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Re: Tentative Order No. R9-2007-0002, NPDES NO. CAS0108740

Dear Mr. Robertus and Members of the Board:

On behalf of the Natural Resources Defense Council ("NRDC") and Defend the Bay, we submit the following comments on the Tentative Order, "Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of Orange, the Incorporated Cities of Orange County, and the Orange County Flood Control District Within the San Diego Region" ("Proposed Permit"), the fourth iteration of the co-permittees' Phase I municipal storm water permit under the Clean Water Act's National Pollution Discharge Elimination System.

We submit the attached comments to bring to the Board Members' attention specific opportunities to more swiftly address the matter of storm water runoff by strengthening the Proposed Permit with respect to its development planning requirements. Specifically, we urge the Board to adopt language similar to that in analogous municipal storm water codes around the country that would effectuate broad implementation of Low Impact Development ("LID") strategies to address storm water runoff. Accordingly, the comments focus on the Proposed Permit's LID requirements in the development planning program (Section D.1). Low impact development uses a collection of site design and treatment controls to maintain the natural hydrologic character of developed sites, and has been demonstrated to be the most effective and cost-efficient method for managing storm water and protecting the environment. As discussed in this submittal, such an approach has numerous benefits with respect to a variety of water quality and supply objectives. Further, it is necessary in order to implement the State Water Resources Control Board's "Low Impact Development - Sustainable Storm Water Management" policy objective adopted on January 20, 2005,

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which includes incorporating low impact development in Standard Urban Storm Water Mitigation requirements.[1]

Since NRDC recently submitted extensive comments to the San Diego Regional Board in connection with the San Diego storm water permit, we are attaching our June 20, 2006 comment letter and Proposed Permit with redlined edits for the Board's re-review. We urge the Board to adopt a revised version of the Proposed Permit that incorporates our specific proposals to effect the changes that are needed in storm water management practices in the Southern Orange County area.

Sincerely,

Michelle Mehta
Natural Resources Defense Council

Robert Caustin
Defend the Bay

[1] State Water Resources Control Board, "Low Impact Development – Sustainable Storm Water Management," (Jan. 2005) ("Low Impact Development (LID) is a sustainable practice that benefits water supply and contributes to water quality protection. . . . LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management. The Water Boards are advancing LID in California in various ways [including] . . . [r]esearching how to incorporate LID language in to Standard Urban Storm Water Mitigation Requirements."), at http://www.waterboards.ca.gov/lid/index.html, last accessed March 29, 2007.

NRDC
THE EARTH'S BEST DEFENSE

NATURAL RESOURCES DEFENSE COUNCIL

June 20, 2006

Via hand delivery

Executive Officer and Members of the Board
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Re: Tentative Order No. R9-2006-0011

Dear Mr. Robertus and Members of the Board:

The Natural Resources Defense Council ("NRDC") is a national environmental organization with over 600,000 members, more than 100,000 of whom are California residents and approximately 8,000 of whom live within the San Diego Region. NRDC has reviewed the Tentative Order, "Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority" ("Proposed Permit"), the third iteration of the co-permittees' Phase I municipal stormwater permit under the Clean Water Act's National Pollution Discharge Elimination System.

We submit the following comments to bring the Board Members' attention to specific opportunities to more swiftly address the matter of storm water runoff by strengthening the Proposed Permit with respect to its Development Planning requirements. Specifically, we urge the Board to adopt language similar to that in analogous municipal storm water codes around the country that would effectuate broad implementation of Low Impact Development ("LID") strategies to address storm water runoff. As discussed in this submittal, such an approach has numerous benefits with respect to a variety of water quality and supply objectives. Further, it is necessary in order to implement the State Water Resources Control Board's "Low Impact Development - Sustainable Storm Water Management" policy objective adopted on January 20, 2005, which includes incorporating low impact development in Standard Urban Storm Water Mitigation requirements.[1] In addition, and more broadly, a concluding section of this letter describes why the Proposed Permit must include numeric limitations on the discharge of pollutants.

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1. Water quality problems persist in San Diego County receiving waters, and in some cases have gotten worse during the last permit cycle.

Over the past five years, the County of San Diego, the incorporated cities in San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority ("Copermittees") have been implementing jurisdictional urban runoff management programs under Order No. 2001-01. Nonetheless, as Board staff has recognized, "urban runoff discharges continue to cause or contribute to violations of water quality standards" in the San Diego region.[2] Indeed, the copermittees' own water quality monitoring data show that urban runoff remains a primary cause of water quality impairment in San Diego County:

> Persistent exceedances of Basin Plan water quality objectives for various urban runoff-related pollutants [including] diazinon, fecal coliform bacteria, total suspended solids, turbidity, metals, etc. . . . At some monitoring stations, *statistically significant upward trends in pollutant concentrations* have been observed. Persistent toxicity has also been observed. . . . [U]rban runoff discharges are [not only] causing or contributing to water quality impairments, [but] are a *leading cause of such impairments in San Diego County.*[3]

While the past permit has no doubt effected a positive impact on storm water quality, runoff volume, and erosion control, reissuance presents an opportunity to modify the permit's structure and requirements to better achieve the underlying goals.[4] In light of the persistence of significant water quality problems in the San Diego Region, Board staff has recognized that it is imperative that the focus for evaluating the success of copermittees' stormwater programs shift from program implementation to the realization of water quality results in the coming permit cycle.[5]

2. Specific aspects of the 2001 permit likely contributed to the failure to see adequate water quality improvements over the past permit cycle.

The provisions of the previous permit made significant strides in stormwater regulation,[6] including designating certain categories of development as requiring SUSMP application. However, evidence—such as that mentioned above—indicating that water quality problems persist and in some cases are worsening makes it clear that the steps taken in the previous permit are insufficient. They are failing to "keep up" with the increasing impacts of development in San Diego County. The following discussion highlights two specific aspects of the previous permit that contributed to the failure of JURMPs implemented under the permit to achieve broad improvements in stormwater runoff: the thresholds at which "priority project" status is triggered for various categories of new development and redevelopment; and the insufficient emphasis on low impact site design best management practices ("BMPs").[7]

A. The proposed permit's definitions of "Priority Development Project" are insufficiently protective of water quality.

It is widely recognized[8]—and the Regional Board and staff have repeatedly emphasized[9]—that urban development increases impervious land cover and exacerbates problems of storm water volume, rate, and pollutant loading. Development and redevelopment activities that occur without effective post-construction BMPs contribute to these problems. In addition to the failure to realize water quality improvements, there are three general indicators that the existing Priority Development Project categories are under-inclusive and must be amended in the reissued Permit.

(i) The existing thresholds do not meet MEP because they are significantly under-inclusive compared to those in place in comparable communities.

First, the maximum extent practicable standard requires just that—a maximum level of storm water control effort in the Permit. As Regional Board staff has noted, "since MEP is a dynamic performance standard which evolves over time as urban runoff management knowledge increases, the Copermittees' urban runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices, etc."[10] Across the nation, states, counties, and cities have adopted requirements to address runoff from development projects that are far more inclusive and stringent than the Proposed Permit would mandate. For example:

- City of Santa Monica, California - defines "new development," to which specific storm water runoff control requirements apply, as "any construction project that (a) results in improvements to fifty percent or greater of the square footage of a building, (b) creates or adds at least five thousand square feet of impervious surfaces, or (c) creates or adds fifty percent or more of impervious surfaces." (Santa Monica Municipal Code, Chapter 7.10.030(d)(3));

- Contra Costa County, California – applies storm water runoff control requirements to "new and redevelopment projects that create 10,000 square feet or more of impervious area." (RWQCB, San Francisco Bay Region, Contra Costa Countywide NPDES Municipal Stormwater Permit Amendment Order No. R2-2003-0022 (amending Order No. 989-058, NPDES Permit No. CAS0029912) at pp. 9-10 (lowering the current one-acre threshold for the application of performance standards effective August 15, 2006);

- State of New Jersey - defines "major development," to which specific storm water runoff control requirements apply, as "any development that ultimately provides for disturbing one or more acres of land or increasing impervious surface by one-quarter acre or more." (New Jersey Stormwater Rules, N.J.A.C. § 7:8-1.2);

- State of Washington – applies numeric storm water treatment requirements to any project adding 5,000 square feet or more of new impervious surface. (Phase I Municipal Stormwater NPDES General Permit (Draft Feb. 15, 2006) Appendix I (Minimum Technical Requirements for New Development and Redevelopment), at pp. 7, 8, 20);

- State of Maryland – requires storm water management plans for any development that disturbs 5,000 square feet or greater. (Maryland Code, Title 26, Subtitle 17, Chapter 2, §5B; see also Maryland Model Stormwater Management Ordinance (July 2000) at pp. 2, 5, 8);

- City of Portland, Oregon – employs "a citywide pollution reduction requirement for all development projects with over 500 square feet of impervious development footprint area, and all existing sites that propose to create new off-site stormwater discharges." (Stormwater Management Manual (adopted July 1, 1999; updated September 1, 2004) Chapter 1.5.2 (Pollution Reduction Requirements) at p.1-25);

- State of Missouri - requires storm water management plans for any new development that "disturbs greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale." (Missouri State Operating Permit No. MO-R00-4000 (Mar. 10, 2003) at p. 15);

- State of Illinois - requiring implementation of plans to control storm water runoff "from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale." (Illinois General NPDES Permit No. ILR40 (Dec. 20, 2002) at p. 6);

- State of West Virginia – requires a "program to address post-construction storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale" (West Virginia General NPDES Permit No. WV0116025 (March 7, 2003) at p. 5).

- Stafford County, Virginia – uses an exemption approach under which low impact development practices apply to all development except a) mining/oil & gas operations; b) agriculture; c) *linear development projects that are less than 1-acre, insignificant increases in peak flow, and no flooding or downstream erosion problems*; d) single family not part of a subdivision; e) structure ancillary to single-family homes; and e) "land development projects that disturb less than two thousand five hundred (2,500) square feet of land." (Stafford County Muni. Code § 25.5-1(f).)

These examples illustrate what is practicable in terms of requiring and enforcing specific storm water management practices for new and redevelopment in communities comparable to, or smaller than, the San Diego Region. Indeed, they show that an appropriate new development threshold for SUSMP purposes is 5,000 square feet or less for all development, no matter its characterization as a restaurant, housing development, or other category.

The 5,000 square feet threshold for redevelopment projects, as required by the 2001 permit, has been upheld by courts and the State Water Board.[11] Applying the threshold as a "catch-all" category in the Proposed Permit would further the purpose of SUSMP and low impact development ("LID") type practices, i.e. expressly to ensure that when highly developed communities, such as those in San Diego County, replace themselves through generations, the opportunity to mitigate the adverse impacts of storm water pollution from urbanization is not lost. This threshold could be used not to weaken any currently applicable category, but rather to strengthen less stringent categories and sweep additional project types into the "Priority Development Project" category. (We have included "redline" edits to the Proposed Permit that effectuate this and other comments in this letter, attached hereto as Attachment III.) Because the 5,000 square feet threshold is consistent with those used in other regions and states and is appropriate in light of the rapid pace of development and the irrefuted storm water pollution problems in the San Diego Region, it should be included in the new permit.

Indeed, the Proposed Permit's "Priority Development Project" categories are also insufficiently inclusive when compared to federal storm water rules. While some "Priority Development Projects" are relatively small, such as a restaurant, many others must be enormous before being subject to the SUSMP requirements, such as commercial developments of 100,000 square feet. By contrast, a one-acre standard is a conventional threshold that applies generally to post-construction storm water management requirements. EPA requires this threshold for Phase II MS4 under 40 C.F.R. § 122.34(b)(5)(i), which states that municipalities "must develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre . . . ." Even this standard, employed as a "catch-all" in addition to the current Priority categories, would improve the efficacy of the SUSMP program. This requirement illustrates that, in key respects, the Proposed Permit would be less stringent than Phase II permits, if adopted without modification.

The fact that Phase I Permits and rules have been issued for nearly 15 years now, while Phase II Permits are first generation permits throughout the nation, makes it impossible to justify such an outcome. In fact, EPA give "maximum flexibility" in promulgating Phase II rules to smaller cities since they were obtaining permits for the first time. (64 Fed. Reg at 68,739.) Yet, in many instances, their new development control requirements are broader than those that apply in San Diego. Moreover, as noted above, water quality conditions in the San Diego Region necessitate a lower threshold.

For these reasons, the threshold and definition of a "Priority Development Project" category must be augmented to capture a greater degree of development activity. It is apparent from the broader applicability to new development reflected in analogous programs that are

currently in place elsewhere in California and around the country that the Priority Development Project thresholds in both the previous permit and the current language of the Tentative Order do not meet the maximum extent practicable standard. Indeed, the failure of the Proposed Permit to address any development on an acre or more or creating more than 25% impervious surface makes the Proposed Permit less stringent than Phase II storm water rules. In this case, the evidence shows that a 5,000 square feet threshold applicable to all types and categories of development is consistent with the MEP standard. Such a standard, therefore, must be included in the Proposed Permit.

(ii) The existing thresholds appear to be arbitrary in light of persistent water quality problems.

Second, where an agency sets thresholds for storm water management requirements that are not supported by evidence, courts have rejected such actions.[12] Here, water quality data for the San Diego Region provides stark evidence that the previous permit's BMP requirements for new development and significant redevelopment have not affected the urban landscape at an acceptable pace.[13] Moreover, as discussed above, evidence from other programs in California and around the country indicates that the current thresholds do not reflect MEP, either. In light of data showing that the existing thresholds are inadequate to meet water quality standards, evidence that more inclusive thresholds would better represent MEP, and absent any evidence to support maintaining the thresholds at the existing levels, there is no basis in the record upon which to continue those thresholds in the new permit.[14]

The seemingly arbitrary nature of at least some of the existing threshold levels is further underscored by the observation that thresholds for some of the Priority Development Project categories in the previous permit are objectively large. For instance, the threshold for commercial developments in the previous permit, which has not changed in the Tentative Order, is 100,000 square feet. To put this figure in perspective, 100,000 square feet is equivalent to 2.3 acres—larger than two football fields together—which is a very large development in any setting but represents an enormous development in the urban context. So-called big-box retail stores such as Home Depot, Target, and large grocery stores are typically 50,000 sq ft or more; these massive developments often would fall below the commercial priority project threshold under the existing permit, while it would take a "supercenter" type development to trigger the 100,000 square feet threshold in the commercial category.[15] Given the documented water quality challenges that remain and the centrality of the SUSMP program to achieving beneficial improvement, there is no support for continuing to exclude projects such as these that, by their sheer size, can substantially contribute to runoff volume and pollutant loading.

(iii) The existing thresholds do not meaningfully match the pace of development in the San Diego region.

Third, information regarding the types of building permits being issued in the San Diego Region raises a significant red flag about the extent to which the current regime applies SUSMP requirements to new development and redevelopment. For instance, several of the copermittees'

annual JURMP reports cite strikingly low figures for the number of development projects that have been SUSMP-conditioned over the past permit term. For example, for permit year 2004-2005, the County of San Diego issued 9,376 permits,[16] and reported in its annual report that 115 discretionary projects were SUSMP-conditioned.[17]

Even taking in to account that these figures include permits that do not represent construction on the ground (e.g., electrical, plumbing, gas line), the data evidence a huge disparity between the overall amount of development occurring in the area and the amount of development that actually falls within a Priority Project Category. Thus, while the categories as defined in the existing permit apply SUSMP requirements to some of the largest or most polluting types of development, the landscape of the San Diego Region continues to rapidly urbanize through the addition of development that does not trigger SUSMP requirements. This is significant because broadly speaking, nearly all development ("urbanization") contributes to the creation of impervious surface in the landscape.[18] Although some of the copermittees appear to require BMPs for non-priority development projects, many conventional BMPs (e.g., stenciling, signage, and providing pet waste bags), applied without accompanying site design practices, are inadequate to achieve significant runoff volume and pollutant loading reduction. Moreover, the fact that some copermittees may apply more stringent BMP requirements—and in some cases, SUSMP-level BMP requirements—to non-priority development projects is further evidence that implementing more inclusive SUSMP thresholds is indeed practicable, and that not doing so is arbitrary.

B. Language in the previous permit resulted in insufficient implementation of low impact site design BMPs ("LID").

The previous permit highlighted natural-process site design BMPs as effective methods to reduce urban runoff pollution.[19] In many instances such BMPs are consistent with low impact development techniques (i.e., low impact site design BMPs). However, while site design BMPs were promoted in the previous permit, none were strictly required of priority or non-priority development projects. Specifically, the previous permit directed copermittees to require "site design/landscape characteristics *where feasible* which maximize infiltration, provide retention, slow runoff, and minimize impervious land coverage for all development projects."[20] Even though this provision applied to both non-priority and priority development, the permit did not provide guidance on how the copermittees should determine the feasibility of site design BMPs on a case-by-case basis; nor did it require the SUSMP to include a list of recommended site design BMPs. By contrast, the previous permit did require the copermittees to include in the SUSMP a list of source control and structural treatment BMPs. Furthermore, despite recognizing priority development projects' "greater potential to significantly impact receiving waters"[21] and the efficacy and added benefits of natural process site design BMPs,[22] the previous permit did not require priority projects to include site design BMPs. Rather, the permit directed that at minimum, priority projects implement source control and structural treatment BMPs.[23]

Predictably, the BMP requirements for new development in the Model SUSMP developed by the copermittees was consistent with the previous permit's language: while site

design BMPs were promoted as "innovative approaches to urban storm water management . . . that do[] not rely on the conventional end-of-pipe or in-the-pipe structural measures but instead uniformly [and] strategically integrate[] storm water controls throughout the urban landscape," the Model SUSMP did not make site design BMPs a mandatory requirement for new development projects.[24] The resulting lack of emphasis on site design BMPs under the copermittees' JURMPs is evidenced by repeated comments in the 2004 and 2005 audit reports of selected copermittees' JURMP programs to the effect that site design BMPs were not being broadly required by copermittees as conditions for building permit approval.[25] Indeed, increasing the use of site design BMP requirements was a recommendation for each of the 10 copermittees audited in 2005:

> *Many of the SUSMP plans . . . did not adequately address site design.* The Model SUSMP requires priority projects to 'consider, incorporate, and implement where determined applicable and feasible' a series of site design BMPs. Copermittees should require project proponents to describe how they met each of the site design options, including where the project proponent deemed an option not feasible.

(Tetra Tech, Inc., San Diego SUSMP Report (2005) at p.4 (emphasis added).) As the copermittees have recognized, feasibility alone is an inadequate standard to achieve broad implementation of LID practices in project site design in part because development review "if feasible analys[e]s" are time-consuming and contentious, and because soft standards are not widely accepted by the regulated community.[26] Ultimately, while the previous permit took significant strides toward laying the foundation for LID practices in the San Diego Region, its language left too much latitude to project proponents and permitting authorities to actually achieve widespread use of low impact site design strategies in new development. Likewise, the Proposed Permit does not solve these problems sufficiently or adequately require LID approaches to address ongoing water quality problems in the San Diego region. Because of the robust ability of LID approaches to address water quality and water supply problems, the Proposed Permit must require LID techniques as the presumptive tool to address the impacts of new and redevelopment projects.

3. LID practices have significant benefits over conventional BMPs.

As the copermittees have acknowledged, LID "[s]ite design and source control solutions are often more effective than many types of structural treatment for protecting water quality since design considerations eliminate the necessity of addressing sources of pollution, rather than attempting to remove a percentage of the pollution after it has entered stormwater runoff."[27] In fact, LID practices offer myriad benefits—including both the primary benefits of pollution reduction and reducing storm water runoff volume and rate, as well as secondary benefits such as greater cost-effectiveness, groundwater recharge, and habitat protection—over conventional BMPs. NRDC's report on storm water management strategies, *Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows* (2006), comprehensively

addresses both the primary and secondary benefits of LID practices and is included with these comments as Attachment II.

Moreover, NRDC commissioned a formal study and report by a leading, nationally-recognized expert, Dr. Richard Horner, entitled *Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for the San Diego Region* (2006) (attached hereto as Attachment I). Dr. Horner confirms that the benefits of LID would be substantial in the San Diego Region and that these benefits can, in fact, be obtained given local building patterns. The Report verifies that implementing LID practices would make the Permit more consistent with MEP and is necessary to meet water quality objectives.

A. The primary benefits of low impact development practices are proven and effective.

In the context of the NPDES municipal storm water permit for the San Diego Region, the primary benefits of LID techniques are reducing runoff volume, rate, and pollution load—results that have been studied and documented in dozens of reports, case studies, and pilot projects in California and across the nation.[28] These primary benefits are described in great detail in the materials that accompany this letter, including reports by state and federal government agencies, building industry organizations, scientists, and non-governmental organizations.[29] Many such reports have been recommended as resources to *and by* the copermittees since the issuance of the previous permit.[30] For instance, the copermittees' own Model SUSMP—which was developed and approved in 2002—recommends an EPA report, *Preliminary Data Summary of Urban Runoff Best Management Practices*, as a guideline for the selection of BMPs for priority projects.[31] The EPA report discusses several LID strategies, noting that LID practices "can significantly reduce runoff volumes that are generated, reduce the impacts associated with runoff and reduce the need for conventional structural BMPs."[32] The report also contains a chapter on BMP costs, providing detailed figures on cost savings and reductions in impervious cover associated with land use practices that incorporate LID techniques.[33] Additionally, Appendix B of the copermittees' Model SUSMP lists some two dozen storm water guidance documents, reports, and design manuals, several of which discuss LID techniques and the cost-effectiveness of LID storm water management strategies.[34] Contrary to the copermittees' unsubstantiated assertion in the 2005 Report of Waste Discharge that low impact development techniques are not proven and are too costly,[35] the overwhelming body of literature shows that LID strategies are effective and can be cost-saving in both the short and long-term.

B. Implementing low impact development practices for storm water runoff control has significant secondary benefits.

In addition to helping reduce pollutant loading in storm water and reducing the volume and rate of storm water runoff, LID practices offer other economic, aesthetic, and practical benefits to developers, municipalities, and homeowners in addition to benefiting natural ecosystems by conserving natural resources such as soil, water, and vegetation and restoring natural hydrologic processes in the watersheds. The following summary of the secondary

benefits of LID practices is but an overview of the voluminous information in the resources provided in Attachment V. (See Attachment IV, providing a table of contents to the materials in Attachment V).

Groundwater recharge – The extensive groundwater resources beneath the San Diego River provide a cost-effective and reliable water supply to four water districts and the City of San Diego.[36] On undeveloped land, a considerable percentage of rainfall infiltrates into the soil and contributes to the groundwater. These aquifers not only provide drinking water but also help maintain base flow essential to the biological and habitat integrity of streams.[37]

As San Diego becomes more developed, a much larger percentage of rainwater hits impervious surfaces including streets, sidewalks, and parking lots rather than infiltrating into the ground. By using LID techniques that reduce the amount of impervious surfaces and increase vegetation and soil features, the landscape can retain more of its natural hydrological function.[38] Thus, LID practices have the added benefit of recharging groundwater aquifers and preserving baseflow to streams and wetlands.[39]

Improving groundwater supplies in Southern California would also save money now spent on imported water, and "may be the key to continued development in the area."[40] As the Board Members are no doubt well aware, southern California faces serious water supply challenges.[41] Continued, rapid growth in the San Diego Region puts increasing pressure on the local water resources including water supply, and the Region already imports most of its water.[42] The traditional storm water management regime, with its infrastructure emphasis on collection and conveyance, simply wastes a valuable resource.

For instance, the City of San Diego Water Department pays a commodity rate of $420 per acre-foot for untreated water and $545 per acre-foot for treated water.[43] The Metropolitan Water District of Southern California ("MWD"), which supplies the San Diego County Water Authority, charges $331 to $412 per acre-foot for untreated water, and $443 to $545 per acre-foot for treated water.[44] On average, the wholesale cost of untreated water is $388 per acre-foot and treated water is $511 per acre-foot in the San Diego Region. As Table 1 shows, LID practices have the ability to capture 100% of storm water runoff in many typical development types. Captured water can recharge the water supply or be otherwise reused; in both scenarios, LID's runoff prevention is a benefit that represents substantial cost savings, as further shown in Table 1 (page 11).

Table 1. Post-Development Water Saving Comparisons[45, a]

	MFR	Sm-SFR	REST	OFF	Lg-SFR	COMM
Annual post-development water recharged from site with only basic treatment BMPs	3.06	1.31	0.31	1.23	57.0	0.56
Annual post-development water recharged and harvested from site with LID	9.35	2.59	0.66	1.82	113.0	4.44
Annual water saved through LID per site	6.29	1.28	0.35	0.58	56.0	3.88
Value of annual LID water savings per site (untreated water)	$2,441	$497	$136	$225	$21,728	$1,505
Value of annual LID water savings per site (treated water)	$3,214	$654	$179	$296	$28,616	$1,983

[a] Figures given in acre-feet
[b] MFR (156-unit multi-family residential complex); Sm-SFR (23-unit single-family residential development); REST (3220-sq ft restaurant); OFF (7500-sq ft office building); Lg-SFR (1000-unit single-family residential development); COMM (2-acre commercial development)

Minimize infrastructure requirements – Low impact development practices can also reduce conventional stormwater drainage infrastructure, such as pipes, gutters, and detention basins, thereby reducing infrastructure costs.[46] Traditional curbs, gutters, storm drain inlets, piping and detention basins can cost two to three times more than engineered grass swales and other low impact development techniques to handle stormwater runoff from roadways.[47] Clustering homes can reduce infrastructure costs to the builder, since fewer feet of pipe, cable, and pavement are needed, and maintenance costs are reduced for homeowners.[48] "Studies in Maryland and Illinois show that new residential developments using green infrastructure stormwater controls saved $3,500 to $4,500 per lot (quarter- to half-acre lots) when compared to new developments with conventional stormwater controls."[49]

Low impact development can also minimize the need for irrigation systems.[50] This can be crucial in a hot, dry climate, where as much as 60 percent of the municipal water demand can be attributed to irrigation.[51] LID techniques can even improve air quality by filtering air pollution and helps to counteract urban heat island effect by lowering surface temperatures.[52]

Increased parkland and wildlife habitat, preserving natural features and natural processes – LID strategies include vegetative and grassy swales, tree-box filters, and preserved vegetation, thereby increasing the amount of green spaces in a community.[53] These strategies can also protect regional trees and flora and fauna.[54] Thus, LID measures result in less disturbance of the development area and conservation of natural features.[55] In fact, harvesting rainwater for use in gardens, rather than allowing stormwater runoff into storm drains, can even result in "bigger, healthier plants" because rainwater is better for plants than chlorinated tap water.[56]

Using LID techniques, development can be reconfigured in a more eco-efficient and community-oriented style.[57] Clustering homes on slightly smaller lot areas can allow more preserved open space to be used for recreation, visual aesthetics, and wildlife habitat.[58] Builders in many areas have been able to charge a premium price for "view lots" facing undisturbed natural vistas, or pond areas that also function as bioretention cells.[59]

Enhanced property values – In addition to the aesthetic appeal of more parkland and vegetation, "greening" a neighborhood can often increase property values.[60] "Visitors stroll down Seattle's 'SEA [Street Edge Alternatives] Streets' project marveling at the beautiful landscaping while residents in adjacent blocks continually ask the city when their street will be redesigned to be a 'SEA Street.'[61] The NOAA Coastal Services Center reports that the Trust for Public Lands and National Park Service provide many examples of communities whose property values increased due to their proximity to open space. For example, a cluster development in New York that preserved 97 acres of natural wooded environment is benefiting from its open space. One developer commented, "It may not be the woods that bring (buyers) to us initially, but it seems to make all the difference when they see what it's like."[62]

Cheaper development costs – LID not only raises property values for owners, but it can result in more cost savings for developers as well.[63] Using LID can reduce land clearing and grading costs, potentially reduce impact fees and increase lot yield, and increase lot and community marketability.[64] For example, the Gap Creek residential subdivision in Sherwood, Arkansas used LID methods instead of conventional methods. The results were 17 additional lots, $3000 more per lot than the competition, $4800 less cost per lot, 23.5 acres of green spaces and parks, and ultimately, over $2.2 million in additional profit.[65]

4. The new Permit should correct the weaknesses of the previous permit by defining more inclusive Priority Development Project categories, requiring implementation of LID practices, and improving other aspects of the previous permit.

As the Board recognized five years ago with the adoption of the previous permit, "[b]ecause the urbanization process is a direct and leading cause of water quality degradation in this Region, fundamental changes to existing policies and practices about urban development are needed if the beneficial uses of San Diego's natural water resources are to be protected."[66] In spite of the significant policy and practices changes embodied in the previous permit, the need for fundamental changes remains. Indeed, "when viewed relative to the magnitude of the urban runoff problem, enormous challenges remain. . . . Today, *urban runoff continues to be the leading cause of water quality impairment in the San Diego Region.*"[67] NRDC recognizes and applauds aspects of the Tentative Permit that represent significant improvements over the past permit. In particular, we note that the inclusion of restaurants where land development is less than 5,000 square feet in the Restaurants Priority Development Project category marks a substantial improvement in the new development portion of the permit. Given the scope of the storm water challenge that still confronts the San Diego Region, we urge staff and the Members of the Board to correct the fundamental problems of the existing development program: inappropriately high Priority Development Project thresholds, and insufficient LID requirements. We also urge that several other aspects of the Tentative Order be modified in order to improve the new Permit across the board.

In this connection, NRDC proposes several specific amendments and additions to the language of the Tentative Order. As noted throughout the following discussion of our proposed amendments, these changes have precedent in analogous permits, codes and programs currently

in effect in other municipalities in California as well as states and municipalities across the country. Moreover, Dr. Horner's report (at Attachment I) demonstrates that the amendments proposed by NRDC are both necessary and practical specifically in the San Diego region.

A. Add a 5000 square foot threshold "catch-all" category to the list of Priority Development Project categories to achieve broader implementation of low impact site design BMPs and other source control and treatment BMPs. This "catch-all" category would cover all development types, whether already listed in the Priority Development Project categories in the Permit or not, but would not supersede lower thresholds that already apply to some of the Priority Development Project categories such as retail gasoline outlets, restaurants, and paved areas. NRDC's edits to the language in the Proposed Permit would make development a "Priority Development Project" if it met (1) the development type and sizing criteria in existing categories in the Proposed Permit or, if it did not meet one or both criteria, (2) if it took place on or disturbed more than 5,000 square feet, no matter its type. As discussed above in section 2.A, this threshold is in place in other jurisdictions around the nation.

B. Include public projects as a Priority Development Project category. The MEP standard is informed by other communities' stormwater regimes that apply evenly to private and public development projects[68]; indeed some demand greater effort for public projects.[69] The new Permit should at least reflect such requirements in keeping with the Regional Board's duty to protect the beneficial uses of California's water resources. More fundamentally, a project's public or private ownership is unrelated to its impact on storm water quality, and basing an exclusion on this criterion appears to be illogical, arbitrary, and impermissible.[70] Seeing no evidence in the record that would support preserving this exclusion, we urge the Board to remedy this aspect of the previous permit and apply the same SUSMP requirements to public projects as apply to private Priority Development Projects.

C. Include heavy industrial development projects in the Priority Development Project category. As noted in the preceding paragraph and in section 2.A above, the exclusion of a broad category of new development without evidentiary support is impermissible. This proposition applies to the previous permit's exclusion of industrial projects as well, particularly in light of the pollutant loading associated with industrial land use.[71] It appears that the exclusion of new industrial development projects as a category may be based on the presumption that industrial sources are already regulated under other schemes. This view of the statutory and regulatory requirements in incorrect. Federal regulations broadly require municipal storm water permits to regulate industrial activities and discharges.[72] Further, copermittees must provide legal authority demonstrating their ability to control "the contribution of pollutants to the [MS4] by storm water discharges associated with industrial activity."[73] Moreover, a SUSMP category is appropriate where evidence shows that the "category can be a significant source of pollutants and/or runoff following development."[74] Studies show that industrial activities "can be considered as a hot spot" source of pollutants, and have demonstrated the importance of controlling such pollutants from new development.[75] Because the existing regulatory regime covers the operation of existing industrial development, but does not impose standards on the development of industrial development, and in light of evidence that new industrial development

significantly contributes to pollutant loading in storm water runoff, it is necessary to apply SUSMP requirements to new industrial development in order to maintain consistence with MEP and water quality standards.

D. Require that all Priority Development Projects use low impact site design BMPs to meet the requirement that each copermittee's local SUSMP "(1) reduces the discharge of pollutants from Development Projects to the MEP, (2) ensures urban runoff discharges from Development Projects do not cause or contribute to a violation of water quality standards, and (3) controls urban runoff discharges from Development Projects that have the potential to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force."[76]

Low impact development practices have been documented to be effective and cost-saving for over a decade,[77] and should be included in the Regional Board's permit as a primary tool to meet the challenges posed by urban runoff in the San Diego Region.[78] The new Permit should explicitly require the implementation of low impact site design BMPs because the language in the previous permit, which required site design BMPs to be implemented where determined to be applicable and feasible, failed to effect broad implementation of site design BMPs.[79] Indeed, in light of the pervasive problem of priority project proponents selecting BMPs without regard to their efficiency, an affirmative requirement to employ LID techniques in new development is imperative for enforcement of low impact site design BMP requirements.[80]

Therefore, the new Permit should require all Priority Development Projects to meet the 85th percentile runoff event treatment standard using LID practices.[81] In the event that specific site conditions render it impossible to meet the numeric SUSMP treatment standard solely using LID techniques, the proponent of such a Priority Development Project would submit an application, based on site-specific data, for a waiver that would allow the project to use treatment control BMPs in addition to LID BMPs to meet the standard.[82] Such an approach would obviate the need for most feasibility analyses because project proponents would employ LID practices as a rule. In addition to achieving much broader implementation of LID, and the realization of LID-associated storm water management and secondary benefits, the benefits of this plain-requirement approach include "time and cost savings to jurisdictions and applicants," as well as "increased acceptance of LID controls in jurisdictional development regulations and design standards [and] [g]reater usage of LID controls by applicants."[83]

E. Permit the use of infiltration devices for development projects in areas of industrial or light industrial activity; areas subject to high vehicular traffic; automotive repair shops; car washes; fleet storage areas; nurseries; and other "high threat to water quality land uses and activities" designated by copermittees where the groundwater contamination risk is demonstrated to be below an acceptable level. By requiring proponents of development projects in these categories or land use areas to perform hydrogeological analysis using site-specific soils and groundwater data to demonstrate low risk, the goals of reducing runoff, recharging groundwater, and avoiding groundwater contamination can be accomplished.[84]

F. Require incorporation of low impact site design BMPs prior to issuing permits for the addition of impervious surface in existing developments to increase the scope of stormwater controls in the urban landscape. While it is imperative to incorporate LID practices into the design of new developments, much of the San Diego Region is already built out. By requiring low impact site design BMPs when impervious surface is added in existing development, the Permit can more effectively address the source of stormwater runoff: the developed urban landscape.

G. Improve record-keeping and reporting of SUSMP implementation by requiring copermittees to maintain a searchable database of all development and redevelopment in their jurisdictions that tracks Priority Development Projects, and documents the specific post-construction BMPs implemented at each development site.[85] Improved reporting of SUSMP implementation is essential to ensure proper BMP maintenance and, therefore, the effective enforcement of the Permit.[86] Over the past permit term, inconsistent record-keeping practices among the copermittees has at best obscured, and at worst prevented, meaningful evaluation of the extent to which SUSMPs are being implemented in the San Diego Region's urban landscape.[87] The 2005 audit of ten of the copermittees noted of nearly all of the copermittees that "[s]ome of the SUSMP reports reviewed by the evaluation team lacked the necessary detail to determine whether the plan fully complied with the SUSMP requirements."[88]

In attempting to gather information from several of the copermittees to evaluate the effectiveness of the previous permit, we at NRDC encountered similar difficulties locating relevant records. Numerous rounds of phone calls to storm water staff, development services departments, and clerks; Public Records Act requests for building records; and searches of numerous copermittees' annual JURMP reports yielded little information as to the actual extent of implementation of BMPs in SUSMP-applicable projects. Given the premise that the municipal storm water permits are to continually evolve and improve,[89] and that evaluating the effectiveness of existing programs is necessary in order to make adjustments and improvements, we urge that record-keeping and reporting is a fundamentally important aspect of the Permit.

5. The Proposed Permit should also be modified to include numeric effluent limitations to address continuing water quality degradation.

Making the Proposed Permit's development planning program LID-focused constitutes a critical and practicable improvement that should be made before the Permit is issued. Likewise, apart from its development planning program, a more general inadequacy of the Proposed Permit is its failure to otherwise limit the flow of pollution using the most effective and tailored permit limits: numeric effluent limitations.

EPA policy requires numeric effluent limitations in individual storm water permits wherever feasible, that is, whenever there are sufficient data to determine the limits.[90] EPA reiterated that numeric limitations are appropriate for toxic pollutants in storm water flows wherever possible when it promulgated the California Toxics Rule (40 C.F.R. Part 131.38, the "CTR"). (CTR, 65 Fed. Reg. 31682, 31703, May 18, 2000.) EPA's view reflects more than

thirty years of experience in conditioning pollutant discharges. This experience has led EPA to conclude that numeric limitations are the most efficacious way of limiting the discharge of pollutants.

More generally, water quality-based effluent limitations (WQBELs) are mandatory when necessary to meet water quality standards, including toxics standards.[91] The test is whether the Regional Board finds that a pollutant "may be discharged at a level which will cause, or have the reasonable potential to cause, or contribute to an excursion above any State water quality standard . . .."[92] This is precisely what the Regional Board found here. As Board staff has recognized, "urban runoff discharges continue to cause or contribute to violations of water quality standards" in the San Diego region.[93] Indeed, the copermittees' own water quality monitoring data show that urban runoff remains a primary cause of water quality impairment in San Diego County:

> Persistent exceedances of Basin Plan water quality objectives for various urban runoff-related pollutants [including] diazinon, fecal coliform bacteria, total suspended solids, turbidity, metals, etc. . . . At some monitoring stations, statistically significant upward trends in pollutant concentrations have been observed. Persistent toxicity has also been observed. . . . [U]rban runoff discharges are [not only] causing or contributing to water quality impairments, [but] are a leading cause of such impairments in San Diego County.[94]

In light of the persistence of significant water quality problems in the San Diego area, Board staff has recognized that it is imperative that the focus for evaluating the success of copermittees' stormwater programs shift from program implementation to the realization of water quality results in the coming permit cycle: "After over 15 years of Copermittee program implementation, it is critical that the Copermittees link their efforts with positive impacts on water quality."[95]

The structure of the Proposed Permit, however, does not sufficiently reflect the facts in the record—or staff's own recognition that water quality demands better-tailored limitations on pollutants. The Proposed Permit relies on a BMP-based approach, both with respect to meeting the applicable Clean Water Act technology-based limitation, MEP, and in meeting the requirement not to cause or contribute to excursions of water quality standards. Indeed, with respect to WQBELs, evidently no specific limitation has been calculated or set forth in the Proposed Permit, either expressed as a number *or* expressed as one or more BMPs. There is no evidence, nor are there findings, that adequately support this approach under the circumstances. Indeed, a generic BMP-based approach is precisely the tack taken over the last fifteen years. This structure has resulted in a lack of sufficient progress, which is reflected in the record and acknowledged by the copermittees and Board staff.

Some parties may contend that numeric WQBELs, or numeric interpretation of MEP in the form of numeric effluent limitations, are not *required* for storm water permits. This is not the

case. EPA requires that numeric limitations be incorporated into individual storm water permits whenever there is sufficient information to develop them:

> In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits as necessary and appropriate. This interim permitting approach is not intended to affect those storm water permits that already include appropriately derived numeric water quality-based effluent limitations.

(EPA, Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, 61 Fed. Reg. 43761, Aug. 26, 1996.) In fact, California courts have emphasized that "[I]n most cases, the easiest and most effective chemical-specific limitation would be numeric."[96]

Likewise, the fact that federal regulations authorize BMPs for storm water where numeric effluent limitations are infeasible, does not support departure from the usual approach here. (40 C.F.R. § 122.44(k).) The additional authority provided by Section 122.44 for storm water does not change the underlying rule that numeric limitations are the presumptive tool. Likewise, the infeasibility provision only applies when the *determination of effluent limits* is infeasible due to lack of data, something which the record here does not support. Indeed, no subsection of Section 122.44(k) provides that non-numeric limitations shall be the only limitation imposed on the flow of pollutants in storm water permits.

For these reasons, the Proposed Permit's failure to include numeric limitations on the discharge of pollutants violates the Clean Water Act, the Porter-Cologne Act, and is otherwise an abuse of discretion. The situation here is simple: the record contains overwhelming evidence that discharges from the MS4 are causing violations of water quality standards; the Proposed Permit, however, retains the same structural approach to pollution limitation that, for fifteen years, has not yielded sufficient results. No evidence or analysis demonstrates that the Proposed Permit contains limitations which will effectively address the region's leading source of water quality impairment. To fail to include better-tailored, more specific, and more effective pollution limitations on these facts cannot be justified.

We thank the Board Members and Board Staff for this opportunity to comment on the Tentative Order, and for your continued commitment to protecting the water resources in the San Diego Region.

Sincerely,

David S. Beckman, Senior Attorney

Dorothée A. Alsentzer, Legal Fellow

ENDNOTES

[1] State Water Resources Control Board, "Low Impact Development – Sustainable Storm Water Management," (Jan. 2005) ("Low Impact Development (LID) is a sustainable practice that benefits water supply and contributes to water quality protection. . . . LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management. The Water Boards are advancing LID in California in various ways [including] . . . [r]esearching how to incorporate LID language in to Standard Urban Storm Water Mitigation Requirements."), at http://www.waterboards.ca.gov/lid/index.html, last accessed June 13, 2006.

[2] Regional Water Quality Control Board, San Diego Region, Tentative Order No. 2006-0011 at p. 5 (hereinafter "Tentative Order" or "Proposed Permit").

[3] Tentative Order at p. 4; see also RWQCB, Fact Sheet/ Technical Report for Tentative Order No. 2006-0011 (March 10, 2006) at pp. 7, 15-18 (hereinafter "Fact Sheet").

[4] See Fact Sheet at p. 23 (noting that U.S. EPA stated with respect to "municipal storm water regulations that 'successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards'") (quoting 61 Fed. Reg. 43,761 (Aug. 26, 1996)).

[5] See Fact Sheet at pp. 7-8 ("After over 15 years of Copermittee program implementation, it is critical that the Copermittees link their efforts with positive impacts on water quality.")

[6] As Board staff notes, many efforts currently conducted on a regular basis under the copermittees' Jurisdictional Urban Runoff Management Programs "were not conducted on a widespread basis prior to the adoption of Order No. 2001-01 . . . [such as] construction site storm water inspections, industrial and commercial facility storm water inspections, municipal facility storm water inspections, management of storm water quality from new development, development of best management practice requirements of existing development, and assessment of storm water program effectiveness." (Fact Sheet at p. 7.)

[7] Requirements relating to the new development and redevelopment components of the copermittees' Jurisdictional Urban Runoff Management Programs ("JURMPs") are addressed in sections F.1 and D.1 of the previous permit and tentative order, respectively.

[8] See e.g., Michael Mallin, *Wading in Waste*, SCIENTIFIC AMERICAN, June 2006, at pp. 54-56; NRDC, *Stormwater Strategies: Community Responses to Runoff Pollution* (1999); NRDC, *Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows* (2006) at pp. 2.2-2.5 (hereinafter "Rooftops to Rivers") (attached hereto as Attachment II); U.S. EPA *Preliminary Data Summary of Urban Storm Water Best Management Strategies* (Aug. 1999) at p. 85.

[9] See Regional Water Quality Control Board, San Diego Region, Order No. 2001-01 (as amended by State Water Resources Control Board Order WQ 2001-15 (Nov. 15 2001)) at pp. 2, 4 (hereinafter "RWQCB Order No. 2001-01" or "previous permit"); Tentative Order at pp. 4-5; Fact Sheet at pp. 18-21.

[10] Fact Sheet at p. 22.

[11] *In re Cities of Bellflower*, SWRCB WQ 2000-11 (2001 WL 33158724) at *12.

[12] *Natural Resources Defense Council v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1371.

[13] See Tentative Order No. 2006-0011 at pp. 4-5; Fact Sheet at pp. 7, 15-18.

[14] *Natural Resources Defense Council v. Costle* (D.C. Cir. 1977) 568 F.2d 1369; *Topanga Ass'n for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 514-15.

[15] While the parking lots associated with such large retail stores would likely fall under the parking lot Priority Development Project category, "[a] project can fall under more than one category, thereby requiring additional source controls for each category." (Tetra Tech, Inc. *San Diego SUSMP Report* (Apr. 29, 2005) at p. 20.) Thus, including large commercial developments that are less than 100,000 square feet would result in broader SUSMP applicability even if such projects would trigger the parking lot priority project threshold separately.

[16] County of San Diego Dept. of Planning and Land Use, *Weekly Permits Issued by Type From 1/1/2003 to 5/3/2006.*

[17] County of San Diego, JURMP Annual Report for July 1, 2004 – June 30, 2005, at p. 6-5; see also, *inter alia*, City of Carlsbad, JURMP Annual Report for July 1, 2002 – June 30, 2003, at Part 6.2 (reporting that of 5,621 permits/projects that were issued and/or approved, "65 discretionary projects were reviewed and required to submit applicable SWPPPs and SWMPs"); City of Carlsbad, JURMP Annual Report for July 1, 2003 – June 30, 2004, at p. iv (73 of 7,106 permit/projects that were issued or approved were required to submit applicable SWPPPs in permit year 2003-2004); City of Carlsbad, JURMP Annual Report for July 1, 2004 – June 30, 2005, at p. iv (in permit year 2004-2005, 7,089 permits/projects were issued and/or approved and 73 discretionary projects were required to submit SWPPPs).

[18] RWQCB Order No. 2001-001at p. 2 (discussing the increase in impervious cover and associated increase in runoff volume resulting from urban development, and noting "[s]ignificant declines in the biological integrity and physical habitat of streams and other receiving waters" are associated with "as little as a 10% conversion from natural to impervious surfaces. [Even] developments of medium density single family homes range between 25 to 60% impervious."); Tentative Order at pp. 4-5 (same); NRDC, *Rooftops to Rivers* (2006) at pp. 2.2-2.5.

[19] See RWQCB Order No. 2001-01 at p. 3 (noting that "[t]hese types of BMPs, such as grassy swales and constructed wetlands, can frequently be as effective as less natural BMPs, while providing additional benefits such as aesthetics and habitat.").

[20] RWQCB Order No. 2001-01 at p. 15 (emphasis added).

[21] RWQCB Order No. 2001-01 at p. 2.

[22] See RWQCB Order No. 2001-01 at p. 3.

[23] See RWQCB Order No. 2001-01 at p. 17.

[24] Model Standard Urban Storm Water Mitigation Plan for San Diego County, Port of San Diego, and Cities in San Diego County, (2002) at p. 21(hereinafter "Model SUSMP").

[25] Tetra Tech, Inc., San Diego Area Stormwater Program: Cities of Encinitas, Lemon Grove, Poway, and Santee (NPDES Permit No. CAS0108758) (June 11, 2004) at p. 8; Tetra Tech, Inc., San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation (April 29, 2005) at pp. 8, 10, 12, 14, 18, 21, 24, 47, 29, 30, 34, 37, 40 (hereinafter "San Diego SUSMP Report 2005").

[26] See San Diego Municipal Stormwater Copermittees, Report of Waste Discharge (Aug. 2005) at p. 44.

[27] See San Diego Municipal Stormwater Copermittees, Report of Waste Discharge (Aug. 2005) at p. 43.

[28] See e.g., State Water Resources Control Board, "Low Impact Development – Sustainable Storm Water Management," (Jan. 2005) ("LID is a sustainable practice that *benefits water supply and contributes to water quality protection*. . . . LID has been a *proven approach* in other parts of the country") (emphasis added).

[29] See Attachments IV, V (Table of Contents and Collection of LID reference materials).

[30] See, e.g., RWQCB Fact Sheet/Technical Report for Order No. 2001-01 at p. 185 (citing *inter alia*, Bay Area Stormwater Management Agencies Association (BASMAA), *Start at the Source* (1999)); San Diego Co-Permittees Final Model SUSMP (2002) Appendix B, pp. 40-42 (citing numerous manuals and reports relating to storm water management and LID practices, including U.S. EPA, *Preliminary Data Summary of Urban Runoff Best Management Practices* (1999); and Price George's County, MD Dept. of Environmental Resource Programs and Planning Division, *Low-Impact Design Strategies – An Integrated Design Approach* (1999)); City of Chula Vista, *Development and Redevelopment Projects Storm Water Management Standards Requirements Manual* (Nov. 2002) Appendix E (Suggested Resources); City of Carlsbad, Standard Urban

Storm Water Mitigation Plan Storm Water Standards (Apr. 2003) Appendix G (Suggested Resources).

[31] See Model SUSMP at p. 9.

[32] U.S. EPA, *Preliminary Data Summary of Urban Runoff Best Management Practices* (Aug. 1999) at p. 5-39.

[33] See U.S. EPA, *Preliminary Data Summary of Urban Runoff Best Management Practices* (Aug. 1999) at pp. 6-25-27.

[34] Final Model SUSMP (2002), Appendix B, pp. 40-42.

[35] In response to the Regional Board's 2004 re-issuance letter, the copermittees state without reference to any supporting evidence that "[LID concepts] are often . . . considerably more expensive. . . . [and] are relatively new and lack proven design standards that are widely accepted by land use professionals and adopted into jurisdictional design regulations." (San Diego Municipal Stormwater Copermittees, *Report of Waste Discharge* (Aug. 2005) at p. 43.) This assertion inexplicably ignores the large body of technical design manuals, case studies, and reports that have been published over the past decade documenting both the effectiveness and cost benefits of LID practices, as well as the numerous jurisdictional design regulations implementing LID approaches. (See Attachments IV, V.) Indeed, in the April 2005 Audit report of ten of the copermittees' JURMPs, three LID resources are cited for the copermittees' reference. (Tetra Tech, Inc., *San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation* (April 2005) at p. 5 (citing BASMAA, *Using Site Design Techniques to Meet Development Standards for Storm Water Quality* (May 2003), available at http://www.ehs.berkeley.edu/whatwedo/airwater/ccg/usingstartatthesource.pdf; Santa Clara Valley Urban Runoff Program at http://www.ci.fremont.ca.us/Construction/StormwaterRegulations/SiteDesignTechniques.htm; The Low Impact Development Center at http://www.lid-stormwater.net/intro/sitemap.htm).) The copermittees' baseless assertion is further belied by the copermittees' own Model SUSMP, which in 2002 referenced BMP manuals that cover LID techniques. Moreover, RWQCB Order No. 2001-01 referred the copermittees to *Start at the Source,* a comprehensive low impact site design BMP manual produced in 1999 by the Bay Area Stormwater Management Agencies Association. Indeed, as to the copermittees' implication that because LID practices are relatively new, they must not be effective, one need only point to the persistent—and in some cases worsening—water quality problems in the San Diego Region as evidence that the copermittees' preferred course is not working. "[M]anagement practices widely adopted in the past twenty years like stenciling catch basins and street sweeping, can be considered 'first wave BMPs.' These housekeeping practices have value, and deserve to be continued. But they perpetuate a conventional approach to stormwater management *based on collection and conveyance.* Given development pressures and the environmental goals established by the Clean Water Act, more fundamental changes are required. Because *the most economical and effective strategies arise in site planning and design*, this document emphasizes ways to minimize the creation of new

runoff, and to infiltrate or detain runoff in the landscape. These 'second wave BMPs' go beyond incremental changes to a conveyance storm drain system. They require a new way of thinking about impervious land coverage and stormwater management. They are a collection of *proven methods and techniques* that integrates stormwater management into planning and design, that reduces overall runoff, and manages stormwater as a resource, by starting at the source." (BASMAA, *Starting at the Source* (1999) at p. 26 (emphasis added).)

[36] Project Clean Water, San Diego River Watershed, at http://www.projectcleanwater.org/html/ws_san_diego_river.html, last accessed June 20, 2006.

[37] Prince George's County, Maryland, Dept. of Environmental Resources, *Low Impact Development Hydrologic Analysis* (July 1999), at p. 4, at http://www.epa.gov/owow /nps/lid_hydr.pdf, last accessed June 20, 2006; Devinny, J. Kamieniecki, S., Stenstrom, M., *Alternative Approaches to Stormwater Quality Control* (June 2004) at p. 42 (University of Southern California and University of California at Los Angeles study prepared for the Los Angeles Regional Water Quality Control Board).

[38] PATH, Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*, at http://www.toolbase.org/techinv/techDetails.aspx?technologyID=223, last accessed June 20, 2006; EPA, *Low Impact Development Hydrologic Analysis* (July 1999), at p. 4.

[39] PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*, at 1; State of Massachusetts, *Smart Growth Toolkit*, at http://www.mass.gov/envir/smart_growth_toolkit /pages/mod-lid.html, last accessed June 20, 2006.

[40] Devinny, J., *et al.*, *Alternative Approaches to Stormwater Quality Control* (June 2004) at p. 42.

[41] See Gary Polakovic, *Water Quest Shifts Course*, L.A. TIMES, June 11, 2006, at B.1.

[42] Robertus, J., RWQCB Executive Officer, *Stormwater Treatment Options* (CLE International Jan. 2006) at pp. 1, 3 (watersheds in the San Diego Region have largely been "built out" in the past 80 years, but "in the remaining undeveloped areas, increasing pressure for development is focused on any remaining sites that might be suitable for construction.") (paper prepared for presentation at California Wetlands Conference (January 27-28 2006), and does not represent the views held or any action taken by the RWQCB).

[43] Email from Tedi Jackson, Supervising Public Information Officer, City of San Diego Water Department, to Dorothée Alsentzer, Legal Fellow, NRDC, May 3, 2006.

[44] See Metropolitan Water District of Southern California, Water Rates and Charges, at http://www.mwdh2o.com/mwdh2o/pages/finance/finance_03.html, last accessed June 9, 2006.

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[45] Table 1 adapted from Horner, R., *Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for the San Diego Region* (June 2006) (attached hereto as Attachment I).

[46] Puget Sound Online: Puget Sound Action Team, *Benefits of Low Impact Development*, at http://www.psat.wa.gov/Programs/LID/LID_benefits.htm, last accessed June 20, 2006; Dept. of Defense, *United Facilities Criteria: Low Impact Development* (Oct. 2004), at p. 3.

[47] Dept. of Defense, *United Facilities Criteria: Low Impact Development* (Oct. 2004), at p. 5.

[48] *See* PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*; U.S. EPA, *Preliminary Data Summary of Urban Storm Water Best Management Practices* (Aug. 1999) at pp. 6-25-27; BASMAA, *Start at the Source* (1999) at p. 80.

[49] NRDC, *Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows* (April 2006) at 4.12 (attached hereto as Attachment II); see also Puget Sound Online: Puget Sound Action Team, *Benefits of Low Impact Development* ("A developer in Maryland saved 30 percent in construction costs by using LID practices rather than conventional mitigation methods. AHBL Engineering of Tacoma conducted a study that showed that a conventional residential development could have been designed at significant cost savings if LID techniques had been used rather than conventional ones."), at http://www.psat.wa.gov/Programs/LID/LID_benefits.htm, last accessed June 19, 2006.

[50] PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*.

[51] Texas Water Development Board, *The Texas Manual on Rainwater Harvesting* (3d ed. 2005), at p. 36, at http://www.twdb.state.tx.us/publications/reports/RainwaterHarvestingManual_3rdedition.pdf, last accessed June 19, 2006.

[52] NRDC, *Rooftops to Rivers*, at 3.10.

[53] NEMO California Partnership, *Low Impact Development (LID)*, at http://ca-walup.usc.edu/LID_Factsheet.pdf, last accessed June 20, 2006.

[54] NAHB Research Center, *Builder's Guide to Low Impact Development*, at http://www.toolbase.org/docs/MainNav/GreenBuilding/3832_Builder-final-screen.pdf, last accessed June 20, 2006.

[55] EPA, *Low Impact Development: A Literature Review* (Oct. 2002) at p. 2, at http://www.epa.gov/nps/lid.pdf, last accessed June 20, 2006.

[56] Sam Williams, *Harvesting the Rain*, GOTHAM GAZETTE, May 2006 ("It's a win-win for the environment and for gardeners."), at http://www.gothamgazette.com/article/environment/20060531/7/1871.

[57] EPA, *Low Impact Development: A Literature Review* (Oct. 2002) at p. 3.

[58] RWQCB Order No. 2001-01 at p. 3 ("BMPs which utilize natural processes. . . . can frequently be as effective as less natural BMPs, while providing additional benefits such as aesthetics and habitat."); PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*; NRDC, Rooftops to Rivers, at 3.10 ("Green infrastructure also improves urban aesthetics, has been shown to increase property values, and provides wildlife habitat and recreational space for urban residents.").

[59] PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management.*

[60] See, e.g., PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*; Devinny, J., *et al.*, *Alternative Approaches to Stormwater Quality Control* (June 2004) at p. 43; BASMAA, *Start at the Source* (1999) at p. 80.

[61] Puget Sound Online: Puget Sound Action Team, *Benefits of Low Impact Development.*

[62] NOAA Coastal Services Center, at http://www.csc.noaa.gov/alternatives/ openSpace.html, last accessed June 20, 2006.

[63] See e.g., BASMAA, *Start at the Source* (1999) at p. 80; see generally Attachments IV, V.

[64] NAHB Research Center, *Builder's Guide to Low Impact Development*, at http://www.toolbase.org/docs/MainNav/GreenBuilding/3832_Builder-final-screen.pdf, last accessed June 20, 2006.

[65] NEMO California Partnership, *Low Impact Development (LID)* at http://ca-walup.usc.edu/LID_Factsheet.pdf, last accessed June 20, 2006.

[66] RWQCB Order No. 2001-01 at pp. 4-5.

[67] Fact Sheet at p. 7 (emphasis added).

[68] See e.g., New Jersey Stormwater Rules, N.J.A.C. § 7:8-1.2; State of Washington, Phase I Municipal Stormwater NPDES General Permit (Draft Feb. 15, 2006) Appendix I (Minimum Technical Requirements for New Development and Redevelopment), at pp. 7, 8, 20); Maryland Model Stormwater Management Ordinance (July 2000) at pp. 2, 5, 8); City of Portland, Stormwater Management Manual (adopted July 1, 1999; updated September 1, 2004) Chapter 1.5.2 (Pollution Reduction Requirements) at p.1-25).

[69] See City of Santa Monica Municipal Code, Chapter 7.10 (broad definition of new development to which stormwater requirements apply includes "any construction project undertaken by the City where the runoff controls required by this Chapter are feasible and economical").

[70] *Natural Resources Defense Council v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1377, 1382 (rejecting categorical exclusion as inconsistent with purpose of Clean Water Act).

[71] See e.g., 58 Fed.Reg. 61,146 at pp. 61,156-58 (municipalities are "ultimately responsible for discharges from their MS4" and must develop a program to "establish and implement BMPs to reduce pollutants from . . . industrial facilities"); RWQCB Los Angeles Region, *The Role of Municipal Operators In Controlling the Discharge of Pollutants in Storm Water Runoff from Industrial/Commercial Facilities* (Nov. 2001) at pp. 5-7.

[72] 40 C.F.R. § 122.26(b)(5), (8), (d)(1)(i)(2), (d)(2)(ii).

[73] 40 C.F.R. § 122.26(d)(2)(i)(A).

[74] *In Re Cities of Bellflower* SWRCB WQ 2000-11 (2001 WL 33158724) at *9.

[75] RWQCB Los Angeles Region, *The Role of Municipal Operators In Controlling the Discharge of Pollutants in Storm Water Runoff from Industrial/Commercial Facilities* (Nov. 2001) at pp. 5-7.

[76] Tentative Order No. 2006-0011 at pp. 16-17.

[77] See e.g., NRDC, *Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows* (April 2006); BASMAA, *Start at the Source* (1999); Attachments IV, V.

[78] Robertus, J., RWQCB Executive Officer, *Stormwater Treatment Options* (CLE International Jan. 2006) at p. 5 (requiring low impact development "could dramatically improve the ability of the Regional Board to regulate water quality aspects for development in the San Diego region.") (paper prepared for presentation at California Wetlands Conference (January 27-28 2006), and does not represent the views held or any action taken by the RWQCB).

[79] See San Diego SUSMP Report (2005) at pp. 8, 10, 12, 14, 18, 21, 24, 47, 29, 30, 34, 37, 40.

[80] San Diego SUSMP Report (2005) at pp. 11, 15, 18, 21, 24, 27, 30, 34, 37, 40.

[81] See City of Portland, *Stormwater Management Manual* (adopted July 1, 1999; updated Sept. 1, 2004) at p. 1-25 (applying numeric pollution reduction requirements to "all development projects with over 500 square feet of impervious development footprint area, and all existing

sites that propose to create new off-site stormwater discharges") (hereinafter "Portland Stormwater Management Manual").

[82] See *Portland Stormwater Management Manual* at p. 1-41 (under a "special circumstances" exception, providing for case-specific waivers and in-lieu-of fee program).

[83] San Diego Municipal Stormwater Copermittees, Report of Waste Discharge (Aug. 2005) at p. 44. While the copermittees advocate in the ROWD for a voluntary low-impact design "credit program," the strategy we believe is necessary includes the *mandatory* use of low impact site design BMPs to meet numeric SUSMP treatment standards. As discussed in section 2, permit language falling short of mandatory low impact site design BMPs has failed to achieve broad LID implementation.

[84] U.S. EPA, *Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration* (May 1994) at pp. 3-4.

[85] See e.g., Tetra Tech, Inc., San Diego SUSMP Report (April 29, 2005) at p. 4 ("Copermittees also must develop a system to track SUSMP projects. This will help copermittees to report the total number of SUSMP projects to the Regional Board each year and will ensure that the copermittees can identify these priority projects in the future.")

[86] Proper tracking of SUSMP-applicable projects is prerequisite to being able to inspect BMPs in the field for proper design and maintenance. See e.g., Tetra Tech, Inc., San Diego SUSMP Report (April 29, 2005) at p. 23 (finding the tracking of SUSMP-applicable facilities difficult due to record-keeping practices, and noting that many of the SUSMP facilities in City of Escondido were inadequately maintained and that sites were inconsistent with approved plans); p. 27 (noting that City of Lemon Grove "should develop a system to track installed BMPs to help verify maintenance."); p. 29 (finding that the City of National City is in need of a SUSMP tracking system "as more SUSMP projects are approved in order to assist with both reporting on SUSMP activities and verifying maintenance of SUSMP BMPs.")

[87] See e.g., Tetra Tech, Inc., San Diego SUSMP Report (April 29, 2005) at p. 9 ("Because the County does not specifically flag projects that fall under one of the SUSMP priority project categories, the County was not able to easily identify SUSMP projects for the evaluation team to review. . . . [and] is unable to effectively report the number of SUSMP projects reviewed annually to the Regional Board."); p. 23 (in evaluating City of Escondido's SUSMP tracking and screening, "[t]he evaluation team found it difficult to follow exactly how the projects were tracked for SUSMP compliance. A hand-written logbook was used to enter projects, and SUSMP-applicable projects were not clearly marked."); pp. 29, 31 (finding that City of National City "should improve their [sic] SUSMP tracking mechanism. Information on SUSMP projects is contained within individual project files. The City does not track SUSMP projects using a computerized system and therefore is unable to quickly track or summarize SUSMP projects.")

[88] Tetra Tech, Inc., San Diego SUSMP Report (April 29, 2005) at pp. 14, 18, 21, 24, 27, 30, 34, 37.

[89] Fact Sheet at p. 22.

[90] EPA, Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, 61 Fed. Reg. 43761, Aug. 26, 1996.

[91] 40 C.F.R. § 122.44(d)(1).

[92] Id.

[93] Tentative Order at p. 5.

[94] Tentative Order at p. 4; see also RWQCB, Fact Sheet/ Technical Report for Tentative Order No. 2006-0011 (March 10, 2006) at pp. 7, 15-18.

[95] Fact Sheet at pp. 7-8.

[96] *Communities for a Better Environment v. State Water Resources Control Board* (2003) 109 Cal.App.4th 1089, 1104-1105 (quoting *In the Matter of the Petition of Citizens for a Better Environment et al.*, WQ 91-03, May 16, 1991).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
TENTATIVE ORDER NO. R9-2006-0011
NPDES NO. CAS0108758
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES OF URBAN RUNOFF FROM
THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
DRAINING THE WATERSHEDS OF THE COUNTY OF SAN DIEGO,
THE INCORPORATED CITIES OF SAN DIEGO COUNTY,
THE SAN DIEGO UNIFIED PORT DISTRICT,
AND THE SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

A. BASIS FOR THE ORDER

1. This Order is based on the federal Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (SWRCB), the Water Quality Control Plan for the San Diego Basin adopted by the Regional Board, the California Toxics Rule, and the California Toxics Rule Implementation Plan.

2. This Order renews National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108758, which was first issued on July 16, 1990 (Order No. 90-42), and then renewed on February 21, 2001 (Order No. 2001-01). On August 25, 2005, in accordance with Order No. 2001-01, the County of San Diego, as the Principal Permittee, submitted a Report of Waste Discharge (ROWD) for renewal of their MS4 Permit.

B. REGULATED PARTIES

1. Each of the persons in Table 1 below, hereinafter called Copermittees or dischargers, owns or operates a municipal separate storm sewer system (MS4), through which it discharges urban runoff into waters of the United States within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States.

Table 1. Municipal Copermittees

1.	City of Carlsbad	12.	City of Oceanside
2.	City of Chula Vista	13.	City of Poway
3.	City of Coronado	14.	City of San Diego
4.	City of Del Mar	15.	City of San Marcos
5.	City of El Cajon	16.	City of Santee
6.	City of Encinitas	17.	City of Solana Beach
7.	City of Escondido	18.	City of Vista
8.	City of Imperial Beach	19.	County of San Diego
9.	City of La Mesa	20.	San Diego Unified Port District
10.	City of Lemon Grove	21.	San Diego County Regional Airport Authority
11.	City of National City		

C. DISCHARGE CHARACTERISTICS

1. Urban runoff contains waste, as defined in the California Water Code (CWC), and pollutants that adversely affect the quality of the waters of the State. The discharge of urban runoff from an MS4 is a "discharge of pollutants from a point source" into waters of the U.S. as defined in the CWA.

2. The most common categories of pollutants in urban runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa);

heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), and trash.

3. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.

4. Pollutants in urban runoff can threaten human health. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters. Also, urban runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.

5. Urban runoff discharges from MS4s often contain pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.

6. The Copermittees discharge urban runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within ten of the eleven hydrologic units (watersheds) comprising the San Diego Region as shown in Table 2 below. Some of the receiving water bodies have been designated as impaired by the Regional Board and the United States Environmental Protection Agency (USEPA) in 2002 pursuant to CWA section 303(d). Also shown below are the watershed management areas (WMAs) as defined in the Regional Board report, Watershed Management Approach, January 2002.

Table 2. Common Watersheds and CWA Section 303(d) Impaired Waters

REGIONAL BOARD WATERSHED MANAGEMENT AREA (WMA)	HYDROLOGIC UNIT(S)	MAJOR SURFACE WATER BODIES	303(d) POLLUTANT(S) OF CONCERN OR WATER QUALITY EFFECT	COPERMITTEES
Santa Margarita River	Santa Margarita (902.00)	Santa Margarita River and Estuary, Pacific Ocean	1. Eutrophic 2. Nitrogen 3. Phosphorus 4. Total Dissolved Solids	1. County of San Diego
San Luis Rey River	San Luis Rey (903.00)	San Luis Rey River and Estuary, Pacific Ocean	1. Bacterial Indicators 2. Eutrophic 3. Chloride 4. Total Dissolved Solids	1. City of Escondido 2. City of Oceanside 3. City of Vista 4. County of San Diego
Carlsbad	Carlsbad (904.00)	Batiquitos Lagoon San Elijo Lagoon Agua Hedionda Lagoon Buena Vista Lagoon And Tributary Streams Pacific Ocean	1. Bacterial Indicators 2. Eutrophic 3. Sedimentation/Siltation 4. Nutrients 5. Total Dissolved Solids	1. City of Carlsbad 2. City of Encinitas 3. City of Escondido 4. City of Oceanside 5. City of San Marcos 6. City of Solana Beach 7. City of Vista 8. County of San Diego

REGIONAL BOARD WATERSHED MANAGEMENT AREA (WMA)	HYDROLOGIC UNIT(S)	MAJOR SURFACE WATER BODIES	303(d) POLLUTANT(S) OF CONCERN OR WATER QUALITY EFFECT	COPERMITTEES
San Dieguito River	San Dieguito (905.00)	San Dieguito River and Estuary, Pacific Ocean	1. Bacterial Indicators 2. Sulfate 3. Color 4. Nitrogen 5. Phosphorus 6. Total Dissolved Solids	1. City of Del Mar 2. City of Escondido 3. City of Poway 4. City of San Diego 5. City of Solana Beach 6. County of San Diego
Mission Bay	Peñasquitos (906.00)	Los Peñasquitos Lagoon Mission Bay, Pacific Ocean	1. Bacterial Indicators 2. Metals 3. Eutrophic 4. Sedimentation/Siltation 5. Toxicity	1. City of Del Mar 2. City of Poway 3. City of San Diego 4. County of San Diego
San Diego River	San Diego (907.00)	San Diego River, Pacific Ocean	1. Bacterial Indicators 2. Eutrophic 3. pH 4. Total Dissolved Solids 5. Oxygen (Dissolved)	1. City of El Cajon 2. City of La Mesa 3. City of Poway 4. City of San Diego 5. City of Santee 6. County of San Diego
San Diego Bay	Pueblo San Diego (908.00) Swcetwater (909.00) Otay (910.00)	San Diego Bay Sweetwater River Otay River Pacific Ocean	1. Bacterial Indicators 2. Metals 3. Sediment Toxicity 4. Benthic Community Degradation 5. Diazinon 6. Chlordane 7. Lindane 8. PAHs 9. PCBs	1. City of Chula Vista 2. City of Coronado 3. City of Imperial Beach 4. City of La Mesa 5. City of Lemon Grove 6. City of National City 7. City of San Diego 8. County of San Diego 9. San Diego Unified Port District 10.San Diego County Regional Airport Authority
Tijuana River	Tijuana (911.00)	Tijuana Rivcr and Estuary Pacific Ocean	1. Bacterial Indicators 2. Low Dissolved Oxygen 3. Metals 4. Eutrophic 5. Pesticides 6. Synthetic Organics 7. Trace Elements 8. Trash 9. Solids	1. City of Imperial Beach 2. City of San Diego 3. County of San Diego

7. The Copermittees' water quality monitoring data submitted to date documents persistent exceedances of Basin Plan water quality objectives for various urban runoff-related pollutants (diazinon, fecal coliform bacteria, total suspended solids, turbidity, metals, etc.) at various watershed monitoring stations. At some monitoring stations, such as Agua Hedionda, statistically significant upward trends in pollutant concentrations have been observed. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicates that the majority of watersheds have Poor to Very Poor Index of Biotic Integrity ratings. In sum, the above findings indicate that urban runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in San Diego County.

8. When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed urban area is significantly greater in runoff volume, velocity, peak flow rate, and duration than pre-development runoff from the same area. The increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 10% conversion from natural to impervious surfaces. The increased runoff

characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

9. Urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4. As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff from the same area. These increased pollutant loads must be controlled to protect downstream receiving water quality.

10. Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d) impaired water bodies. 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 particular sensitive environment. Therefore, additional control to reduce pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.

11. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not "inject" runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; (3) protecting footings and foundations; and (4) ensuring that each drainage feature is adequately maintained in perpetuity.

D. URBAN RUNOFF MANAGEMENT PROGRAMS

1. General

a. This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP). However, since MEP is a dynamic performance standard which evolves over time as urban runoff management knowledge increases, the Copermittees' urban runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices (BMPs), etc. Absent evidence to the contrary, this continual assessment, revision, and improvement of urban runoff management program implementation is expected to ultimately achieve compliance with water quality standards.

b. Although the Copermittees have generally been implementing the jurisdictional urban runoff management programs required pursuant to Order No. 2001-01 since February 21, 2002, urban runoff discharges continue to cause or contribute to violations of water quality standards. This Order contains new or modified requirements that are necessary to improve Copermittees' efforts to reduce the discharge of pollutants in urban runoff to the MEP and achieve water quality standards. Some of the new or modified requirements, such as the expanded Watershed Urban Runoff Management Program section, are designed to specifically

address these high priority water quality problems. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other Regional Board compliance assessment activities.

c. Updated Jurisdictional Urban Runoff Management Plans (JURMPs) and Watershed Urban Runoff Management Plans (WURMPs), and a new Regional Urban Runoff Management Plan (RURMP), which describe the Copermittees' urban runoff management programs in their entirety, are needed to guide the Copermittees' urban runoff management efforts and aid the Copermittees in tracking urban runoff management program implementation. It is practicable for the Copermittees to update the JURMPs and WURMPs, and create the RURMP, within one year, since significant efforts to develop these programs have already occurred.

d. Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, low impact site design and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense". Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Low impact site design maintains or recovers, in significant part, the natural hydrologic functioning of the land and thus reduces the amounts of runoff and pollutants produced. Treatment control BMPs remove pollutants from urban runoff. Properly designed, low impact site design also is capable of making water available for reuse or recharge of groundwater basins that otherwise would be discharged as storm water runoff.

e. Urban runoff needs to be addressed during the three major phases of development (planning, construction, and use) in order to reduce the discharge of pollutants to the MEP and protect receiving waters. Development which is not guided by water quality planning policies and principles can unnecessarily result in increased pollutant load discharges, flow rates, and flow durations which can impact receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development generates substantial pollutant loads which are discharged in urban runoff to receiving waters.

f. Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Copermittees' programs.

2. Development Planning

a. The Standard Urban Storm Water Mitigation Plan (SUSMP) requirements contained in this Order are consistent with Order WQ-2000-11 adopted by the SWRCB on October 5, 2000. In the precedential order, the SWRCB found that the design standards, which essentially require that urban runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. The order also found that the SUSMP requirements are appropriately applied to the majority of the Priority Development Project categories contained in Section D.I of this Order. The SWRCB also gave Regional Water Quality Control

Boards the discretion to include additional categories and locations, such as retail gasoline outlets (RGOs), in future SUSMPs.

b. In addition, the SUSMP requirements are consistent with, and further, the State Water Resources Control Board's January 20, 2005 adoption of sustainability generally, and low impact development specifically, as core features of all programs of the state and regional water boards. The SWRCB "directed California Water Boards' staff to consider sustainability in future policies, guidelines, and regulatory actions," including through "site-specific and general permits" and "Standard Urban Storm Water Mitigation requirements."

~~b.~~c. Controlling urban runoff pollution by using a combination of onsite source control and low impact site design BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.

~~c.~~d. Use of low impact site design BMPs at new development projects can be an effective means for minimizing the impact of urban runoff discharges from the development projects on receiving waters. Low impact s~~S~~ite design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of urban runoff. These BMPs also assist in maintaining groundwater levels and surface water baseflow conditions. Finally, low impact site design features can be multi-functional (for example, controlling both the quantity and quality of runoff and providing open space and aesthetic benefits).

~~d.~~e. Retail Gasoline Outlets (RGOs) are significant sources of pollutants in urban runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, source control and treatment control BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more, or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. These are appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters.

~~e.~~f. If not properly designed or maintained, certain BMPs implemented or required by municipalities for urban runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). However, proper BMP design to avoid standing water can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities and local vector control agencies and the State Department of Health Services during the development and implementation of urban

runoff management programs.

3. Construction and Existing Development

a. In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (state and local) storm water regulation. Under this dual system, the Regional Board is responsible for enforcing the General Construction Activities Storm Water Permit, SWRCB Order 97-03 DWQ, NPDES No. CAS000001 (General Construction Permit) and the General Industrial Activities Storm Water Permit, SWRCB Order 99-08 DWQ, NPDES No. CAS000002 (General Industrial Permit), and each municipal Copermittee is responsible for enforcing its local permits, plans, and ordinances, which may require the implementation of additional BMPs than required under the statewide general permits.

b. Identification of sources of pollutants in urban runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and residential areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants into and from its MS4 are reduced to the MEP. Inspections and other compliance verification methods are needed to ensure minimum BMPs are implemented. Inspections are especially important at high risk areas for pollutant discharges.

c. Historic and current development makes use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both an MS4 and a receiving water.

d. As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.

e. Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed or treated. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges into MS4s must be reduced to the MEP unless treatment within the MS4 occurs.

f. Enforcement of local urban runoff related ordinances, permits, and plans is an essential component of every urban runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary

to implement and enforce such control measures/BMPs under its jurisdiction.

g. Education is an important aspect of every effective urban runoff management program and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions impact receiving water quality and how these impacts can be minimized.

h. Public participation during the development of urban runoff management programs is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.

4. Watershed and Regional Urban Runoff Management

a. Since urban runoff does not recognize political boundaries, watershed-based urban runoff management can greatly enhance the protection of receiving waters within a watershed. Such management provides a means to focus on the most important water quality problems in each watershed. By focusing on the most important water quality problems, watershed efforts can maximize protection of beneficial use in an efficient manner. Watershed management of urban runoff does not require Copermittees to expend resources outside of their jurisdictions. Watershed management requires the Copermittees within a watershed to develop a watershed-based management strategy, which can then be implemented on a jurisdictional basis.

b. Some urban runoff issues, such as residential education, can be effectively addressed on a regional basis. Regional approaches to urban runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs.

c. Both regionally and on a watershed basis, it is important for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially Caltrans, the Department of Defense, and Native American Tribes, is also important. Establishment of a management structure, within which the Copermittees subject to this Order will fund and coordinate those aspects of their joint obligations, will help promote implementation of urban runoff management programs on a watershed and regional basis in a most cost effective manner.

E. STATUTE AND REGULATORY CONSIDERATIONS

1. The Receiving Water Limitations (RWL) language specified in this Order is consistent with language recommended by the USEPA and established in SWRCB Water Quality Order 99-05, adopted by the SWRCB on June 17, 1999. ~~The RWL in this Order require compliance with water quality standards through an iterative approach requiring the implementation of improved and better tailored BMPs over time.~~ Compliance with receiving water limits based

on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards and the creation of conditions of pollution.

2. The Water Quality Control Plan for the San Diego Basin (Basin Plan), identifies the following beneficial uses for surface waters in San Diego County: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1) Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional beneficial uses are identified for coastal waters of San Diego County: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

3. This Order is in conformance with SWRCB Resolution No. 68-16 and the federal Antidegradation Policy described in 40 CFR 131.12.

4. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Permittee from developing a non-point source plan, for the urban category, under CZARA. The Regional Board addresses septic systems through the administration of other programs.

5. Section 303(d)(1)(A) of the CWA requires that "Each state shall identify those waters within its boundaries for which the effluent limitations...are not stringent enough to implement any water quality standard (WQS) applicable to such waters." The CWA also requires states to establish a priority ranking of impaired waterbodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired waterbodies is called the Section 303(d) List. The current Section 303(d) List was approved by the SWRCB on February 4, 2003 and on July 25, 2003 by USEPA.

6. This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on August 14, 2002 for diazinon in Chollas Creek by establishing Water Quality Based Effluent Limits (WQBELs) for the Cities of San Diego, Lemon Grove, and La Mesa, the County of San Diego, and the San Diego Unified Port District; and by requiring: 1) legal authority, 2) implementation of a diazinon toxicity control plan and a diazinon public outreach/ education program, 3) achievement of the Compliance Schedule, and 4) a monitoring program. The establishment of WQBELs expressed as iterative BMPs to achieve the Waste Load Allocation (WLA) compliance schedule is appropriate and is expected to be sufficient to achieve the WLAs specified in the TMDL.

7. This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on February 9, 2005 for dissolved copper in Shelter Island Yacht Basin (SIYB) by establishing WQBELs expressed as BMPs to achieve the WLA of 30 kg copper / year for the

City of San Diego and the San Diego Unified Port District. The establishment of WQBELs expressed as BMPs is appropriate and is expected to be sufficient to achieve the WLA specified in the TMDL.

8. This Order establishes WQBELs and conditions consistent with the requirements and assumptions of the WLAs in the TMDLs as required by 40 CFR 122.44(d)(1)(vii)(B).

9. Requirements in this Order that are more precise than the federal storm water regulations in 40 CFR 122.26 are prescribed in accordance with the regulatory requirement that the Regional Board "develop[] permit conditions to reduce discharges to the maximum extent practicable," the CWA section 402(p)(3)(iii) and are necessary to meet the MEP standard.

10. Urban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into a receiving water. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of an urban runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This is consistent with USEPA guidance to avoid locating structural controls in natural wetlands.

11. Urban runoff is a significant contributor to the creation and persistence of Toxic Hot Spots in San Diego Bay. CWC section 13395 requires regional boards to reevaluate waste discharge requirements (WDRs) associated with toxic hot spots. The SWRCB adopted the Consolidated Toxic Hot Spot Cleanup Plan in June 1999. The Plan states: "The reevaluation [of WDRs associated with toxic hot spots] shall consist of (1) an assessment of the WDRs that may influence the creation or further pollution of the known toxic hot spot, (2) an assessment of which WDRs need to be modified to improve environmental conditions at the known toxic hot spot, and (3) a schedule for completion of any WDR modifications deemed appropriate."

12. The issuance of waste discharge requirements and an NPDES permit for the discharge of urban runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

F. PUBLIC PROCESS

1. The Regional Board has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of urban runoff.

2. The Regional Board has, at public meetings on (date), held public hearings and heard and considered all comments pertaining to the terms and conditions of this Order.

IT IS HEREBY ORDERED that the Copermittees, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the Clean Water Act (CWA) and regulations adopted thereunder, shall each comply with the following:

A. PROHIBITIONS AND RECEIVING WATER LIMITATIONS

1. Discharges into and from municipal separate storm sewer systems (MS4s) in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in waters of the state are prohibited.

2. Discharges from MS4s containing pollutants which have not been reduced to the maximum extent practicable (MEP) are prohibited.

3. Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses) are prohibited.

   a. Each Copermittee shall comply with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order through timely implementation of control measures and other actions to reduce pollutants in urban runoff discharges in accordance with the Jurisdictional Urban Runoff Management Program and other requirements of this Order including any modifications. The Jurisdictional Urban Runoff Management Program shall be designed to achieve compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order. If exceedance(s) of water quality standards persist notwithstanding implementation of the Jurisdictional Urban Runoff Management Program and other requirements of this Order, the Copermittee shall assure compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order by complying with the following procedure:

      (1) Upon a determination by either the Copermittee or the Regional Board that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee shall promptly notify and thereafter submit a report to the Regional Board that describes best management practices (BMPs) that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the annual update to the Jurisdictional Urban Runoff Management Program unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Board may require modifications to the report;

      (2) Submit any modifications to the report required by the Regional Board within 30 days of notification;

      (3) Within 30 days following approval of the report described above by the Regional Board, the Copermittee shall revise its Jurisdictional Urban Runoff Management Program and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required;

      (4) Implement the revised Jurisdictional Urban Runoff Management Program and monitoring program in accordance with the approved schedule.

b. So long as the Copermittee has complied with the procedures set forth above and is implementing the revised Jurisdictional Urban Runoff Management Program, the Copermittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to do so.

c. Nothing in section A.3 shall prevent the Regional Board from enforcing any provision of this Order while the Copermittee prepares and implements the above report.

4. In addition to the above prohibitions, discharges from MS4s are subject to all Basin Plan prohibitions cited in Attachment A to this Order.

5. Discharges of any pollutant in an amount that exceeds limitations set forth in any adopted TMDL wasteload allocation are prohibited.

B. NON-STORM WATER DISCHARGES

1. Each Copermittee shall effectively prohibit all types of non-storm water discharges into its MS4 unless such discharges are either authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit; or not prohibited in accordance with sections B.2 and B.3 below.

2. The following categories of non-storm water discharges are not prohibited unless a Copermittee or the Regional Board identifies the discharge category as a ~~significant~~ source of pollutants to waters of the U.S. For such a discharge category, the Copermittee shall either prohibit the discharge category or develop and implement appropriate control measures to reduce the discharge of pollutants to the MEP and report to the Regional Board pursuant to Attachment D.

   a. Diverted stream flows;
   b. Rising ground waters;
   c. Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to MS4s;
   d. Uncontaminated pumped ground water;
   e. Foundation drains;
   f. Springs;
   g. Water from crawl space pumps;
   h. Footing drains;
   i. Air conditioning condensation;
   j. Flows from riparian habitats and wetlands;
   k. Water line flushing;
   l. Landscape irrigation;
   m. Discharges from potable water sources not subject to NPDES Permit No. CAG679001, other than water main breaks;
   n. Irrigation water;
   o. Lawn watering;
   p. Individual residential car washing; and
   q. Dechlorinated swimming pool discharges.

3. Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require BMPs and need not be prohibited. As part of the Jurisdictional Urban

Runoff Management Plan (JURMP), each Copermittee shall develop and implement a program to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) identified by the Copermittee to be significant sources of pollutants to waters of the United States.

4. Each Copermittee shall examine all dry weather field screening and analytical monitoring results collected in accordance with section D.4 of this Order and Receiving Waters Monitoring and Reporting Program No. R9-2006-11 to identify water quality problems which may be the result of any non-prohibited discharge category(ies) identified above in section B.2. Follow-up investigations shall be conducted as necessary to identify and control any non-prohibited discharge category(ies) listed above.

C. LEGAL AUTHORITY

1. Each Copermittee shall establish, maintain, and enforce adequate legal authority to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means. This legal authority must, at a minimum, authorize the Copermittee to:

   a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to its MS4 and control the quality of runoff from industrial and construction sites. This requirement applies both to industrial and construction sites which have coverage under the statewide general industrial or construction storm water permits, as well as to those sites which do not. Grading ordinances shall be upgraded and enforced as necessary to comply with this Order.

   b. Prohibit all identified illicit discharges not otherwise allowed pursuant to section B.2 including but not limited to:

      (1) Sewage;
      (2) Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
      (3) Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
      (4) Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;
      (5) Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
      (6) Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
      (7) Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
      (8) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
      (9) Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).

   c. Prohibit and eliminate illicit connections to the MS4;

d. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;

e. Require compliance with conditions in Copermittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

f. Utilize enforcement mechanisms to require compliance with Copermittee storm water ordinances, permits, contracts, or orders;

g. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Copermittees. Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as Caltrans, the Department of Defense, or Native American Tribes is encouraged;

h. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. This means the Copermittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from industrial facilities discharging into its MS4, including construction sites;

i. Require the use of BMPs to prevent or reduce the discharge of pollutants into MS4s to the MEP; and

j. Require documentation on the effectiveness of BMPs implemented to reduce the discharge of pollutants to the MS4 to the MEP.

2. Each Permittee shall include as part of its JURMP a statement certified by its chief legal counsel that the Copermittee has taken the necessary steps to obtain and maintain full legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order. This statement shall include:

   a. Identification of all departments within the jurisdiction that conduct urban runoff related activities, and their roles and responsibilities under this Order. Include an up to date organizational chart specifying these departments and key personnel.

   b. Citation of urban runoff related ordinances and the reasons they are enforceable;

   c. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of this Order;

   d. A finding of adequacy of enforcement tools to ensure compliance with this Order;

   e. A description of how urban runoff related ordinances are implemented and appealed; and

   f. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

D. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM

Each Copermittee shall fully implement all requirements of section D of this Order no later than July 1, 2007, unless otherwise specified in this Order. Prior to July 1, 2007, each Copermittee shall at a minimum fully implement its Jurisdictional URMP document, as the document was developed to comply with the requirements of Order No. 2001-01.

Each Copermittee shall develop and implement an updated Jurisdictional Urban Runoff Management Program for its jurisdiction, which constitute enforceable provisions of this Order. Each updated Jurisdictional Urban Runoff Management Program shall meet the requirements of section D of this Order, reduce the discharge of pollutants to the MEP, and ensure that urban runoff discharges do not cause or contribute to a violation of water quality standards.

1. Development Planning Component

Each Copermittee shall implement a program which meets the requirements of this section and (1) reduces the discharge of pollutants from Development Projects to the MEP, (2) ensures urban runoff discharges from Development Projects do not cause or contribute to a violation of water quality standards, and (3) controls urban runoff discharges from Development Projects that have the potential to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

a. GENERAL PLAN

Each Copermittee shall revise as needed its General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) for the purpose of providing effective water quality and watershed protection principles and policies that direct land-use decisions and require implementation of consistent water quality protection measures for Development Projects.

b. ENVIRONMENTAL REVIEW PROCESS

Each Copermittee shall revise as needed their current environmental review processes to accurately evaluate water quality impacts and cumulative impacts and identify appropriate measures to avoid, minimize and mitigate those impacts for all Development Projects.

c. APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR ALL DEVELOPMENT PROJECTS

For all proposed Development Projects, each Copermittee during the planning process and prior to project approval and issuance of local permits shall prescribe the necessary requirements to ensure that the discharge of pollutants from the Development Projects will be reduced to the MEP, will not cause or contribute to a violation of water quality standards, and will comply -with Copermittee's ordinances, permits, plans, and requirements, and with this Order. The requirements shall include, but not be limited to, implementation by the project proponent of the following:

(1) Applicable and effective pollution prevention BMPs;

(2) Source control BMPs that reduce storm water pollutants of concern in urban runoff, including storm drain system stenciling and signage, properly designed outdoor material storage areas, properly designed trash storage areas, and implementation of efficient irrigation systems;
(3) Low impact ~~S~~site design BMPs which maximize infiltration, provide retention, slow runoff, minimize impervious footprint, direct runoff from impervious areas into landscaping, ~~and~~ construct impervious surfaces to minimum widths necessary, and otherwise comply with the provisions of this Order;
(4) Buffer zones for natural water bodies, where feasible. Where buffer zones are infeasible, require project proponent to implement other buffers such as trees, access restrictions, etc.;
(5) Measures to ensure grading or other construction activities meet the provisions specified in section D.2 of this Order; and
(6) Submittal of proof of a mechanism which will ensure ongoing long-term maintenance of all structural post-construction BMPs.

d. STANDARD URBAN STORM WATER MITIGATION PLANS (SUSMPS) – APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR PRIORITY DEVELOPMENT PROJECTS

Each Copermittee shall implement an updated local SUSMP which meets the requirements of section D.1.d of this Order and (1) reduces the discharge of pollutants from Development Projects to the MEP, (2) ensures urban runoff discharges from Development Projects do not cause or contribute to a violation of water quality standards, and (3) controls urban runoff discharges from Development Projects that have the potential to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force. These objectives shall be met by incorporating low impact site design BMPs into the design of Priority Development Projects so as to comply with the volumetric requirements of subsection D.1.(d)(6)(c). If low impact site design BMPs alone are not sufficient to meet these objectives, other structural source control and treatment control BMPs shall be incorporated into the design so as to meet the requirements of subsection D.1.(d)(6)(c).

(1) Definition of Priority Development Project

Priority Development Projects are: a) all new Development Projects, and b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site, that fall under the project categories or locations listed in section D.1.d.(2). Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development and not more than one-quarter acre of new impervious surface, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in section D.1.d.(6)(c) applies only to the addition, and not to the entire development. Where redevelopment results in an increase of more than fifty percent of the impervious surfaces of a previously existing development, or where the relative increase is less than 50% but greater than 11,000 square feet of new impervious surface, the numeric sizing criteria applies to the entire development. Where a project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SUSMP requirements.

(2) Priority Development Project Categories

(a) Any development project that takes place on five thousand (5000) square feet or greater, or that otherwise disturbs more than five thousand square feet of land. This category applies without respect to the type of development and is in addition to the type-specific categories set forth in subsections (b) through (l) below. Where a development does not meet the requirements subsections (b) through (l), but does meet this requirement, it is a Priority Project.

(b) Housing subdivisions of 10 or more dwelling units. This category includes single-family homes, multi-family homes, condominiums, and apartments.

(c) Commercial developments greater than 100,000 square feet. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than 100,000 square feet. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.

(d) Heavy industrial developments greater than five thousand (5000) square feet. This category includes, but is not limited to: manufacturing plants, food processing plants, metal working facilities, printing plants, fleet storage areas (bus, truck, etc.), railroad yards, and nurseries

(e) -Municipal and state developments greater than five thousand (5000) square feet. This category is defined as any development on publicly owned municipal or state- land.

~~(e)~~(f) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

~~(d)~~(g) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement D.1.d.(6)(c) and hydromodification requirement D.1.d.(14).

~~(e)~~(h) All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.

~~(f)~~(i) Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.

~~(g)~~(j) Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

~~(h)~~(k) Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

~~(i)~~(l) Retail Gasoline Outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

(3) Pollutants of Concern

As part of its local SUSMP, each Copermittee shall develop and implement a procedure for pollutants of concern to be identified for each Priority Development Project. The procedure shall address, at a minimum: (1) Receiving water quality (including pollutants for which receiving waters are listed as impaired under CWA section 303(d)); (2) Land use type of the Development Project and pollutants associated with that land use type; and (3) Pollutants expected to be present on site.

(4) Low Impact Site Design BMP Requirements

Each Copermittee shall require each Priority Development Project to ~~meet the following~~implement low impact site design BMPs sufficient in scope to retain, reuse and/or infiltrate a volume of water no less than specified in subsection D.1.(d)(6)(c)(i) or (ii) below-~~.BMP requirements:~~ The low impact site design BMPs to be required shall:

(a) Require all applicable source control BMPs listed in section D.1.d(5) to be implemented.

~~(a)Implement at least one site design BMP from the following list (Priority Development Projects with no landscaping or low traffic areas can be exempt from this requirement):~~

~~i.Drain a portion of rooftops into pervious areas prior to discharge to the MS4.~~

~~ii.Drain a portion of impervious sidewalks, walkways, trails, or patios into pervious areas prior to discharge to the MS4.~~

~~iii.Construct a portion of walkways, trails, overflow parking lots, alleys, or other low traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.~~

~~(b) Implement at least one site design BMP from the following list:~~

~~i.Conserve natural areas.~~

~~ii.Construct streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.~~

~~iii.Minimize the impervious footprint of the project.~~

~~(c)~~(b) Conserve natural areas including ~~Preserve~~ existing trees, other vegetation, and soils-~~.Implement all site design BMPs from the above lists in sections D.1.d.(4)(a) and D.1.d.(4)(b) where determined to be applicable and~~

~~feasible by the Copermittee.~~

(c) Minimize~~Minimize~~ soil excavation and compaction and vegetation disturbance.

(d) Minimize impervious rooftops and building footprints.

(e) Construct streets, driveways, sidewalks, and parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.

(f) Construct low-traffic areas with permeable surfaces such as porous asphalt, open-graded Portland cement concrete, coarse granular materials, concrete or plastic unit pavers, and plastic grid systems. Areas that should be considered for permeable surfaces include, but are not limited to, driveways, patio slabs, walkways and sidewalks, trails, alleys, and overflow or otherwise lightly-used parking lots.

(g) Drain runoff from roofs and other impervious areas into one or more of the following natural drainage systems before discharge to the MS4:
i. Bioretention area, also known as a rain garden (with compost-amended soils as needed)
ii. Vegetated swale (with compost-amended soils as needed)
iii. Vegetated filter strip (with compost-amended soils as needed)
iv. Infiltration trench
v. Roof rainwater collection cistern
vi. Vegetated roof

(h) Maintain natural drainage patterns(e.g., depressions, natural swales) as much as possible, and design drainage paths to increase the time before runoff leaves the site by:
i. Emphasizing sheet instead of concentrated flow;
ii. Increasing the number and lengths of flow paths;
iii. Maximizing non-hardened drainage conveyances; and
iv. Maximizing vegetation in areas that generate and convey runoff.

(5) Source Control BMP Requirements

Each Copermittee shall require each Priority Development Project to implement source control BMPs. The source control BMPs to be required shall:

~~Housekeeping BMPs - Proper waste handling, waste minimization and recycling, spill prevention and cleanup~~
~~Segregate, cover, contain, and/or enclose pollutant generating materials and activities~~
(a) Minimize storm water pollutants of concern in urban runoff.
(b) Isolate pollutants from contact with rainfall or runoff by segregating, covering, containing, and/or enclosing pollutant-generating materials and activities.
~~(b)~~(c) Include storm drain system stenciling and signage.
~~(c)~~(d) Include properly designed outdoor material storage areas.

~~(d)~~(e) Include properly designed trash storage areas.
~~(e)~~(f) Include efficient irrigation systems.
(g) Include water quality requirements applicable to individual priority project categories.

~~(i)~~

(6) Treatment Control BMP Requirements

For any runoff not managed with the low impact site design BMPs listed in section D.1.d(4), and for which a waiver from LID requirements is obtained from the Regional Board pursuant to subsection D.1.d.(10) below~~.~~, e~~E~~ach Copermittee shall require each Priority Development Project to implement treatment control BMPs which meet the following treatment control BMP requirements:

(a) Treatment control BMPs for all Priority Development Projects shall mitigate (infiltrate~~,~~ filter~~,~~ or treat) the required volume or flow of runoff (identified in section D.1.d.(6)(c)) from all developed portions of the project, including landscaped areas.

(b) All treatment control BMPs shall be located so as to infiltrate, filter, or treat the required runoff volume or flow prior to its discharge to any waters of the U.S. Multiple Priority Development Projects may use shared treatment control BMPs as long as construction of any shared treatment control BMPs is completed prior to the use or occupation of any Priority Development Project from which the treatment control BMP will receive runoff.

(c) All LID design elements implemented pursuant to D.1.(d)(4), and any treatment control BMPs for a single Priority Development Project, shall collectively be sized to comply with the following numeric sizing criteria:

i. Volume-based ~~treatment control~~ BMPs shall be designed to mitigate (infiltrate, filter, or treat) the volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the County of San Diego's 85th Percentile Precipitation Isopluvial Map; or

ii. Flow-based ~~treatment control~~ BMPs shall be designed to mitigate (infiltrate, filter, or treat) either: a) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event; or b) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two.

(d) All treatment control BMPs for Priority Development Projects shall, at a minimum:

i. Be ranked with a high or medium removal efficiency in the Copermittees' Model SUSMP which was approved by the Regional Board. Treatment control BMPs with a low removal efficiency ranking shall only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of treatment control

BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.

ii. Be correctly sized and designed so as to remove pollutants to the MEP.
iii. Target removal of pollutants of concern from urban runoff.
iv. Be implemented close to pollutant sources (where shared BMPs are not proposed), and prior to discharging into waters of the U.S.
v. Not be constructed within a receiving water.
vi. Include proof of a mechanism, to be provided by the project proponent or Copermittee, which will ensure ongoing long-term maintenance.
vii. Ensure that post-development runoff does not contain pollutant loads which cause or contribute to a violation of water quality standards or which have not been reduced to the MEP.

~~(7)Site Design BMP Substitution Program~~

~~The Copermittees may develop a site design BMP substitution program for incorporation into local SUSMPs, which would allow a Priority Development Project to substitute implementation of a high level of site design BMPs for implementation of some or all treatment control BMPs. At a minimum, the program must meet the requirements below:~~

~~(a)Prior to implementation, the program must clearly exhibit that it will achieve equal or better runoff quality from each Priority Development Project which participates in the program.~~

~~(b)For each Priority Development Project participating, the program must require all applicable source control BMPs listed in section D.1.d.(5) to be implemented.~~

~~(c)For each Priority Development Project participating, the program must require that runoff originating from exposed impervious parking areas, work areas, storage areas, staging areas, trash areas, and other similar areas where pollutants are generated and/or collected, must be routed through pervious areas prior to entering the MS4.~~

~~(d)For each Priority Development Project participating, the program must require that all site design BMPs listed in section D.1.d.(4) be implemented.~~

~~(e)The program shall only apply to Priority Development Projects and Priority Development Project categories with a relatively low potential to generate high levels of pollutants. The program shall not apply to the automotive repair shops or streets, roads, highways, or freeways Priority Development Project Categories.~~

~~(f)The program must develop and utilize specific design criteria for each site design BMP to be utilized by the program.~~

~~(g)The program must ensure that each Priority Development Project participating in the program is in compliance with all applicable SUSMP requirements.~~

~~(h)The program must develop and implement a review process which ensures that each site design BMP to be implemented meets the designated design criteria. The review process must also ensure that each Priority Development Project participating in the program is in compliance with all applicable SUSMP requirements.~~

~~(8)~~(7) Low Impact Site Design and Treatment Control BMP Design Standards~~Treatment Control BMP Design Standards~~

As part of its local SUSMP, each Copermittee shall develop and require Priority Development Projects to implement siting, design, and maintenance criteria for each low impact site design and treatment control BMP listed in its local SUSMP to ensure that implemented low impact site design and treatment control BMPs are constructed correctly and are effective at pollutant removal and runoff control. Development of BMP design worksheets which can be used by project proponents is encouraged.

Sources of low impact site design BMP criteria include:

Low Impact Development, Technical Guidance Manual for Puget Sound, prepared by Puget Sound Action Team, (2005) available at www.psat.wa.gov/Publications/LID_tech_manual05/lid_index.htm;

Start at the Source, Bay Area Stormwater Management Agencies Association (BASMAA) (1999) available at http://www.basmaa.org/resources/files/Start%20at%20the%20Source%20%2D%20Design%20Guidance%20Manual%20for%20Stormwater%20Quality%20Protection%2Epdf; and

Low-Impact Development Design Strategies, An Integrated Design Approach, prepared by Prince George's County, MD, (1999) available at www.epa.gov/owow/nps/lidnatl.pdf.

The principal source of treatment BMP criteria for California is the California Stormwater Best Management Practice (BMP) Handbook, New Development and Redevelopment, prepared by the California Stormwater Quality Association, 2003.

~~(9)~~(8) Implementation Process

As part of its local SUSMP, each Copermittee shall implement a process to ensure compliance with SUSMP requirements. The process shall identify at what point in the planning process Priority Development Projects will be required to meet SUSMP requirements. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the SUSMP requirements, as well as any other measures necessary for the implementation of SUSMP requirements.

~~(10)~~(9) Downstream Erosion

As part of its local SUSMP, each Copermittee shall develop and apply criteria to Priority Development Projects to ensure that runoff discharge rates, durations, and velocities from Priority Development Projects are controlled to maintain or reduce downstream erosion conditions and protect stream habitat. Upon adoption of the Hydromodification Management Plan (HMP) by the Regional Board (section D.1.g), individual Copermittee criteria for control of downstream erosion shall be superceded by criteria identified in the HMP.

~~(11)~~(10) Waiver Provision

(a) A Copermittee may provide for a project to be waived from the requirement of implementing low impact development criteria as specified in subsection D.1.d.(4) above upon a demonstration that the project proponent has obtained a waiver from Regional Board staff on the basis of infeasibility. The basis for issuance of the waiver for infeasibility shall be that it is not possible to implement the requirements of subsection D.1.d.(4) in light of constraints imposed by the building site. Such constraints shall include considerations set forth in subsection D.1.d.(11), regarding groundwater protection. Any waiver shall apply only to that portion of the volume or flow that must be retained, reused or infiltrated pursuant to subsection D.1.d.(4) and for which infeasibility is established. Any waiver issued shall require that any portion of the volume or flow not addressed by subsection D.1.d(4) be addressed in compliance with subsection D.1.d.(6), unless a further waiver is issued pursuant to subsection D.1.d.(10)(b), below.

~~(a)~~(b) If a waiver has been obtained consistent with the provisions of subsection D.1.d.(10)(a), above, a~~A~~ Copermittee may provide for a project to be waived from the requirement of implementing treatment BMPs (section D.1.d.(6)) if infeasibility can be established. A waiver of infeasibility shall only be granted by a Copermittee when all available treatment BMPs have been considered and rejected as infeasible. Infeasibility is established if it is demonstrated through a competent analysis signed by a registered engineer that it is not possible to locate treatment BMPs on-site so as to meet the requirements of D.1.d.(6). A waiver shall be apply only to the portion of the volume or flow for which infeasibility is established. Copermittees shall notify the Regional Board within 5 days of each waiver issued and shall include the following information in the notification:

i. Name of the person granting each waiver;
ii. Name of developer receiving the waiver;
iii. Site location;
iv. Reason for waiver; and
v. Description of BMPs required.

~~(b)~~(c) The Copermittees ~~may~~ shall collectively or individually develop a program by December 1, 2006 to require project proponents who have received waivers to transfer the savings in cost, as determined by the Copermittee(s), to a storm water mitigation fund. This program may be implemented by all Copermittees that issue waivers. Funds may be used on projects to improve urban runoff quality within the watershed of the waived project. The waiver mitigation program should, at a minimum, identify:

i. The entity or entities that will manage the storm water mitigation fund (i.e., assume full responsibility for);
ii. The range and types of acceptable projects for which mitigation funds ay be expended;
iii. The entity or entities that will assume full responsibility for each mitigation project including its successful completion; and
iv. How the dollar amount of fund contributions will be determined.

~~(12)~~(11) Infiltration and Groundwater Protection

To protect groundwater quality, each Copermittee shall apply restrictions to the use of treatment control BMPs that are designed to primarily function as infiltration devices (such as infiltration trenches and infiltration basins). Such restrictions shall ensure that the use of such infiltration treatment control BMPs shall not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, use of treatment control BMPs that are designed to primarily function as infiltration devices shall meet the conditions below. The Copermittees may collectively or individually develop alternative restrictions on the use of treatment control BMPs which are designed to primarily function as infiltration devices.

(a) Urban runoff shall undergo pretreatment such as sedimentation or filtration prior to infiltration;
(b) All dry weather flows containing significant pollutant loads shall be diverted from infiltration devices;
(c) Pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration treatment control BMPs are to be used;
(d) Infiltration treatment control BMPs shall be adequately maintained so that they remove pollutants to the MEP;
(e) The vertical distance from the base of any infiltration treatment control BMP to the seasonal high groundwater mark shall be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;
(f) The soil through which infiltration is to occur shall have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of urban runoff for the protection of groundwater beneficial uses;
(g) Before adopting BMPs that are designed primarily to function as infiltration devices for~~,~~ development projects that could pose a risk to groundwater quality, the project proponent shall perform a hydrogeological analysis using site-specific soils and groundwater data to assess the risk to groundwater quality from stormwater infiltration~~that demonstrates to risk to be low~~. Development projects in this category include areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries; and other high threat to water quality land uses and activities as designated by each Permittee; and ~~Infiltration treatment control BMPs shall not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries; and other high threat to water quality land uses and activities as designated by each Permittee; and~~
(h) Infiltration treatment control BMPs shall be located a minimum of 100 feet horizontally from any water supply wells.

e. TREATMENT CONTROL BMP MAINTENANCE TRACKING

(1) Each Copermittee shall develop and utilize a watershed-based database to track and inventory approved treatment control BMPs and treatment control BMP maintenance within its jurisdiction. At a minimum, the database shall include information on treatment control BMP type, location, watershed, date of construction, party responsible for maintenance, maintenance certifications or verifications, inspections, inspection findings, and corrective actions.

(2) Each Copermittee shall develop and implement a program to ensure that approved treatment control BMPs are operating effectively and have been adequately maintained. At a minimum, the program shall include the following:

(a) An annual inventory of all approved treatment control BMPs within the Copermittee's jurisdiction. The inventory shall also include all treatment control BMPs approved during the previous permit cycle.
(b) The prioritization of all projects with approved treatment control BMPs into high, medium, and low priority categories. At a minimum, projects with drainage insert treatment control BMPs shall be designated as at least a medium priority. Prioritization of other projects with treatment control BMPs shall include consideration of treatment control BMP size, recommended maintenance frequency, likelihood of operational and maintenance issues, location, receiving water quality, and other pertinent factors.
(c) Projects with treatment control BMPs that are high priority shall be inspected by the Copermittee annually. Projects with treatment control BMPs that are medium priority shall be inspected by the Copermittee every other year. Projects with treatment control BMPs that are low priority shall be inspected once during the five year permit cycle. All inspections shall ensure effective operation and maintenance of the treatment control BMPs, as well as compliance with all ordinances, permits, and this Order. At least 20% of the projects within a jurisdiction with approved treatment BMPs shall be inspected annually.
(d) Requirement of annual verification of effective operation and maintenance of each approved treatment control BMP by the party responsible for the treatment control BMP maintenance.

(3) Operation and maintenance verifications and inspections shall be required and conducted prior to each rainy season.

f. BMP VERIFICATION

Prior to occupancy of each Priority Development Project subject to SUSMP requirements, each Copermittee shall inspect the ~~constructed~~ low impact site design, source control, and treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order. This initial BMP verification inspection does not constitute an operation and maintenance inspection, as required above in section D.1.e.(2)(c).

g. HYDROMODIFICATION - LIMITATIONS ON INCREASES OF RUNOFF DISCHARGE RATES AND DURATIONS

Each Copermittee shall collaborate with the other Copermittees to develop and implement a Hydromodification Management Plan (HMP) to manage increases in

runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force. The HMP, once approved by the Regional Board, shall be incorporated into the local SUSMP and implemented by each Copermittee so that post-project runoff discharge rates and durations shall not exceed estimated pre-project discharge rates and durations where the increased discharge rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the amount and timing of runoff.

(1) The HMP shall:

(a) Identify an Erosion Potential (Ep) standard for channel segments which receive urban runoff discharges from Priority Development Projects. The stream Ep standard shall maintain the pre-development flow energy, sediment transport, and erosion characteristics of channel segments receiving urban runoff discharges from Priority Development Projects and prevent the channel segments from becoming unstable.
(b) Require that the Ep for channel segments receiving urban runoff from Priority Development Projects is maintained at a value close to 1.
(c) Utilize continuous simulation of the entire rainfall record to identify a range of rainfall events for which Priority Development Project post-development runoff rates and durations shall not exceed pre-development runoff rates and durations in order to achieve the channel Ep standard. The lower boundary of the range of rainfall events identified shall correspond with the critical channel flow (Qc) that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks. The identified range of rainfall events may be different for specific watersheds, channels, or channel reaches.
(d) Require Priority Development Projects to implement hydrologic control measures to (1) ensure that Priority Development Project's urban runoff discharge rates and durations do not exceed pre-development runoff rates and durations for the range of rainfall events identified under section D.1.g.(1)(c), and (2) do not result in a channel Ep which exceeds the channel Ep standard developed under sections D.1.g.(1)(a) and D.1.g.(1)(b) for channel segments downstream of Priority Development Project discharge points.
(e) Include other performance criteria (numeric or otherwise) for Priority Development Projects as necessary to prevent urban runoff from the projects from increasing erosion of channel beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.
(f) Include a review of pertinent literature.
(g) Include a protocol to evaluate potential hydrograph change impacts to downstream watercourses from Priority Development Projects.
(h) Include a description of how the Copermittees will incorporate the HMP requirements into their local approval processes.
(i) Include criteria on selection and design of management practices and measures (such as detention, retention, and infiltration) to control flow rates and durations and address potential hydromodification impacts.
(j) Include technical information supporting any standards and criteria proposed.

(k) Include a description of inspections and maintenance to be conducted for management practices and measures to control flow rates and durations and address potential hydromodification impacts.
(l) Include a description of pre- and post-project monitoring and other program evaluations to be conducted to assess the effectiveness of implementation of the HMP.
(m) Include mechanisms for addressing cumulative impacts within a watershed on channel morphology.
(n) Include information on evaluation of channel form and condition, including slope, discharge, vegetation, underlying geology, and other information, as appropriate.

(2) The HMP may include implementation of planning measures (e.g., buffers and restoration activities, including revegetation, use of less-impacting facilities at the point(s) of discharge, etc.) to allow expected changes in stream channel cross sections, vegetation, and discharge rates, velocities, and/or durations without adverse impacts to channel beneficial uses. Such measures shall not include utilization of non-natural hardscape materials such as concrete, riprap, gabions, etc.

(3) Section D.1.g.(1)(d) does not apply to Priority Development Projects where the project discharges stormwater runoff into channels or storm drains where the potential for erosion or other impacts to beneficial uses, alone or in combination with other current or reasonable foreseeable future developments, will comply with applicable anti-degradation requirements and is otherwise ~~is~~ minimal. Such situations may include discharges into channels that are concrete-lined or significantly hardened (e.g., with rip-rap, sackrete, etc.) downstream to their outfall in bays or the ocean, underground storm drains discharging to bays or the ocean, and construction of projects in highly impervious (e.g., >70%) watersheds, where the potential for single-project and/or cumulative impacts is minimal. Specific criteria for identification of such situations shall be included as a part of the HMP. However, plans to restore a channel reach may re-introduce the applicability of HMP controls, and would need to be addressed in the HMP.

(4) HMP Reporting

The Copermittees shall collaborate to report on HMP development as required in section J.1.4 of this Order.

(5) HMP Implementation

180 days after adoption of the HMP by the Regional Board, each Copermittee shall incorporate into its local SUSMP and fully implement the HMP for all applicable Priority Development Projects. Prior to approval of the HMP by the Regional Board, the early implementation of measures likely to be included in the HMP shall be encouraged by the Copermittees.

(6) Interim Standards for Projects Disturbing 50 Acres or More

Starting July 1, 2007, Copermittees shall implement as part of its local SUSMP an updated review process which requires proponents of Priority Development

Projects in this size category to complete a Hydromodification Analysis Study (HAS) which demonstrates that the project's post-development runoff rates and durations shall not exceed estimated pre-project discharge rates and durations where the increased discharge rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the amount and timing of runoff. The Copermittees shall require that the HAS must demonstrate that the selected hydrologic controls for the Priority Development Project will maintain an Ep value close to one in natural channels receiving runoff from the Priority Development Project.

h. ENFORCEMENT OF DEVELOPMENT SITES

Each Copermittee shall enforce its storm water ordinance for all Development Projects and at all development sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include appropriate and effective sanctions to ensure compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit or occupancy denials for non-compliance.

2. Construction Component

Each Copermittee shall implement a construction program which meets the requirements of this section, reduces the discharge of pollutants from construction sites to the MEP, and ensures that urban runoff discharges from construction sites do not cause or contribute to a violation of water quality standards.

a. ORDINANCE UPDATE AND APPROVAL PROCESS

(1) Within 365 days of adoption of this Order, each Copermittee shall review and update its grading ordinances and other ordinances as necessary to achieve full compliance with this Order, including requirements for the implementation of all designated BMPs and other measures.

(2) Prior to approval and issuance of local construction and grading permits, each Copermittee shall:

(a) Require all individual proposed construction sites to implement designated BMPs and other measures to ensure that pollutants discharged from the site will be reduced to the maximum extent practicable and will not cause or contribute to a violation of water quality standards.
(b) Prior to permit issuance, require and review the project proponent's storm water management plan to ensure compliance with their grading ordinance, other ordinances, and this Order.
(c) Verify that project proponents subject to California's statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities, (hereinafter General Construction Permit), have existing coverage under the General Construction Permit.

b. SOURCE IDENTIFICATION

Each Copermittee shall maintain and update monthly a watershed based inventory of all construction sites within its jurisdiction. The use of an automated database

system, such as Geographical Information System (GIS) is highly recommended.

c. BMP IMPLEMENTATION

(1) Each Copermittee shall designate a minimum set of effective BMPs and other effective measures to be implemented at construction sites. The designated minimum set of BMPs shall include, at a minimum:

(a) Pollution prevention.
(b) Development and implementation of a storm water management plan to ensure pollutants in runoff are reduced to the MEP and will not cause or contribute to a violation of water quality standards.
(c) Erosion prevention, to be used as the most important measure for keeping sediment on site during construction, but never as the single method;
(d) Sediment controls, to be used as a supplement to erosion prevention for keeping sediment on-site during construction, and never as the single or primary method;
(e) Slope stabilization on all inactive slopes during the rainy season and during rain events in the dry season.
(f) Slope stabilization on all active slopes during rain events regardless of the season, unless advanced treatment is being implemented downstream of the slope.
(g) Minimization of areas that are cleared and graded to only the portion of the site that is necessary for construction;
(h) Minimization of exposure time of disturbed soil areas;
(i) Minimization of grading during the wet season and correlation of grading with seasonal dry weather periods to the extent feasible.
(j) Limitation of grading to a maximum disturbed area as determined by each Copermittee. The Copermittee has the option of temporarily increasing the size of disturbed soil areas by a set amount beyond the maximum, if the individual site is in compliance with applicable storm water regulations and the site has adequate control practices implemented to prevent storm water pollution.
(k) Implementation of advanced treatment for sediment at construction sites that are determined by the Copermittee to be a significant threat to water quality. In evaluating the threat to water quality, the following factors shall be considered by the Copermittee: (1) soil erosion potential; (2) the site's slopes; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; (7) ineffectiveness of other BMPs; and (8) any other relevant factors.
(l) Temporary stabilization and reseeding of disturbed soil areas as rapidly as feasible;
(m) Permanent revegetation or landscaping as early as feasible;
(n) Preservation of natural hydrologic features where feasible;
(o) Preservation of riparian buffers and corridors where feasible;
(p) Maintenance of all BMPs, until removed; and
(q) Retention, reduction, and proper management of all pollutant discharges on site to the MEP standard.

(2) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order at each construction site within its jurisdiction year round.

However, BMP implementation requirements can vary based on wet and dry seasons. Dry season BMP implementation must plan for and address rain events that may occur during the dry season.

(3) Each Copermittee shall implement, or require implementation of, additional controls for construction sites tributary to CWA section 303(d) water bodies impaired for sediment as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for construction sites within or adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in section Attachment C of this Order) as necessary to comply with this Order.

d. INSPECTION OF CONSTRUCTION SITES

Each Copermittee shall conduct construction site inspections for compliance with its local ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and this Order.

(1) During the wet season, each Copermittee shall inspect at least biweekly (every two weeks), all construction sites within its jurisdiction meeting the following criteria:

(a) All sites 50 acres or more in size and grading will occur during the wet season;
(b) All sites 1 acre or more, and tributary to a CWA section 303(d) water body impaired for sediment or within or directly adjacent to or discharging directly to a receiving water within ESA; and
(c) Other sites determined by the Copermittees or the Regional Board as a significant threat to water quality. In evaluating threat to water quality, the following factors shall be considered: (1) soil erosion potential; (2) site slope; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; (7) past record of non-compliance by the operators of the construction site; and (8) any other relevant factors.

(2) During the wet season, each Copermittee shall inspect at least monthly, all construction sites with one acre or more of soil disturbance not meeting the criteria specified above in section D.2.d.(1).

(3) During the wet season, each Copermittee shall inspect as needed, construction sites less than 1 acre in size.

(4) Each Copermittee shall inspect all construction sites as needed during the dry season.

(5) Based upon site inspection findings, each Copermittee shall implement all follow-up actions (i.e., reinspection, enforcement) necessary to comply with this Order.

(6) Inspections of construction sites shall include, but not be limited to:

(a) Check for coverage under the General Construction Permit (Notice of Intent (NOI) and/or Waste Discharge Identification No.) during initial inspections;
(b) Assessment of compliance with Permittee ordinances and permits related to urban runoff, including the implementation and maintenance of designated minimum BMPs;
(c) Assessment of BMP effectiveness;
(d) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;
(e) Education and outreach on storm water pollution prevention, as needed; and
(f) Creation of a written record of the inspection.

(7) The Copermittees shall track the number of inspections for the inventoried construction sites throughout the reporting period to ensure that the sites are inspected at the minimum frequencies required.

e. ENFORCEMENT OF CONSTRUCTION SITES

Each Copermittee shall develop and implement an escalating enforcement process that achieves prompt and effective corrective actions at construction sites for violations of the Copermittee's water quality protection permit requirements and ordinances. This enforcement process shall include authorizing the Copermittee's construction site inspectors to take immediate enforcement actions when appropriate and necessary. The enforcement process shall include appropriate and effective sanctions such as stop work orders, non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

f. REPORTING OF NON-COMPLIANT SITES

In addition to the notification requirements in section 5(e) of Attachment B, each Copermittee shall notify the Regional Board when the Copermittee issues a stop work order or other high level enforcement to a non-compliant construction site in their jurisdiction.

3. Existing Development Component

a. MUNICIPAL

Each Copermittee shall implement a municipal program which meets the requirements of this section, reduces the discharge of pollutants from municipal areas and activities to the MEP, and ensures that urban runoff discharges from municipal areas and activities do not cause or contribute to a violation of water quality standards.

(1) Source Identification

Each Copermittee shall annually update a watershed based inventory of municipal areas and activities. The inventory shall include the name, address (if applicable), and a description of the area/activity, which pollutants are potentially generated by the area/activity, and identification of whether the

area/activity is tributary to a CWA section 303(d) water body and generates pollutants for which the water body is impaired. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended when applicable, but not required.

(2) BMP Implementation

(a) Each Copermittee shall implement effective pollution prevention methods in its municipal program and shall require their use by appropriate municipal departments and personnel, where appropriate.

(b) Each Copermittee shall designate a minimum set of effective BMPs for all municipal areas and activities. The designated minimum BMPs for municipal areas and activities shall be area or activity specific as appropriate.

(c) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order for each municipal area or activity within its jurisdiction.

(d) Each Copermittee shall evaluate the feasibility of retrofitting existing structural flood control devices and retrofit where needed.

(e) Each Copermittee shall incorporate low impact site design BMPs according to section D.1.d(4) when changing the hydrologic or hydraulic capacity or behavior of a drainage system. Such modifications occur particularly in road drainage systems and include, but are not limited to: a change in the time of concentration, peak flow rate, volume, or velocity of stormwater discharge; creating new or modifying existing ditches, swales, or culverts (not including maintenance to reestablish original conditions); and changing historic drainage patterns.

(f) Each Copermittee shall require the incorporation of low impact site design BMPs according to section D.1.d(4) when adding impervious surface or modifying any impervious site feature at municipal facilities (not including maintenance to reestablish original conditions), whether or not the project qualifies as a Priority Development Project according to section D.1.d(2).

~~(e)~~(g) Each Copermittee shall implement, or require implementation of, any additional controls for municipal areas and activities tributary to CWA section 303(d) impaired water bodies (where an area or activity generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for municipal areas and activities within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order) as necessary to comply with this Order.

(3) Operation and Maintenance of Municipal Separate Storm Sewer System and Structural Controls

(a) Each Copermittee shall implement a schedule of inspection and maintenance activities to ensure proper operation of all municipal structural treatment controls designed to reduce pollutant discharges to or from its MS4s and related drainage structures.

(b) Each Copermittee shall implement a schedule of maintenance activities for the MS4. The maintenance activities shall, at a minimum, include:

i. Inspection of all Copermittee catch basins and storm drain inlets at least once a year between May 1 and September 30 of each year. If accumulated waste (e.g. sediment, trash, debris and other pollutants) is visible, the accumulated waste in the catch basin or storm drain shall be cleaned out. Additional cleaning shall be conducted as necessary.
ii. Inspection of all Copermittee open channels and removal of any observed anthropogenic litter from the open channels at least once a year between May 1 and September 30, with additional inspection and removal as necessary.
iii. Inspection, maintenance, and cleaning of other portions of the MS4 according to an established prioritized schedule.
iv. Record keeping of the maintenance and cleaning activities including the overall quantity of waste removed.
v. Proper disposal of waste removed pursuant to applicable laws.
vi. Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

(4) Management of Pesticides, Herbicides, and Fertilizers

The Copermittees shall implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal areas and activities to MS4s. Important municipal areas and activities include municipal facilities, public rights-of-way, parks, recreational facilities, golf courses, cemeteries, botanical or zoological gardens and exhibits, landscaped areas, etc.

Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators and distributors; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) schedules for irrigation and chemical application; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.

(5) Sweeping of Municipal Areas

Each Copermittee shall implement a program to sweep municipal roads, streets, highways, and parking facilities. The program shall include the following measures:

(a) Roads, streets, highways, and parking facilities identified as consistently generating the highest volumes of trash and/or debris shall be swept at least two times per month.

(b) Roads, streets, highways, and parking facilities identified as consistently generating moderate volumes of trash and/or debris shall be swept at least monthly.

(c) Roads, streets, highways, and parking facilities identified as generating low volumes of trash and/or debris shall be swept as necessary, but no less than once per year.

(d) Roads, streets, highways, and parking facilities shall be swept following any special events (festivals, sporting events, etc.) at those locations.

(6) Limit Infiltration From Sanitary Sewer to MS4/Provide Preventive Maintenance of Both

Each Copermittee shall implement controls and measures to ~~limit~~ prevent infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. Each Copermittee that operates both a municipal sanitary sewer system and a MS4 shall implement controls and measures to ~~limit~~ prevent infiltration of seepage from the municipal sanitary sewers to the MS4s that shall include overall sanitary sewer and MS4 surveys and thorough, routine preventive maintenance of both.

(7) Inspection of Municipal Areas and Activities

(a) At a minimum, each Copermittee shall inspect the following high priority municipal areas and activities annually:

i. Roads, Streets, Highways, and Parking Facilities.
ii. Flood Management Projects and Flood Control Devices.
iii. Areas and activities tributary to a C WA section 303(d) impaired water body, where an area or activity generates pollutants for which the water body is impaired. Areas and activities within or adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).
iv. Municipal Facilities.
[1] Active or closed municipal landfills;
[2] Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;
[3] Municipal separate storm sewer systems;
[4] Solid waste transfer facilities;
[5] Land application sites;
[6] Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles; and
[7] Household hazardous waste collection facilities.
v. Municipal airfields.
vi. Parks and recreation facilities.
vii. Special event venues following special events (festivals, sporting events, etc.)
viii. Power washing.
ix. Other municipal areas and activities that the Copermittee determines may contribute a significant pollutant load to the MS4.

(b) Other municipal areas and activities shall be inspected as needed.

(c) Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order

(8) Enforcement of Municipal Areas and Activities

Each Copermittee shall enforce its storm water ordinance for all municipal areas and activities as necessary to maintain compliance with this Order.

b. INDUSTRIAL AND COMMERCIAL

Each Copermittee shall implement an industrial and commercial program which meets the requirements of this section, reduces the discharge of pollutants from industrial and commercial sites/sources to the MEP, and ensures that urban runoff discharges from industrial and commercial sites/sources do not cause or contribute to a violation of water quality standards.

(1) Source Identification

Each Copermittee shall annually update a watershed-based inventory of all industrial and commercial sites/sources within its jurisdiction (regardless of ownership) that could contribute a significant pollutant load to the MS4. The inventory shall include the following minimum information for each industrial and commercial site/source: name; address; pollutants potentially generated by the site/source (and identification of whether the site/source is tributary to a Clean Water Act section 303(d) water body and generates pollutants for which the water body is impaired); and a narrative description including SIC codes which best reflects the principal products or services provided by each facility. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended.

At a minimum, the following sites/sources shall be included in the inventory:

(a) Commercial Sites/Sources:

i. Automobile repair, maintenance, fueling, or cleaning;
ii. Airplane repair, maintenance, fueling, or cleaning;
iii. Boat repair, maintenance, fueling, or cleaning;
iv. Equipment repair, maintenance, fueling, or cleaning;
v. Automobile and other vehicle body repair or painting;
vi. Mobile automobile or other vehicle washing;
vii. Automobile (or other vehicle) parking lots and storage facilities;
viii. Retail or wholesale fueling;
ix. Pest control services;
x. Eating or drinking establishments, including food markets;
xi. Mobile carpet, drape or furniture cleaning;
xii. Cement mixing or cutting;
xiii. Masonry;
xiv. Painting and coating;
xv. Botanical or zoological gardens and exhibits;

xvi. Landscaping;
xvii. Nurseries and greenhouses;
xviii. Golf courses, parks and other recreational areas/facilities;
xix. Cemeteries;
xx. Pool and fountain cleaning;
xxi. Marinas;
xxii. Port-a-Potty servicing;
xxiii. Building material retailers and storage;
xxiv. Animal facilities; and
xxv. Power washing services.

(b) Industrial Sites/Sources:

i. Industrial Facilities, as defined at 40 CFR § 122.26(b)(14), including those subject to the General Industrial Permit or other individual NPDES permit;
ii. Operating and closed landfills;
iii. Facilities subject to SARA Title III; and
iv. Hazardous waste treatment, disposal, storage and recovery facilities.

(c) All other commercial or industrial sites/sources tributary to a CWA Section 303(d) impaired water body, where the site/source generates pollutants for which the water body is impaired. All other commercial or industrial sites/sources within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

(d) All other commercial or industrial sites/sources that the Copermittee determines may contribute a significant pollutant load to the MS4.

(2) BMP Implementation

(a) Each Copermittee shall require the use of effective pollution prevention methods by industrial and commercial sites/sources, where appropriate.

(b) Each Copermittee shall designate a minimum set of effective BMPs for all industrial and commercial sites/sources. The designated minimum BMPs shall be specific to facility types and pollutant generating activities, as appropriate.

(c) Within the first year of implementation of the updated Jurisdictional Urban Runoff Management Program, each Copermittee shall notify the owner/operator of each inventoried industrial and commercial site/source of the BMP requirements applicable to the site/source.

(d) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order at each industrial and commercial site/source within its jurisdiction.

(e) For projects requiring a building permit, each Copermittee shall require the incorporation of low impact site design BMPs according to section D.1.d(4)

as a condition of permit approval for adding impervious surface or modifying any impervious site feature (not including maintenance to reestablish original conditions), whether or not the project qualifies as a Priority Development Project according to section D.1.d(2).

~~(e)~~(f) Each Copermittee shall implement, or require implementation of, additional controls for industrial and commercial sites/sources tributary to CWA section 303(d) impaired water bodies (where a site/source generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for industrial and commercial sites/sources within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order) as necessary to comply with this Order.

(3) Inspection of Industrial and Commercial Sites/Sources

(a) Each Copermittee shall conduct industrial and commercial site inspections for compliance with its ordinances, permits, and this Order. Inspections shall include but not be limited to:

i. Review of BMP implementation plans, if the site uses or is required to use such a plan;
ii. Review of facility monitoring data, if the site monitors its runoff;
iii. Check for coverage under the General Industrial Permit (Notice of Intent (NOI) and/or Waste Discharge Identification No.), if applicable;
iv. Assessment of compliance with Copermittee ordinances and permits related to urban runoff;
v. Assessment of BMP implementation, maintenance and effectiveness;
vi. Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and
vii. Education and outreach on storm water pollution prevention.

(b) Each Copermittee shall annually inspect all sites determined to pose a high threat to water quality. In evaluating threat to water quality, each Copermittee shall address, at a minimum, the following:

i. Type of activity (SIC code);
ii. Materials used at the facility;
iii. Wastes generated;
iv. Pollutant discharge potential;
v. Non-storm water discharges;
vi. Size of facility;
vii. Proximity to receiving water bodies;
viii. Sensitivity of receiving water bodies;
ix. Whether the facility is subject to the General Industrial Permit or an individual NPDES permit;

x. Whether the facility has filed a No Exposure Certification/Notice of Non-Applicability;
xi. Facility design;
xii. Total area of the site, area of the site where industrial or commercial activities occur, and area of the site exposed to rainfall and runoff;
xiii. The facility's compliance history; and
xiv. Any other relevant factors.

(c) At a minimum, 40% of the sites inventoried as required in section D.3.b.(1) above (excluding mobile businesses) shall be inspected each year.

(d) In addition to conducting inspections, each Copermittee shall develop and implement a program for verifying industrial and commercial site/source compliance with its ordinances, permits, and this Order, if determined to be necessary by the Copermittee. In developing the program, each Copermittee shall consider use of:

i. Compliance certifications (including submitting monitoring results, if applicable);
ii. Third party inspections;
iii. Facility or industry specific surveys; and
iv. Other relevant factors.

(e) Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

(f) To the extent that the Regional Board has conducted an inspection of an industrial site during a particular year, the requirement for the responsible Copermittee to inspect this facility during the same year will be satisfied.

(g) The Copermittees shall track the number of inspections for the inventoried industrial and commercial sites/sources throughout the reporting period to ensure that the sites/sources are inspected at the minimum frequencies listed in sections D.3.b.(3)(b) and D.3.b.(3)(c).

(4) Regulation of Mobile Businesses

(a) Each Copermittee shall develop and implement a program to reduce the discharge of pollutants from mobile businesses to the MEP. Each Copermittee shall keep as part of their inventory (section D.3.b.(1) above), a listing of mobile businesses known to operate within its jurisdiction. The program shall include:

i. Development and implementation of minimum standards and BMPs to be required for each of the various types of mobile businesses.
ii. Development and implementation of an enforcement strategy which specifically addresses the unique characteristics of mobile businesses.
iii. Notification of those mobile businesses known to operate within the Copermittee's jurisdiction of the minimum standards and BMP requirements and local ordinances.
iv. Development and implementation of an outreach and education strategy.

v. Inspection of mobile businesses as needed.

(b) If they choose to, the Copermittees may cooperate in developing and implementing their programs for mobile businesses, including sharing of mobile business inventories, BMP requirements, and education.

(5) Enforcement of Industrial and Commercial Sites/Sources

Each Copermittee shall enforce its storm water ordinance for all industrial and commercial sites/sources as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include appropriate and effective sanctions to ensure compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

(6) Reporting of Industrial Non-Filers

As part of each Annual Report, each Copermittee shall report a list of industrial sites, including the name, address, and SIC code, that may require coverage under the General Industrial Permit for which a NOI has not been filed.

c. RESIDENTIAL

Each Copermittee shall implement a residential program which meets the requirements of this section, reduces the discharge of pollutants from residential areas and activities to the MEP, and ensures that urban runoff discharges from residential areas and activities do not cause or contribute to a violation of water quality standards.

(1) Threat to Water Quality Prioritization

Each Copermittee shall identify high threat to water quality residential areas and activities. At a minimum, these shall include:

(a) Automobile repair, maintenance, washing, and parking;
(b) Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
(c) Disposal of trash, pet waste, green waste, and household hazardous waste (e.g., paints, cleaning products);
(d) Any other residential source that the Copermittee determines may contribute a significant pollutant load to the MS4;
(e) Any residential areas tributary to a CWA section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and
(f) Any residential areas within or directly adjacent to or discharging directly to a coastal lagoon or other receiving waters within an environmentally sensitive area (as defined in Attachment C of this Order).

(2) BMP Implementation

(a) Each Copermittee shall designate minimum effective BMPs for high threat to water quality residential areas and activities. The designated minimum BMPs for high threat to water quality municipal areas and activities shall be area or activity specific.

(b) Each Copermittee shall encourage the use of effective pollution prevention methods by residents, where appropriate.

(c) Each Copermittee shall facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation shall include educational activities, public information activities, and establishment of collection sites operated by the Copermittee or a private entity. Curbside collection of household hazardous wastes is encouraged.

(d) Each Copermittee shall implement, or require implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order for high threat to water quality residential areas and activities.

(e) Each Copermittee shall implement, or require implementation of, BMPs for residential areas and activities that have not been designated a high threat to water quality, as necessary.

(f) For projects requiring a building permit, each Copermittee shall require the incorporation of low impact site design BMPs according to section D.1.d(4) as a condition of permit approval for adding impervious surface or modifying any impervious site feature (not including maintenance to reestablish original conditions), whether or not the project qualifies as a Priority Development Project according to section D.1.d(2).

~~(f)~~(g) Each Copermittee shall implement, or require implementation of, any additional controls for residential areas and activities tributary to CWA section 303(d) impaired water bodies (where a residential area or activity generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for residential areas within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in section Attachment C of this Order) as necessary to comply with this Order.

(3) Enforcement of Residential Areas and Activities

Each Copermittee shall enforce its storm water ordinance for all residential areas and activities as necessary to maintain compliance with this Order.

(4) Regional Residential Education Program

Each Copermittee shall collaborate with the other Copermittees to develop and implement the Regional Residential Education Program required in section F.7 of this Order.

4. Illicit Discharge Detection and Elimination Component

Each Copermittee shall implement an Illicit Discharge Detection and Elimination program which meets the requirements of this section and actively seeks and eliminates illicit discharges and connections.

a. ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee shall implement a program to actively seek and eliminate illicit discharges and connections into its MS4. The program shall include utilization of appropriate municipal personnel to assist in identifying illicit discharges and connections during their daily activities. The program shall address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with section B of this Order.

b. DEVELOP/MAINTAIN MS4 MAP

Each Copermittee shall develop and/or update its labeled map of its entire MS4 and the corresponding drainage areas within its jurisdiction. The use of a GIS is highly recommended. The accuracy of the MS4 map shall be confirmed during dry weather field screening and analytical monitoring and shall be updated at least annually.

c. DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING

Each Copermittee shall conduct dry weather field screening and analytical monitoring of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect illicit discharges and connections in accordance with Receiving Waters Monitoring and Reporting Program No. R9-2006-0011.

d. INVESTIGATION/INSPECTION AND FOLLOW-UP

(1) Each Copermittee shall investigate and inspect any portion of the MS4 that, based on visual observations, dry weather field screening and analytical monitoring results, or other appropriate information, indicates a reasonable potential for illicit discharges, illicit connections, or other sources of non-storm water (including non-prohibited discharge(s) identified in section B of this Order). Each Copermittee shall develop/update and utilize numeric criteria action levels to determine when follow-up investigations will be performed.

(2) Within 48 hours of receiving dry weather field screening or analytical laboratory results that exceed action levels, the Copermittees shall either conduct an investigation to identify the source of the discharge or provide the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. Obvious illicit discharges (i.e. color, odor, or significant exceedances of action levels) shall be investigated immediately.

e. ELIMINATION OF ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee shall eliminate all detected illicit discharges, discharge sources, and connections immediately.

f. ENFORCE ORDINANCES

Each Copermittee shall implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to its MS4. Each Copermittee shall also implement and enforce its ordinance, orders, or other legal authority to eliminate detected illicit discharges and connections to it MS4.

g. PREVENT AND RESPOND TO SEWAGE SPILLS (INCLUDING FROM PRIVATE LATERALS AND FAILING SEPTIC SYSTEMS) AND OTHER SPILLS

Each Copermittee shall prevent, respond to, contain and clean up all sewage and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Spill response teams shall prevent entry of spills into the MS4 and contamination of surface water, ground water and soil to the maximum extent practicable. Each Copermittee shall coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies to ensure maximum water quality protection at all times.

Each Copermittee shall develop and implement a mechanism whereby it is notified of all sewage spills from private laterals and failing septic systems into its MS4. Each Copermittee shall prevent, respond to, contain and clean up sewage from any such notification.

h. FACILITATE PUBLIC REPORTING OF ILLICIT DISCHARGES AND CONNECTIONS - PUBLIC HOTLINE

Each Copermittee shall promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. Each Copermittee shall facilitate public reporting through development and operation of a public hotline. Public hotlines can be Copermittee-specific or shared by Copermittees. All storm water hotlines shall be capable of receiving reports in both English and Spanish 24 hours per day / seven days per week. Copermittees shall respond to and resolve each reported incident. All reported incidents, and how each was resolved, shall be summarized in each Copermittee's individual JURMP Annual Report.

5. Education Component

Each Copermittee shall implement an education program using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. At a minimum, the education program shall meet the requirements of this section and address the following target communities:

- Municipal Departments and Personnel
- Construction Site Owners and Developers
- Industrial Owners and Operators

- Commercial Owners and Operators
- Residential Community, General Public, and School Children

a. GENERAL REQUIREMENTS

(1) Each Copermittee shall educate each target community on the following topics ~~where appropriate~~:

Table 3. Education

Laws, Regulations, Permits, & Requirements	**Best Management Practices**
• Federal, state, and local water quality laws and regulations • Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction). • Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities • Regional Board's General NPDES Permit for Ground Water Dewatering • Regional Board's 401 Water Quality Certification Program • Statewide General NPDES Utility Vault Permit • Requirements of local municipal permits and ordinances (e.g., storm water and grading ordinances and permits)	• Pollution prevention and safe alternatives • Good housekeeping (e.g., sweeping impervious surfaces instead of hosing) • Proper waste disposal (e.g., garbage, pet/animal waste, green waste, household hazardous materials, appliances, tires, furniture, vehicles, boat/recreational vehicle waste, catch basin/ MS4 cleanout waste) • Non-storm water disposal alternatives (e.g., all wash waters) • Methods to minimized the impact of land development and construction • Erosion prevention • Methods to reduce the impact of residential and charity car-washing • Preventive Maintenance • Equipment/vehicle maintenance and repair • Spill response, containment, and recovery • Recycling • BMP maintenance
General Urban Runoff Concepts	**Other Topics**
• Impacts of urban runoff on receiving waters • Distinction between MS4s and sanitary sewers • BMP types: facility or activity specific, low impact site design, source control, and treatment control • Short- and long-term water quality impacts associated with urbanization (e.g., land-use decisions, development, construction) • Non-storm water discharge prohibitions • How to conduct a storm water inspections	• Public reporting mechanisms • Water quality awareness for Emergency/ First Responders • Illicit Discharge Detection and Elimination observations and follow-up during daily work activities • Potable water discharges to the MS4 • Dechlorination techniques • Hydrostatic testing • Integrated pest management • Benefits of native vegetation • Water conservation • Alternative materials and designs to maintain peak runoff values • Traffic reduction, alternative fuel use

(2) Copermittee educational programs shall emphasize underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges, including various

ethnic and socioeconomic groups and mobile sources.

b. SPECIFIC REQUIREMENTS

(1) Municipal Departments and Personnel Education

(a) Municipal Development Planning – Each Copermittee shall implement an education program to ensure that its planning and development review staffs (and Planning Boards and Elected Officials, if applicable) have an understanding of:

i. Federal, state, and local water quality laws and regulations applicable to Development Projects;
ii. The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization); and
iii. Methods of minimizing impacts to receiving water quality resulting from development, including:
[1] Storm water management plan development and review;
[2] Methods to control downstream erosion impacts;
[3] Identification of pollutants of concern;
[4] Low impact ~~Site~~ site design BMP techniques;
[5] Source control BMPs; and
[6] Selection of the most effective treatment control BMPs for the pollutants of concern.

(b) Municipal Construction Activities – Each Copermittee shall implement an education program that includes annual training prior to the rainy season to ensure that its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of:

i. Federal, state, and local water quality laws and regulations applicable to construction and grading activities.
ii. The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization and impacts from construction material such as sediment).
iii. Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities.
iv. The Copermittee's inspection, plan review, and enforcement policies and procedures to ensure consistent application.
v. Current advancements in BMP technologies.
vi. SUSMP Requirements including treatment options, site design, source control, and applicable tracking mechanisms.

(c) Municipal Industrial/Commercial Activities - Each Copermittee shall train staff responsible for conducting inspections and enforcement of industrial and commercial facilities at least once a year. Training shall cover inspection and enforcement procedures, BMP implementation, and reviewing monitoring data.

(d) Municipal Other Activities – Each Copermittee shall implement an education program to ensure that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.

(2) New Development and Construction Education

As early in the planning and development process as possible and all through the permitting and construction process, each Copermittee shall implement a program to educate project applicants, developers, contractors, property owners, community planning groups, and other responsible parties. The education program shall ensure an understanding of the topics listed in Section D.5.b.(1)(b) above and the importance of educating all construction workers in the field about stormwater issues and BMPs though formal or informal training.

(3) Residential, General Public, and School Children Education

Each Copermittee shall collaboratively conduct or participate in development and implementation of a plan to educate residential, general public, and school children target communities. The plan shall evaluate use of mass media, mailers, door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods.

6. Public Participation Component

Each Copermittee shall incorporate a mechanism for public participation in the updating, development, and implementation of the Jurisdictional Urban Runoff Management Program.

E. WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM

1. Each Copermittee shall fully implement all requirements of section E of this Order no later than July 1, 2007, unless otherwise specified in this Order. Prior to July 1, 2007, each Copermittee shall collaborate with the other Copermittees within its watershed(s) to at a minimum fully implement its Watershed URMP document, as the document was developed to comply with the requirements of Order No. 2001-01.

2. Each Copermittee shall collaborate with other Copermittees within its watershed(s) as shown in Table 4 below to develop and implement an updated Watershed Urban Runoff Management Program for each watershed. Each updated Watershed Urban Runoff Management Program shall meet the requirements of section E of this Order, reduce the discharge of pollutants to the MEP, and ensure that urban runoff discharges do not cause or contribute to a violation of water quality standards. Each Watershed Urban Runoff Management Program shall, at a minimum:

   a. Identify the Lead Watershed Permittee for each watershed. In the event that a Lead Watershed Permittee is not selected and identified by the Copermittees, by default the Copermittee identified in Table 4 as the Lead Watershed Permittee for that watershed

shall be responsible for implementing the requirements of the Lead Watershed Permittee in that watershed.

b. Develop an updated accurate map of the watershed (preferably in Geographical Information System (GIS) format) that identifies all receiving waters (including the Pacific Ocean); all Clean Water Act section 303(d) impaired receiving waters (including the Pacific Ocean); land uses; MS4s; major highways; jurisdictional boundaries; and inventoried commercial, industrial, and municipal sites.

c. Identify all pertinent water quality data that is available or will be available for a watershed. At a minimum, this shall include data from mass loading station monitoring; bioassessment monitoring; coastal storm drain monitoring; ambient bay, lagoon, and coastal receiving water monitoring; toxic hot spots monitoring; special investigations; monitoring resulting from enforcement actions; dry weather analytical monitoring and field screening; toxicity identification evaluations; total maximum daily load (TMDL) monitoring; and other applicable monitoring data from public and private organizations.

d. Annually assess and analyze the watershed's water quality data identified under section E.2.c above. The assessment and analysis shall annually identify and prioritize the watershed's water quality problems that are partially or fully attributable to MS4 discharges. Identified priority water quality problems shall include CWA section 303(d) listings, persistent violations of water quality standards, toxicity, impacts to beneficial uses, and other pertinent conditions. From the list of priority water quality problems, the high priority water quality problems of the watershed shall be identified, which shall include those priority water quality problems which most significantly exceed or impact water quality standards (water quality objectives an beneficial uses).

e. Identify and annually update the sources, pollutant discharges, and/or other factors causing the high priority water quality problems within the watershed.

f. Develop and update annually a list of potential short and long-term Watershed Water Quality Activities that will (1) abate the sources of the watershed's high priority water quality problems, and (2) reduce the discharge of pollutants causing the watershed's high priority water quality problems.

g. Develop and implement a collective strategy to guide Copermittee implementation of Watershed Water Quality Activities and Watershed Education Activities. The strategy shall include criteria for evaluating Watershed Water Quality Activities and Watershed Education Activities and identifying those activities which are likely to effective in reducing pollutant discharges causing the watershed's high priority water quality problems.

h. Annually evaluate the pollutant reduction effectiveness of the potential Watershed Water Quality Activities and Watershed Education Activities identified under sections E.2.f and E.2.j using criteria developed under section E.2.g.

i. Implement Watershed Water Quality Activities as part of the strategy identified under section E.2.g above.

(1) Short-term - At a minimum, each Copermittee shall implement two Watershed Water Quality Activities within its portion of each watershed annually. The Watershed Water Quality Activities shall be effective at reducing pollutant discharges causing the watershed's high priority water quality problem(s) as determined by the evaluation conducted under section E.2.h above. If a Copermittee contributes its fair share of resources to a Watershed Water Quality Activity outside of its jurisdiction but within the watershed, the number of Watershed Water Quality Activities required of the Copermittee in that watershed is reduced by one. For each regional activity implemented within a watershed which meets the criteria of the Watershed Water Quality Activity definition, where the Copermittee contributes its fair share of resources to the regional activity, the number of Watershed Water Quality Activities required of the Copermittee in that watershed is reduced by one.

(2) Long-term – At a minimum, the watershed Copermittees shall collectively either implement or conduct the planning and studies necessary to implement at least one long-term Watershed Water Quality Activity which cannot be implemented on an annual basis.

j. Develop and update annually a list of potential Watershed Education Activities that will (1) target the sources of the pollutant discharges causing the watershed's high priority water quality problems, and (2) inform appropriate target audiences of watershed concepts. Each listed Watershed Education Activity shall include a description which discusses how the activity will target sources and reduce pollutant discharges causing the identified high priority water quality problems in the watershed.

k. Implement Watershed Education Activities as part of the strategy identified under section E.2.g above.

(1) Source and Pollutant Discharge - At a minimum, each Copermittee shall implement two source and pollutant discharge-based Watershed Education Activities within its portion of each watershed annually. If a Copermittee contributes its fair share of resources to a Watershed Education Activity outside of its jurisdiction but within its watershed, the number of Watershed Education Activities required of the Copermittee in that watershed is reduced by one. For each regional education activity implemented within a watershed, where the Copermittee contributes its fair share of resources to the regional education activity, the number of Watershed Education Activities required of the Copermittee in that watershed is reduced by one.

(2) Watershed Concept - At a minimum, the watershed Copermittees shall collectively conduct watershed concept-based Watershed Education Activities which inform appropriate target audiences of watershed concepts.

l. Implement a watershed-specific public participation mechanism within each watershed. The mechanism shall encourage participation from other organizations within the watershed (such as the Department of Defense, Caltrans, lagoon foundations, etc.)

m. Include Copermittee collaboration to develop and implement the Watershed Urban Runoff Management Programs. Copermittee collaboration shall include frequent

regularly scheduled meetings and implementation of mechanisms to facilitate watershed-based land use planning with other jurisdictions within the watershed.

Table 4. Copermittees by Watershed

RESPONSIBLE COPERMITTEE(S)	WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM	HYDROLOGIC UNIT OR AREA	MAJOR RECEIVING WATER BODIES
1. County of San Diego	Santa Margarita River	Santa Margarita HU (902.00)	Santa Margarita River and Estuary, Pacific Ocean
1. City of Escondido **2. City of Oceanside** 3. City of Vista 4. County of San Diego	San Luis Rey River	San Luis Rey HU (903.00)	San Luis Rey River and Estuary, Pacific Ocean
1. City of Carlsbad **2. City of Encinitas** 3. City of Escondido 4. City of Oceanside 5. City of San Marcos 6. City of Solana Beach 7. City of Vista 8. County of San Diego	Carlsbad	Carlsbad HU (904.00)	Batiquitos Lagoon San Elijo Lagoon Agua Hedionda Lagoon Buena Vista Lagoon and Tributary Streams Pacific Ocean
1. City of Del Mar 2. **City of Escondido** 3. City of Poway 4. City of San Diego 5. City of Solana Beach 6. County of San Diego	San Dieguito River	San Dieguito HU (905.00)	San Dieguito River and Estuary Pacific Ocean
1. City of Del Mar 2. City of Poway 3. City of San Diego 4. County of San Diego	Peñasquitos	Miramar Reservoir HA (906.10) Poway HA (906.20)	Los Peñasquitos Creek Los Peñasquitos Lagoon Pacific Ocean
1. City of San Diego	Mission Bay	Scripps HA (906.30) Miramar HA(906.40) Tecolote HA (906.50)	Mission Bay Pacific Ocean
1. City of El Cajon 2. City of La Mesa 3. City of Poway 4. City of San Diego 5. City of Santee 6. County of San Diego	San Diego River	San Diego HU (907.00)	San Diego River Pacific Ocean
1. City of Chula Vista 2. City of Coronado 3. City of Imperial Beach 4. City of La Mesa 5. City of Lemon Grove 6. City of National City 7. City of San Diego 8. County of San Diego **9. San Diego Unified Port District** 10. San Diego County Regional Airport Authority	San Diego Bay	Pueblo San Diego HU (908.00) Sweetwater HU (909.00) Otay HU (910.00)	San Diego Bay Sweetwater River Otay River Pacific Ocean
1. City of Imperial Beach 2. City of San Diego **3. County of San Diego**	Tijuana River	Tijuana (911.00)	Tijuana River and Estuary Pacific Ocean

- The Lead Watershed Permittee for each watershed is highlighted

F. REGIONAL URBAN RUNOFF MANAGEMENT PROGRAM

The Copermittees shall fully implement all requirements of section F of this Order no later than July 1, 2007, unless otherwise specified in this Order.

Each Copermittee shall collaborate with the other Copermittees to develop, implement, and update as necessary a Regional Urban Runoff Management Program. The Regional Urban

Runoff Management Program shall meet the requirements of section F of this Order, reduce the discharge of pollutants to the MEP, and ensure that urban runoff discharges do not cause or contribute to a violation of water quality standards. The Regional Watershed Urban Runoff Management Program shall, at a minimum:

1. Develop and implement urban runoff management activities on a regional level, as determined to be necessary by the Copermittees.
2. Develop minimum standards for Jurisdictional Urban Runoff Management Program, Watershed Urban Runoff Management Program, and Regional Urban Runoff Management Program implementation and reporting, as determined to be necessary by the Copermittees.
3. Develop and implement a strategy to integrate management, implementation, and reporting of jurisdictional, watershed, and regional activities, as determined to be necessary by the Copermittees. Any such integration shall assure compliance with the jurisdictional requirements of section D and the watershed requirements of section E.
4. Facilitate TMDL management and implementation, as determined to be necessary by the Copermittees.
5. Facilitate the assessment of the effectiveness of jurisdictional, watershed, and regional programs.
6. Facilitate development of strategies for implementation of activities on a watershed level, as determined to be necessary by the Copermittees.
7. Develop and implement a Regional Residential Education Program. The program shall include:
   a. Pollutant specific education which focuses educational efforts on bacteria, nutrients, sediment, pesticides, and trash. If a different pollutant is determined to be more critical for the education program, the pollutant can be substituted for one of these pollutants.
   b. Education efforts focused on the specific residential sources of the pollutants listed in section F.7.a.
8. Develop the standardized fiscal analysis method required in section G of this Order.

G. FISCAL ANALYSIS

1. Each Copermittee shall secure the resources necessary to meet all requirements of this Order.

2. As part of the Regional Urban Runoff Management Program, the Copermittees shall collectively develop a standardized method and format for annually conducting and reporting fiscal analyses of their urban runoff management programs in their entirety (including jurisdictional, watershed, and regional activities). This standardized method shall:

   a. Identify the various categories of expenditures attributable to the urban runoff management programs, including a description of the specific items to be accounted for in each category of expenditures.
   b. Distinguish between expenditures attributable solely to permit compliance and expenditures that contribute to multiple programs or were in existence prior to implementation of the urban runoff management program.
   c. Identify a metric or metrics to be used to report program component and total program expenditures.

3. Each Copermittee shall conduct its annual fiscal analysis consistent with the standardized fiscal analysis method included in the RURMP. The annual fiscal analysis shall be conducted and reported on as part of each Copermittee's Jurisdictional Urban Runoff Management Program Annual Reports. For convenience, the fiscal analysis included in the Jurisdictional Urban Runoff Management Program Annual Reports shall address the Copermittee's urban runoff management programs in their entirety, including jurisdictional, watershed, and regional activities. The fiscal analysis shall identify the expenditures incurred by the Copermittee over the Annual Report's reporting period. The fiscal analysis shall also provide the Copermittee's urban runoff management program budget for the current reporting period. The fiscal analysis shall include a description of the source(s) of the funds that are proposed to be used to meet the necessary expenditures, including legal restrictions on the use of such funds.

H. TOTAL MAXIMUM DAILY LOADS

1. Chollas Creek Diazinon TMDL Water Quality Based Effluent Limits (WQBELs)

a. The Copermittees shall implement BMPs capable of achieving the interim and final diazinon Waste Load Allocation (WLA) concentration in the storm water discharge in Chollas Creek listed in Table 5.

Table 5. Chollas Creek Diazinon Schedule

Calendar Year	Year	Waste Load Allocation	Interim TMDL Numeric Target	% Reduction
2004	1	0.460 µg/L	0.5 µg/L	0
2005	2	0.460 µg/L	0.5 µg/L	0
2006	3	0.460 µg/L	0.5 µg/L	0
2007	4	0.414 µg/L	0.45 µg/L	10
2008	5	0.322 µg/L	0.35 µg/L	20
2009	6	0.184 µg/L	0.20 µg/L	30
2010	7	0.045 µg/L	0.05 µg/L	30

b. The Copermittees shall not cause or contribute to the violation of the Interim TMDL Numeric Targets in Chollas Creek as listed in Table 5. If the Interim TMDL Numeric Target is violated in Chollas Creek in more than one sample in any three consecutive years, the Copermittees shall submit a report that either 1) documents compliance with the WLA through additional sampling of the urban runoff discharge or 2) demonstrates, using modeling or other technical or scientific basis, the effectiveness of additional BMPs that will be implemented to achieve the WLA. The report may be incorporated into the Watershed Urban Runoff Management Program Annual Report unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule.

c. The Copermittees in the Chollas Creek watershed shall implement the Diazinon Toxicity Control Plan and Diazinon Public Outreach/Education Program as described in the report titled, "Technical Report for Total Maximum Daily Load for Diazinon in Chollas Creek Watershed, San Diego County, August 14, 2002," to achieve the

WLA listed in Table 5.

2. Shelter Island Yacht Basin WQBELs

a. The Copermittees in the Shelter Island Yacht Basin watershed shall implement BMPs to maintain a total annual copper discharge load of less than or equal to 30 kg copper / year.

b. The Copermittees in the Shelter Island Yacht Basin watershed shall implement, at a minimum, the BMPs included in the Copermittees' Jurisdictional Urban Runoff Management Plan which address the discharge of copper to achieve the annual copper load in Section H.2.a above.

I. PROGRAM EFFECTIVENESS ASSESSMENT

1. Jurisdictional

a. As part of its Jurisdictional Urban Runoff Management Program, each Copermittee shall annually assess the effectiveness of its Jurisdictional Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Provide a database giving for each development permit approval: date of approval; land area of parcel; square footage of under roof and square footage of all buildings (if different than under roof); percent impervious cover whether the project was new development or redevelopment; whether or not a SUSMP was required; Priority Development Project category or categories (if a SUSMP was required); development type (if a SUSMP was not required); BMPs required and implemented (whether or not a SUSMP was required); and percentage of site runoff managed by each low impact site design feature, treatment control BMP, and hydrologic control measure implemented under a HMP.

(2) Specifically assess the effectiveness of each of the following:
   (a) Each significant jurisdictional activity or BMP implemented;
   (b) Implementation of each major component of the Jurisdictional Urban Runoff Management Program (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination, and Education); and
   (c) Implementation of the Jurisdictional Urban Runoff Management Program as a whole.

~~(2)~~(3) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.1.a.(1) above.

~~(3)~~(4) Utilize outcome levels 1-6[1] to assess the effectiveness of each of the items listed in section I.1.a.(1) above, where applicable and feasible.

~~(4)~~(5) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.1.a.(1) above, where applicable and feasible.

~~(5)~~(6) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment.[2]

[1] Effectiveness assessment outcome levels are defined in Attachment C of this Order.

b. Based on the results of the effectiveness assessment, each Copermittee shall modify its jurisdictional activities or BMPs to maximize Jurisdictional Urban Runoff Management Program effectiveness. Jurisdictional activities or BMPs that are ineffective or less effective than other comparable jurisdictional activities or BMPs shall be replaced or improved upon by implementation of more effective jurisdictional activities or BMPs. Where monitoring data exhibits persistent water quality problems, jurisdictional activities or BMPs applicable to the water quality problems shall to be modified and improved on at least an annual basis to correct the water quality problems.

c. As part of its Jurisdictional Urban Runoff Management Program Annual Reports, each Copermittee shall report on its Jurisdictional Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of sections I.1.a and I.1.b above.

2. Watershed

a. As part of its Watershed Urban Runoff Management Program, each watershed group of Copermittees (as identified in Table 4) shall annually assess the effectiveness of its Watershed Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:
  (a) Each Watershed Water Quality Activity implemented;
  (b) Each Watershed Education Activity implemented; and
  (c) Implementation of the Watershed Urban Runoff Management Program as a whole.
(2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.2.a.(1) above.
(3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in sections I.2.a.(1)(a) and I.2.a.(1)(b) above, where applicable and feasible.
(4) Utilize outcome levels 1-4 to assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, where applicable and feasible.
(5) Utilize outcome levels 5 and 6 to assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, focusing on the high priority water quality problem(s) of the watershed. These assessments shall exhibit the impact of Watershed Urban Runoff Management Program implementation on the high priority water quality problem(s) within the watershed.
(6) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.2.a.(1) above, where applicable and feasible.
(7) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment.

b. Based on the results of the effectiveness assessment, the watershed Copermittees shall modify their Watershed Water Quality Activities, Watershed Education Activities, and other aspects of the Watershed Urban Runoff Management Program

[2] Implementation Assessment, Water Quality Assessment, and Integrated Assessment are defined in Attachment C of this Order.

in order to maximize Watershed Urban Runoff Management Program effectiveness. Watershed Water Quality Activities or Watershed Education Activities that are ineffective or less effective than other comparable Watershed Water Quality Activities or Watershed Education Activities shall be replaced or improved upon by implementation of more effective Watershed Water Quality Activities or Watershed Education Activities. Where monitoring data exhibits persistent water quality problems, Watershed Water Quality Activities and Watershed Education Activities applicable to the water quality problems shall to be modified and improved on at least an annual basis to correct the water quality problems.

c. As part of its Watershed Urban Runoff Management Program Annual Reports, each watershed group of Copermittees (as identified in Table 4) shall report on its Watershed Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of section I.2.a and I.2.b above.

3. Regional

a. As part of the Regional Urban Runoff Management Program, the Copermittees shall annually assess the effectiveness of Regional Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:
  (a) Each regional activity or BMP implemented, including regional residential education activities; and
  (b) The Regional Urban Runoff Management Program as a whole.
(2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.3.a.(1) above.
(3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in sections I.3.a.(1) above, where applicable and feasible.
(4) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.3.a.(1) above, where applicable and feasible.
(5) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment.
(6) Include evaluation of the need for minimum standards for Jurisdictional Urban Runoff Management Program, Watershed Urban Runoff Management Program, and Regional Urban Runoff Management Program implementation, and assessment of the progress in developing such standards.
(7) Include evaluation of the progress in integrating management, implementation, and reporting of jurisdictional, watershed, and regional activities.
(8) Include evaluation of the progress in facilitating TMDL management and implementation.
(9) Include evaluation of the progress in developing strategies for implementation of activities on a watershed level.
(10) Include evaluation of whether the Copermittees' jurisdictional, watershed, and regional effectiveness assessments are meeting the following objectives:
  (a) Assessment of watershed health and identification of water quality issues and concerns.
  (b) Evaluation of the degree to which existing source management priorities are properly targeted to, and effective in addressing, water quality issues and concerns.

(c) Evaluation of the need to address additional pollutant sources not already included in Copermittee programs.
(d) Assessment of progress in implementing Copermittee programs and activities.
(e) Assessment of the effectiveness and cost-efficiency of Copermittee activities in addressing priority constituents and sources.
(f) Assessment of changes in discharge and receiving water quality.
(g) Assessment of the relationship of program implementation to changes in pollutant loading, discharge quality, and receiving water quality.
(h) Identification of changes necessary to improve Copermittee programs, activities, and effectiveness assessment methods and strategies.

b. Based on the results of the effectiveness assessment, the Copermittees shall modify their regional activities and other aspects of the Regional Urban Runoff Management Program in order to maximize Regional Urban Runoff Management Program effectiveness. Regional activities that are ineffective or less effective than other comparable regional activities shall be replaced or improved upon by implementation of more effective regional activities. Where monitoring data exhibits persistent water quality problems, regional activities applicable to the water quality problems shall to be modified and improved on at least an annual basis to correct the water quality problems.

c. Based on the results of the Copermittees' evaluation of their effectiveness assessments, the Copermittees shall modify their effectiveness assessment methods to improve their ability to accurately assess the effectiveness of their urban runoff management programs.

d. As part of its Regional Urban Runoff Management Program Annual Reports, the Copermittees shall report on its Regional Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of sections I.3.a, I.3.b, and I.3.c above.

4. TMDL BMP Implementation Plan

a. For each TMDL in a watershed, the Copermittees within the watershed shall annually assess the effectiveness of its TMDL BMP Implementation Plan or equivalent plan.[3] At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:
(a) Each BMP implemented; and
(b) Implementation of the TMDL BMP Implementation Plan or equivalent plan as a whole.
(2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in sections I.4.a.(1) above.
(3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in section (I.4.a.(1)(a) above, where applicable and feasible.

[3] This requirement applies to those TMDLs where a TMDL BMP Implementation Plan or equivalent plan has been developed and submitted to the Regional Board.

(4) Utilize outcome levels 1-4 to assess the effectiveness of implementation of the TMDL BMP Implementation Plan or equivalent plan as a whole, where applicable and feasible.
(5) Utilize outcome levels 5 and 6 to assess the effectiveness of the TMDL BMP Implementation Plan or equivalent plan as a whole. These assessments shall exhibit the effects of the TMDL BMP Implementation Plan or equivalent plan on the impairment that is targeted.

b. Based on the results of the effectiveness assessment, the watershed Copermittees shall modify their BMPs and other aspects of the TMDL BMP Implementation Plan or equivalent plan in order to maximize TMDL BMP Implementation Plan or equivalent plan effectiveness. BMPs that are ineffective or less effective than other comparable BMPs shall be replaced or improved upon by implementation of more effective BMPs. Where monitoring data exhibits persistent water quality problems, BMPs applicable to the water quality problems shall to be modified and improved on at least an annual basis to correct the water quality problems.

c. As part of its Watershed Urban Runoff Management Program Annual Reports, each group of Copermittees in a watershed with a TMDL shall report on any TMDL BMP Implementation Plan or equivalent plan effectiveness assessments as implemented under each of the requirements of sections I.4.a and I.4.b above.

5. Long-term Effectiveness Assessment

a. Each Copermittee shall collaborate with the other Copermittees to develop a Long-term Effectiveness Assessment (LTEA), which shall build on the results of the Copermittees' August 2005 Baseline LTEA. The LTEA shall be submitted by the Principal Permittee to the Regional Board by January 31, 2010.

b. The LTEA shall be designed to address each of the objectives listed in section I.3.a.(8) of this Order, and to serve as a basis for the Copermittees' Report of Waste Discharge for the next permit cycle.

c. The LTEA shall address outcome levels 1-6, and shall specifically include an evaluation of program implementation to changes in water quality (outcome levels 5 and 6).

d. The LTEA shall assess the effectiveness of the Receiving Waters Monitoring Program in meeting its objectives and its ability to answer the five core management questions. This shall include assessment of the frequency of monitoring conducted through the use of power analysis and other pertinent statistical methods. The power analysis shall identify the frequency and intensity of sampling needed to identify a 10% reduction in the concentration of constituents causing the high priority water quality problems within each watershed over the next permit term with 80% confidence.

e. The LTEA shall address the jurisdictional, watershed, and regional programs, with an emphasis on watershed assessment.

J. REPORTING

1. Jurisdictional Urban Runoff Management Plans

a. Copermittees - The written account of the overall program to be conducted by each Copermittee to meet the jurisdictional requirements of section D of this Order is referred to as the Jurisdictional Urban Runoff Management Plan (JURMP). Each Copermittee shall revise and update its JURMP so that it describes all activities the Copermittee has undertaken or is undertaking to implement the requirements of each component of Jurisdictional Urban Runoff Management Program section D of this Order. Each JURMP shall be updated and revised to specifically address the items specified in Attachment D. Each Copermittee shall submit its updated and revised JURMP to the Principal Permittee by the date specified by the Principal Permittee.

b. Principal Permittee – The Principal Permittee shall update and revise the Unified JURMP. The Unified JURMP submittal shall contain a section describing common activities conducted collectively by the Copermittees, to be produced by the Principal Permittee, and the twenty-one individual JURMPs. The Principal Permittee shall also be responsible for collecting and assembling the individual JURMPs which cover the activities conducted by each individual Copermittee. The Principal Permittee shall submit the Unified JURMP to the Regional Board on July 1, 2007.

2. Watershed Urban Runoff Management Plans

a. Copermittees - The written account of the program conducted by each watershed group of Copermittees is referred to as the Watershed Urban Runoff Management Plan (WURMP). The Copermittees within each watershed shall be responsible for updating and revising each WURMP, as specified in Table 4 above. Each WURMP shall be updated and revised to fully describe all activities the watershed Copermittees have undertaken or will be undertaking to implement the Watershed Urban Runoff Management Program requirements of section E of this Order. Each WURMP shall include:

(1) Identification of the Lead Watershed Permittee for the watershed.
(2) An updated watershed map.
(3) Identification and description of all pertinent water quality data.
(4) Assessment and analysis of the watershed's water quality data, including identification and prioritization of the watershed's water quality problems. Priority water quality problems and high priority water quality problems shall be identified.
(5) Identification of the sources, pollutant discharges, and/or other factors causing the high priority water quality problems within the watershed.
(6) A list of potential Watershed Water Quality Activities, including a description of each activity, its location(s), and how it will abate sources and reduce pollutant discharges causing the identified high priority water quality problems in the watershed.
(7) A description of the strategy to be used to guide Copermittee implementation of Watershed Water Quality Activities and Watershed Education Activities, including criteria for evaluating and identifying effective activities.
(8) An evaluation of the likely effectiveness of the potential Watershed Water Quality Activities and Watershed Education Activities.
(9) Identification and description of the short-term Watershed Water Quality Activities to be implemented by each Copermittee for the first year of implementation, including justification for why the activities were chosen and

information exhibiting that the activities will directly and significantly reduce the discharge of pollutants causing the watershed's high priority water quality problems. Plans for activity implementation beyond the first year of implementation should also be provided.

(10) Identification and description of efforts to implement a long-term Watershed Water Quality Activity.

(11) A list of potential Watershed Education Activities, including a description of each activity and how the activity targets sources causing the identified high priority water quality problems in the watershed, if applicable.

(12) Identification and description of the pollutant-based Watershed Education Activities to be implemented by each Copermittee for the first year of implementation, including justification for why the activities were chosen and information exhibiting that the activities will directly target the sources and discharges of pollutants causing the watershed's high priority water quality problems. Plans for activity implementation beyond the first year of implementation should also be provided.

(13) Identification and description of watershed concept-based Watershed Education Activities to be implemented by the Copermittees for the first year of implementation. Plans for activity implementation beyond the first year of implementation should also be provided.

(14) A description of the public participation mechanisms to be used and the parties anticipated to be involved.

(15) A description of Copermittee collaboration to occur, including a schedule for WURMP meetings and discussion of land-use planning collaboration mechanisms.

(16) A description of any TMDL BMP Implementation Plan or equivalent plan to be implemented under section H of this Order.[4]

(17) A detailed description of the effectiveness assessment to be conducted for the WURMP, including a description how each of the requirements in section I.2 of this Order will be met.

b. Lead Watershed Permittee - Each Lead Watershed Permittee shall be responsible for producing its respective WURMP, as well as for coordination and meetings amongst all member watershed Copermittees. Each Lead Watershed Permittee is further responsible for the submittal of the WURMP to the Principal Permittee by the date specified by the Principal Permittee.

c. Principal Permittee – The Unified WURMP shall contain an updated and revised section covering common activities conducted collectively by the Copermittees, to be produced by the Principal Permittee, and the nine separate WURMPs. The Principal Permittee shall assemble and submit the Unified WURMP to the Regional Board by July 1, 2007.

3. Regional Urban Runoff Management Plan

a. Copermittees - The written account of the regional program to be conducted is referred to as the Regional Urban Runoff Management Plan (RURMP). Each Copermittee shall collaborate with the other Copermittees to develop the RURMP.

[4] For TMDLs not yet approved by the Office of Administrative Law at the time of adoption of this Order, TMDL BMP Implementation Plans shall be submitted separately 365 days following approval of the TMDL.

The RURMP shall describe all activities the Copermittees have undertaken or are undertaking to implement the requirements of each component of Regional Urban Runoff Management Program section F of this Order. At a minimum, the RURMP shall contain the following information:

(1) A description of the urban runoff management activities to be implemented on a regional level. For regional activities which are to be implemented in compliance with any jurisdictional requirements of section D or watershed requirements of section E, it shall be described how the regional activities achieve compliance with the subject jurisdictional and/or watershed requirements.
(2) A description of steps that will be taken to develop and implement minimum standards for jurisdictional, watershed, and regional implementation and reporting.
(3) A description of a strategy to integrate management, implementation, and reporting of jurisdictional, watershed, and regional activities.
(4) A description of steps that will be taken to facilitate TMDL management and implementation.
(5) A description of steps that will be taken to facilitate assessment of the effectiveness of jurisdictional, watershed, and regional programs.
(6) A description of steps that will be taken to facilitate development of strategies for implementation of activities on a watershed level.
(7) A description of the regional residential education program to be implemented.
(8) A description of the standardized fiscal analysis method developed as required by section G of this Order.
(9) A detailed description of the effectiveness assessment to be conducted for the Regional Urban Runoff Management Program, including a description how each of the requirements in section I.3 of this Order will be met.

b. The Principal Permittee shall be responsible for creating and submitting the RURMP. The Principal Permittee shall submit the RURMP to the Regional Board on July 1, 2007.

4. Hydromodification Management Plan

a. Copermittees - Each Copermittee shall collaborate with the other Copermittees to develop the HMP. The HMP shall be submitted for approval by the Regional Board.

b. Principal Permittee - The Principal Permittee shall be responsible for producing and submitting each document according to the schedule below.
(1) January 15, 2007: Submit a detailed workplan and schedule for completion of the literature review, development of a protocol to identify an appropriate Ep standard and limiting range of rainfall events, development of guidance materials, and other required information;
(2) July 15, 2007: Submit progress report on completion of requirements of the HMP;
(3) January 15, 2008: Submit a draft HMP, including the analysis that identifies the appropriate limiting storm and the identified limiting storm event(s) or event range(s);

(4) July 15, 2008: Submit the HMP for Regional Board approval.

5. Long-Term Effectiveness Assessment

In accordance with section I.5 of this Order, the Principal Permittee shall submit the LTEA to the Regional Board by January 31, 2010.

6. Report of Waste Discharge

The Principal Permittee shall submit to the Regional Board, no later than 210 days in advance of the expiration date of this Order, a Report of Waste Discharge (ROWD) as an application for issuance of new waste discharge requirements. At a minimum, the ROWD shall include the following:

a. Proposed changes to the Copermittees' urban runoff management programs.
b. Proposed changes to monitoring programs.
c. Justification for proposed changes.
d. Name and mailing addresses of the Copermittees.
e. Names and titles of primary contacts of the Copermittees.
f. Any other information necessary for the reissuance of this Order.

7. Universal Reporting Requirements

All submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit a signed certified statement covering its responsibilities for each applicable URMP or other submittal. The Principal Permittee shall submit a signed certified statement covering its responsibilities for each applicable URMP or other submittal and the unified sections of the submittals for which it is responsible.

K. MODIFICATION OF PROGRAMS

Modifications of Jurisdictional Urban Runoff Management Programs, Watershed Urban Runoff Management Programs, and/or the Regional Urban Runoff Management Program may be initiated by the Executive Officer or by the Copermittees. Requests by Copermittees shall be made to the Executive Officer, and shall be submitted during the annual review process. Requests for modifications should be incorporated, as appropriate, into the Annual Reports or other deliverables required or allowed under this Order.

1. Minor Modifications – Minor modifications to Jurisdictional Urban Runoff Management Programs, Watershed Urban Runoff Management Programs, and/or the Regional Urban Runoff Management Program may be accepted by the Executive Officer where the Executive Officer finds the proposed modification complies with all discharge prohibitions, receiving water limitations, and other requirements of this Order.

2. Modifications Requiring an Amendment to this Order – Proposed modifications that are not minor shall require amendment of this Order in accordance with this Order's rules, policies, and procedures.

L. ALL COPERMITTEE COLLABORATION

1. Each Copermittee collaborate with all other Copermittees regulated under this Order to address common issues, promote consistency among Jurisdictional Urban Runoff Management Programs and Watershed Urban Runoff Management Programs, and to plan and coordinate activities required under this Order.

   a. Management Structure - All Copermittees shall jointly execute and submit to the Regional Board no later than 180 days after adoption of this Order, a Memorandum of Understanding, Joint Powers Authority, or other instrument of formal agreement which at a minimum:

      (1) Identifies and defines the responsibilities of the Principal Permittee and Lead Watershed Permittees;
      (2) Identifies Copermittees and defines their individual and joint responsibilities, including watershed responsibilities;
      (3) Establishes a management structure to promote consistency and develop and implement regional activities;
      (4) Establishes standards for conducting meetings, decision-making, and cost-sharing;
      (5) Provides guidelines for committee and workgroup structure and responsibilities;
      (6) Lays out a process for addressing Copermittee non-compliance with the formal agreement; and
      (7) Includes any and all other collaborative arrangements for compliance with this Order.

M. PRINCIPAL PERMITTEE RESPONSIBILITIES

Within 180 days of adoption of this Order, the Copermittees shall designate the Principal Permittee and notify the Regional Board of the name of the Principal Permittee. The Principal Permittee shall, at a minimum:

1. Serve as liaison between the Copermittees and the Regional Board on general permit issues, and when necessary and appropriate, represent the Copermittees before the Regional Board.

2. Coordinate permit activities among the Copermittees and facilitate collaboration on the development and implementation of programs required under this Order.

3. Integrate individual Copermittee documents and reports into single unified documents and reports for submittal to the Regional Board as required under this Order.

4. Produce and submit documents and reports as required by section J of this Order and Receiving Waters Monitoring and Reporting Program No. 2006-11.

5. Submit to the Regional Board, within 180 days of adoption of this Order, a formal agreement between the Copermittees which provides a management structure for meeting the requirements of this Order (as described in section L).

6. Coordinate joint development by all of the Copermittees of standardized format(s) for all documents and reports required under this Order (e.g., JURMPs, WURMPs, annual reports, monitoring reports, etc.). The standardized reporting format(s) shall be used by all Copermittees. The Principal Permittee shall submit the standardized format(s) to the

Regional Board for review no later than 180 days after adoption of this Order.

N. RECEIVING WATERS MONITORING AND REPORTING PROGRAM

Pursuant to CWC section 13267, the Copermittees shall comply with all the requirements contained in Receiving Waters Monitoring and Reporting Program No. R9-2006-0011.

O. STANDARD PROVISIONS, REPORTING REQUIREMENTS, AND NOTIFICATIONS

1. Each Copermittee shall comply with Standard Provisions, Reporting Requirements, and Notifications contained in Attachment B of this Order. This includes 24 hour/5day reporting requirements for any instance of non-compliance with this Order as described in section 5.e of Attachment B.

2. All plans, reports and subsequent amendments submitted in compliance with this Order shall be implemented immediately (or as otherwise specified). All submittals by Copermittees must be adequate to implement the requirements of this Order.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on (date).

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John H. Robertus
Executive Officer

Case Studies

Author/Agency/Organization	Title	Date	URL
City of Chicago	City Launches Green Roof Grants Program	11/02/05	http://egov.cityofchicago.org/city/webportal/portalContentItemAction.do?BV_SessionID=@@@@0664391742.1150324275@@@@&BV_EngineID=cccdaddidejikmgcefecelldffhdfgm.0&contentOID=536932287&contenTypeName=COC_EDITORIAL&topChannelName=HomePage
Architecture Week	A Better Suburbia	01/05	http://www.architectureweek.com/2005/0119/building_1-1.html
Rocky Mountain Institute	Village Homes, Davis, California		http://www.rmi.org/sitepages/pid209.php
EPA	Stormwater Management at the EPA Headquarters Office Complex		http://www.epa.gov/owow/nps/lid/stormwater_hq/
Clausen, J. et al.	Jordan Cove Urban Watershed Section 319 National Monitoring Program Project	02/06	http://www5.bae.ncsu.edu/programs/extension/wqg/issues/notes120.pdf
Connecticut Department of Environmental Protection	After 10 Years – Officials Celebrate Results of Important Water Monitoring Project	10/19/05	http://dep.state.ct.us/whatshap/Press/2005/101905.htm
Connecticut Department of Environmental Protection	Jordan Cove Urban Monitoring Project	10/02	http://dep.state.ct.us/wtr/nps/succstor/jordncve.pdf
National Oceanographic and Atmospheric Administration / Coastal Services	Storm Water Management: Putting Real Life to the Test in Connecticut	01-02/04	http://www.csc.noaa.gov/magazine/2004/01/conn.html
Maryland Department of the Environment	Controlling Stormwater: Some Lessons From The Maryland Experience	10/90	
EPA	Bioretention Applications: Inglewood Demonstration Project, Largo, Maryland and Florida Aquarium, Tampa, Florida	10/00	www.epa.gov/owow/nps/bioretention.pdf
PILGRIM Education Fund	Waterways at Risk: How Low-Impact Development Can Reduce Runoff Pollution in Michigan	2005	
STORMWATER, The Journal for Surface Water Quality Professionals	Beyond Flood Control: From green roofs to pervious pavement to underground treatment, Milwaukee experiments with newer water-quality and flood control measures	03-04/04	http://www.forester.net/sw_0403_beyond.html
Abrams, Glen J.	New Thinking in an Old City: Philadelphia's Movement Toward Low-Impact Development	02/04	http://www5.bae.ncsu.edu/programs/extension/wqg/issues/notes112.pdf
EPA	Vegetated Roof Cover: Philadelphia, Pennsylvania	10/00	www.epa.gov/owow/nps/roofcover.pdf
City of Portland Bureau of Environmental Services	Downspout Disconnection Program Hits the Billion Gallon Mark	06/14/05	http://www.portlandonline.com/bes/index.cfm?a=82190&c=37621#disco
Cheng, M., *et al*.	Hydrological Responses from Low Impact Development Comparing with Conventional Development	11/00	http://www.scdhec.net/water/lid/pdf/somerset.pdf
Levitt, J., and Bergan, L.	Using Nature's Plumbing to Restore Aquatic Ecosystems: The City of Seattle's Natural Drainage System	02/05	http://www5.bae.ncsu.edu/programs/extension/wqg/issues/notes116.pdf
Seattle Public Utilities	Natural Drainage Projects		http://www.seattle.gov/util/About_SPU/Drainage_&_Sewer_System/Natural_Drainage_Systems/Natural_Drainage_Overview/index.asp
Dorava, J., Vierbicher Associates, Inc.	Enhancing Storm Water Infiltration to Reduce Water Temperature Downstream		http://www.epa.gov/owow/nps/natlstormwater03/08Dorava.pdf
The City of Vancouver	Crown Street: Vancouver's First Environmentally Sustainable Street	03/30/05	http://www.tac-atc.ca/english/pdf/conf2005/s5/kauffman.pdf
Natural Resources Defense Council	Out of the Gutter: Reducing Polluted Runoff in the District of Columbia	07/02	http://www.nrdc.org/water/pollution/gutter/gutter.pdf

Government Sources

Author/Agency/Organization	Title	Date
Bay Area Stormwater Management Agencies Association (BASMAA)	Start at the Source	1999
Bay Area Stormwater Management Agencies Association (BASMAA)	Using Site Design Techniques to Meet Development Standards for Storm Water Quality	05/03
Cantú, Celeste, Executive Director, California Water Boards	Building a Vision: Putting the Pieces Together Building Livable, Sustainable Communities: Water Quality and Supply is Linked to Growth	04/05/06
Department of Defense	Unified Facilities Criteria: Low Impact Development	10/25/04
EPA	Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration	05/94
EPA	Preliminary Data Summary of Urban Storm Water Best Management Practices	08/99
EPA	Field Evaluation of Permeable Pavements for Stormwater Management	10/00
EPA	Low Impact Development (LID): A Literature Review	10/00
EPA	Protecting Water Resources With Higher-Density Development	01/06
EPA	Nonpoint Source News-Notes; Low-Impact Development Pays Off	05/05
EPA	Nonpoint Source News-Notes; Many Paths Lead to Adoption of Low Impact Development	10/05
EPA	Using Smart Growth Techniques as Stormwater Best Management Practices	12/05
EPA	Low Impact Development (LID) and Other Green Design Strategies	
EPA	US EPA Storm Water Program's Webcast Series: Post Construction 101	
Los Angeles Bureau of Sanitation, Department of Public Works	Reference Guide for Stormwater Best Management Practices	07/00
Maryland Department of the Environment	Maryland Stormwater Design Manual Volumes I & II	10/00
Maryland, Prince George's County Department of Environmental Resources	Low-Impact Development Design Strategies: An Integrated Design Approach	06/99
Maryland, Prince George's County Department of Environmental Resources	Low-Impact Development Design: A New Paradigm for Stormwater Management Mimicking and Restoring the Natural Hydrologic Regime An Alternative Stormwater Management Technology	
Metropolitan Area Planning Council (Boston, MA)	Massachusetts Low Impact Development Toolkit	
Texas Water Development Board	The Texas Manual on Rainwater Harvesting	2005

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URL
http://www.basmaa.org/resources/files/Start%20at%20the%20Source%20%2D%20Design%20Guidance%20Manual%20for%20Stormwater%20Quality%20Protection%2Epdf
http://www.basmaa.org/resources/files/Using%20Site%20Design%20Techniques%2Epdf
http://www.swrcb.ca.gov/agendas/2006/april/0405_01pres.pdf
http://www.wbdg.org/ccb/DOD/UFC/ufc_3_210_10.pdf
http://www.p2pays.org/ref/07/06744.pdf
http://www.epa.gov/OST/stormwater/
http://www.epa.gov/owow/nps/pavements.pdf
http://www.epa.gov/nps/lid.pdf
http://www.epa.gov/dced/pdf/protect_water_higher_density.pdf
http://www.epa.gov/owow/info/NewsNotes/issue75/75issue.pdf
http://www.epa.gov/owow/info/NewsNotes/issue76/76issue.pdf
http://www.epa.gov/dced/pdf/sg_stormwater_BMP.pdf
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=124
http://www.epa.gov/npdes/outreach_files/webcast/mar1606/files/lobby.html
http://www.lacity.org/SAN/wpd/WPD/download/pdfs/publications/bmp_refguide.pdf
http://www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.asp
http://www.epa.gov/owow/nps/lidnatl.pdf
http://www.epa.gov/ORD/WebPubs/nctuw/Coffman.pdf
http://www.mapc.org/LID.html
http://www.twdb.state.tx.us/publications/reports/RainwaterHarvestingManual_3rdedition.pdf

Industry Sources

Author/Agency/Organization	Title	Date	URL
American Society of Civil Engineers	Stormwater Management	2004	www.asce.org/pressroom/news/policy_details.cfm?hdlid=160
California Builder: the Magazine of the California Building Industry Association (Frith, J.)	Building Green: It's Good for the Environment - and the Bottom Line	03-04/02	www.californiabuildermagazine.com/internal.asp?pid=32&spid
California Builder: the Magazine of the California Building Industry Association (Grillo, T.)	Concrete Evidence: Age-Old Material Continues to Reinvent Itself		http://www.californiabuildermagazine.com/internal.asp?pid=194
Environmental Water Resources Institute of the American Society of Civil Engineers	International Stormwater Best Management Practices Database		www.bmpdatabase.org
National Association of Home Builders	Green Home Building Guidelines	2006	http://www.nahbrc.org/greenguidelines/complete_guidelines.pdf
National Association of Home Builders Research Center	Builder's Guide to Low Impact Development		http://www.nahbrc.org/docs/MainNav/GreenBuilding/3832_Builder-final-screen.pdf
National Association of Home Builders Research Center	Low Impact Development (LID) Practices for Storm Water Management		http://www.nahbrc.org/tertiaryR.asp?TrackID=&DocumentID=2007&CategoryID=1071
National Association of Home Builders Research Center	Municipal Guide to Low Impact Development		http://www.nahbrc.org/docs/MainNav/GreenBuilding/3833_Municipal-final-screen.pdf
National Association of Home Builders, Partnership for Advancing Technology in Housing (PATH)	The Practice of Low Impact Development	07/03	http://www.huduser.org/Publications/PDF/practLowImpctDevel.pdf
Partnership for Advancing Technology in Housing (PATH)	Permeable Pavement		http://www.toolbase.org/techinv/techDetails.aspx?technologyID=98
Partnership for Advancing Technology in Housing (PATH)	Low Impact Development (LID) Practices for Storm Water Management		www.toolbase.org/techinv/techDetails.aspx?technologyID=223
ToolBase Services	Environmentally Green... Economically Green: Tools for a Green Land Development Program	2001	http://www.toolbase.org/tertiaryT.asp?TrackID=&CategoryID=18&DocumentID=3475
ToolBase Services	Low Impact Development Offers Some Solutions for Groundwater Issues	2001	http://www.toolbase.org/tertiary_printT.asp?TrackID=&CategoryID=1873&DocumentID=3652
Urban Land Institute, American Society of Civil Engineers, & National Association of Home Builders	Residential Storm Water Management	1975	http://www.toolbase.org/Docs/MainNav/LandUse/3013_storm_water.pdf?TrackID=&CategoryID=1873&DocumentID=3013

Storm Water Regulations

Author/Agency/Organization	Title	Date	URL
California (City of Carlsbad)	Standard Urban Storm Water Mitigation Plan Storm Water Standards	04/03	http://www.ci.carlsbad.ca.us/stormwater/susmppdf/susmp.pdf
California (City of Santa Monica)	Santa Monica Municipal Code, Chapter 7.10: Urban Runoff Pollution	11/28/00	http://www.qcode.us/codes/santamonica/index.php
California (RWQCB, Los Angeles Region)	Order No. 01-182 (Dec. 13, 2001) (NPDES Permit No. CAS004001)	12/13/01	http://63.199.216.5/webdata/data/docs/6948_01-182_WDR.pdf
California (RWQCB, San Francisco Bay Region)	Contra Costa Countrywide NPDES Municipal Stormwater Permit Amendment	02/19/03	http://www.swrcb.ca.gov/rwqcb2/Agenda/02-19-03/02-19-03-13finalorder.doc
Florida (St. Johns River Waste Management District)	Environmental Resource Permits: Regulations of Stormwater Management Systems	10/03/95	
Illinois	General NPDES Permit For Discharges from Small Municipal Separate Storm Sewer Systems	12/20/02	http://www.epa.state.il.us/water/permits/storm-water/general-ms4-permit.pdf
Maryland	Maryland's Stormwater Management Program	11/88	
Maryland	Explanation of Maryland's Stormwater Management Program	05/31/00	
Maryland	Maryland Model Stormwater Management Ordinance	07/00	http://www.mde.state.md.us/assets/document/sedimentstormwater/model_ordinance.pdf
Maryland	Stormwater Management Code, Title 26, Subtitle 17 Water Management, Chapter 02 Stormwater Management	10/00	http://www.dsd.state.md.us/comar/26/26.17.02.05.htm
Maryland (City of Chestertown)	Stormwater Management Ordinance	06/25/84	http://www.chestertown.com/gov/codehtml/0767-142.htm
Michigan (Grand Traverse County)	Soil Erosion, Sedimentation, and Stormwater Runoff Control Ordinance	2003	http://www.grandtraverse.org/gthomepage.nsf/f24a6a0b94c22d82862566960071bf5a/85cb74d2bcd1cab685256f0e0070d7bf/$FILE/ordinance9-9-03.pdf
Missouri	Missouri State Operating Permit	03/10/03	http://www.dnr.mo.gov/env/wpp/permits/issued/R004000.pdf
New Jersey	Stormwater Rules (N.J.A.C. Chapter 7:8)	2004	
New Jersey	Annual Groundwater Recharge Analysis	09/01/03	http://www.state.nj.us/dep/stormwater/tier_A/pdf/april2004public_excel2002njgrs_v2_0.xls
New Jersey	Tier A Municipal Stormwater NPDES Master General Permit	09/01/05	http://www.nj.gov/dep/dwq/pdf/final_tier_a_permit.pdf
New Jersey	NSPS Computations	01/31/06	http://www.state.nj.us/dep/stormwater/pdf/nsps_publicversion20060131.xls
New Jersey	NSPS User's Guide	01/06	http://www.njstormwater.org/pdf/nsps_userguide2006013.pdf
New Jersey	New Jersey Stormwater Best Management Practices Manual	02/04	http://www.state.nj.us/dep/stormwater/bmp_manual2.htm
New Jersey	Guidance for Development of Municipal Mitigation Plans	02/06	http://www.njstormwater.org/docs/munimitipplan030706.pdf
New Jersey (Zomorodi, K.)	Curve Number and Groundwater Recharge Credits for LID Facilities in NJ	2004	http://www.dewberry.com/uploadedFiles/Curve_Number_And_Groundwater_Recharge_Credits.PDF
New York	New York State Stormwater Management Design Manual	10/01	
Oregon (City of Portland)	Stormwater Management Manual	2004	http://www.portlandonline.com/bes/index.cfm?c=35122
Oregon (City of Portland)	Portland Title 33: Planning and Zoning Code, for Landscaping and Screening, and Parking and Loading	04/22/06	http://www.portlandonline.com/shared/cfm/image.cfm?id=53315
Stafford County, Virginia Board of Supervisors	Municipal Code, Chapter 21.5 Stormwater Management	12/13/05	http://library4.municode.com/mcc/DocView/11500/1/115
Washington	Stormwater Management in Washington State, Volume I, Minimum Technical Requirements	08/99	
Washington	Phase I Municipal Stormwater NPDES General Permit (Draft	02/15/06	http://www.ecy.wa.gov/programs/wq/stormwater/municipal/phase_I_permit/draft_docs/Phase_I_final_draft_2_15_06.pdf
Washington (City of Olympia)	Low-Impact Development Strategy for Green Cove Basin: A Case Study in Regulatory Protection of Aquatic Habitat in Urbanizing Watersheds	10/02	http://www.psat.wa.gov/Programs/LID/Green_Cove.pdf
Washington (City of Seattle)	City of Seattle Stormwater, Grading, and Drainage Control Code	07/05/00	http://www.seattle.gov/dclu/codes/sgdccode.pdf
West Virginia	General National Pollutant Discharge Elimination System Wate Pollution Control Permit	03/07/03	http://www.dep.state.wv.us/Docs/4582_SW_MS4_FinalDraft_issuance.pdf

Technical Manuals

Author/Agency/Organization	Title	Date	URL
Alameda Countywide Clean Water Program	Protecting Water Quality in Development Projects: A Guidebook of Post-Construction BMP Examples	08/05	http://www.basmaa.org/resources/files/ACCWP_Site_Design_Guidebook_final.pdf
Caltrans, State of California Department of Transportation	Stormwater Quality Handbooks: Project Planning and Design Guide, Stormwater Pollution Prevention Plan (SWPPP)	9/02	www.dot.ca.gov/hq/oppd/stormwtr/PPDG-with-revisions-7-26-05.pdf
Integrated Land Management, Inc.	Green Technology: The Delaware Urban Runoff Management Approach	01/04	http://www.dnrec.state.de.us/DNREC2000/Divisions/Soil/Stormwater/New/DURMM_TechnicalManual_01-04.pdf
Low Impact Development Center	Homepage		www.lowimpactdevelopment.org
Prince George's County, Maryland, Department of Environmental Resources Programs and Planning Division	Low-Impact Development Hydrologic Analysis	07/99	http://www.epa.gov/owow/nps/lid_hydr.pdf
Puget Sound Action Team / Washington State University Pierce County Extension	Low Impact Development: Technical Guidance Manual for Puget Sound	01/05	http://www.psat.wa.gov/Publications/LID_tech_manual05/LID_manual2005.pdf
Puget Sound Action Team and CH2M Hill	Technical Memorandum No. 1: Review of Low-Impact Development Techniques	1/16/04	http://www.psat.wa.gov/Programs/LID/LID_tech.htm
Puget Sound Action Team and CH2M Hill	Technical Memorandum No. 2: Analysis and Recommendations for the Use of LID Techniques in Puget Sound	1/16/04	http://www.psat.wa.gov/Programs/LID/LID_tech.htm
Puget Sound Action Team and CH2M Hill	Technical Memorandum No. 3: Suggested Adaptations to BMPs in the Washington Stormwater Management Manual to Include Benefits of LID Techniques	1/16/04	http://www.psat.wa.gov/Programs/LID/LID_tech.thm
Urban Drainage and Flood Control District of Denver, Colorado	Urban Storm Drainage Criteria Manual		www.udfcd.org/downloads/down_critmanual.htm
Watershed Protection Techniques	Better Site Design	01/00	

ORANGE COUNTY COUNCIL OF GOVERNMENTS

April 4, 2007

Via E-mail and U.S. Mail

Mr. John H. Robertus
Executive Officer
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123-4353

Subject: Tentative Order No. R9-2007-0002; NPDES No. CAS0108740

Dear Mr. Robertus:

The Board of Directors of the Orange County Council of Governments (OCCOG) overviewed the South Orange County Municipal Stormwater Permit Renewal Process at its meeting of March 22, 2007. In conjunction with this overview and discussion, the OCCOG Board unanimously supported transmittal of comments to your agency regarding the renewal of the NPDES permit.

As background, the Orange County Council of Governments (OCCOG) is a voluntary advisory association representing member local governments and agencies throughout Orange County seeking cooperative subregional and regional planning, coordination and technical assistance on issues of mutual concern.

OCCOG's member agencies include 34 cities, the County of Orange, and board representation including transportation agencies, sanitation and water districts, as well as the local air district.

As you are aware, good water quality at our beaches and creeks benefits everyone and is essential to the economic vitality and tourism industry in South Orange County. As such, OCCOG shares many of the same objectives of the Regional Water Quality Control Board such as to preserve and protect our natural resources. However, some provisions included in the subject Tentative Order are problematic and we believe will hinder the ability of the municipalities in South Orange County in achieving the overall goal of cleaner water. Therefore, on behalf of the OCCOG Board of Directors, we are providing comments which we hope the Regional Board will take into consideration prior to adopting the new NPDES Permit for South Orange County. Please also note that the majority of our comments are supportive of those comments being submitted to the Regional Board by the County of Orange as the Principal Permittee, and further supporting documentation regarding our comments can be obtained by referring to the County's comment letter. Our comments are as follows:

1. The Tentative Order Restricts the Ability of the Permittees to Implement Watershed Restoration Projects

Finding E.7 (Page 14) states that, "Urban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into a receiving water."

This restriction will likely preclude the Permittees from improving water quality by restoring watershed receiving waters. In addition, this restriction may very likely result in the deterioration of water quality rather than improvement. We are unaware of any other Regional Board in the State that discourages improving receiving waters.

The language in the Tentative Order could seriously limit watershed restoration activities because it severely limits potential locations for installation of treatment control BMPs, which include many watershed restoration activities. For example, this Finding may have unintended adverse effects on watershed restoration projects that are currently being planned, such as the Aliso Creek Water Quality SUPER Project.

The Aliso Creek Water Quality SUPER Project proposes a multi-objective approach to Aliso Creek watershed development and enhancement, accommodating channel stabilization, flood hazard reduction, economic uses, aesthetic and recreational opportunities, water quality improvements, and habitat concerns. The project is aimed at water supply efficiency and system reliability through reclamation, along with benefits for flood control and overall watershed management and protection. The ecosystem restoration and stabilization component of the project will include:

- Construction of a series of low-grade control structures and reestablishment of aquatic habitat connectivity;
- Shaving of side slopes to reduce vertical banks; and
- Invasive species removal and riparian revegetation and restoration of floodplain moisture.

The Permittees are concerned that some of these activities may be deemed as allowing urban runoff treatment and/or mitigation in a receiving water and, thus, may not be allowed.

In addition, this Finding seems to conflict with the Existing Development Provision 3.a.(4) which requires the Permittees to evaluate the flood control devices and identify the feasibility of retrofitting the devices to provide for more water quality benefits.

Given the lack of any proper legal or factual basis for these limitations as well as the adverse impacts on watershed restoration efforts, we respectfully request that this Finding be deleted from the Tentative Order.

2. The Tentative Order Is Overly Prescriptive and Dismisses the Importance of the Drainage Area Management Plan (DAMP)

All of the municipalities within Orange County have actively participated in the development of the Drainage Area Management Plan (DAMP), and this document forms the backbone of Orange County's NPDES Stormwater Program. In addition, the Permittees have spent a significant

amount of taxpayer dollars developing and refining the DAMP into a document that works effectively with local NPDES programs. We are concerned that the Tentative Order Fact Sheet states that the Order includes sufficient detailed requirements to ensure compliance and seemingly dismisses the DAMP as "procedural correspondence" which guides implementation and is not a substantive component of the Order.

This permitting approach fundamentally shifts the level of detail within the program to the permit provisions instead of the DAMP and sets up a scenario for increasingly prescriptive permits while eliminating the flexibility and local responsibility of the MS4 program. This shift also downplays the importance of the DAMP and the role that it has in defining local performance standards for the stormwater program and is counter to the purpose and intent of the stormwater management program.

The DAMP sets the foundation for a more flexible permitting approach for the Orange County NPDES Stormwater Program and places upon the Permittees the continuing responsibility of weighing economic, societal, and equity issues as they define the policies, standards and priorities to be employed in implementing the program. In fact, the DAMP and local JURMPs are fundamental and necessary elements of the MS4 program since they serve as the primary policy and guidance documents for the program and describe the methods and procedures which will be implemented to reduce the discharge of pollutants to the maximum extent practicable and in compliance with the MS4 permit provisions. While the management plans must effectively address and be in compliance with the permit requirements, the necessary detail and prioritization of efforts in doing so must remain at the local level and be described within the DAMP—not the permit.

3. The Tentative Order Implies That Permittees are Responsible for Anything That Enters Their Storm Drain System

Finding D.3(d) (Page 11) identifies that "by providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control." Since the Permittees own and operate the majority of the storm drain systems within their respective jurisdictions, this statement has profound implications regarding the Permittees' potential liability for any pollutant that enters the MS4.

This Finding needs to be modified to recognize that the Permittees lack legal jurisdiction over stormwater discharges into their systems from certain State and Federal facilities, utilities and special districts, Native American tribal lands, waste water management agencies, and other point and non-point source discharges otherwise permitted by the Regional Water Board. In addition, the Regional Water Board should recognize that the Permittees do not have any control over many facilities and/or discharges. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear and leaching of naturally occurring minerals from local geography.

4. The Tentative Order Unreasonably Requires That Each Permittee Develop a Long-Term Funding Strategy and Business Plan

The Tentative Order requires that each Permittee submit a funding business plan that identifies the long-term strategy for program funding decisions. The Fact Sheet identifies that this requirement is based on the need to improve the long-term viability of the program and is based on the 2006 *Guidance for Municipal Stormwater Funding* from the National Association of Flood and Stormwater Management Agencies (NAFSMA). The Fact Sheet further indicates that, without a clear plan, the Board has uncertainty regarding the implementation of the program.

OCCOG believes that this requirement (which is, perhaps, more reasonable for a newly developing stormwater program) is an unnecessary and burdensome requirement for the Orange County Permittees which will yield no commensurate benefit to water quality and divert precious resources away from the implementation of the program.

5. The Tentative Order Creates Duplication of Efforts Regarding Responding to Sewage Spills

On Page 64, Part D.3.h. of the Tentative Order states:

"Each Copermittee must prevent, respond to, contain and clean up all sewage and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems.) Spill response teams must prevent entry of spills into the MS4 and contamination of surface water, ground water and soil to the maximum extent practicable. Each Copermittee must coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies so that maximum water quality protection is available at all times."

For many cities, implementation of this provision is simply not feasible. Many cities in South Orange County do not own or operate the sewer systems. In these cities, the sewer system is owned and operated by water districts. The affected cities do not have the equipment or expertise to manage a sewage spill of any size, and their staffs are not adequately trained to respond to potential spills. Furthermore, this provision is duplicative in the sense that the Regional Board is seeking to make the Permittees responsible for a task already delegated to the water districts. Such an act would result in a tremendous waste of scarce public resources.

This issue is made even more troubling by the fact that the State Water Resources Control Board ("State Board") previously issued a stay of this very same issue in the prior generation of the NPDES Permit. After extensive hearings and briefing on the matter, the State Board issued Order WQO 2002-0014 on August 15, 2002, granting a stay as to this provision.

In deciding to grant a stay as to this provision, the State Board concluded:

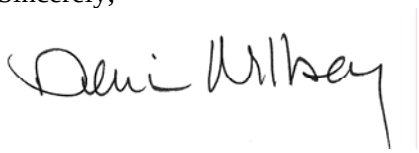
"**The regulation of sanitary sewer overflows by municipal storm water entities, while other public entities are already charged with that responsibility in separate NPDES permits, may result in significant confusion and unnecessary control activities.** For example, the Permit appears to assign primary spill prevention and response coordination authority to the copermittees. While the federal regulations clearly assign some spill prevention and response duties to the copermittees, we find that the extent of these duties is a substantial question of law and fact."

> [State Board Order WQO 2002-0014, p. 8. (emphasis added.)]
>
> Given the previous findings of the State Board on this same issue, and given that none of the factual reasons supporting this decision have changed, the Regional Board should remove or modify this provision so as to reduce duplicity of effort and the implementation of unnecessary control activities.

Please note that the aforementioned comments are just some of the concerns expressed by the Permittees. It is our hope that the Regional Board will work closely with the Permittees to make the necessary modifications so that the permit meets the objectives of both the Regional Board and the Permittees and, more importantly, ultimately results in cleaner water for Orange County.

If you have any questions regarding this letter, I may be reached at (949) 470-3007.

Sincerely,



Dennis R. Wilberg, P.E.
Interim Executive Director
Orange County Council of Governments

cc OCCOG Board of Directors
Larry McKinney, County of Orange
Richard Boon, County of Orange
Mary Anne Skorpanich, County of Orange
Richard Schlesinger, City of Mission Viejo
Mike Recupero, Recupero and Associates
Gail Shiomoto-Lohr, GSL Associates

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ORANGE COUNTY
60th Anniversary

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April 4, 2007

Mr. Jeremy Haas
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

RE: Tentative Order No. R9-2007-0002,
The Orange County Municipal Storm Water
Permit for the San Diego Region

Dear Mr. Haas:

Concerning Tentative Order No. R9-2007-0002, the Orange County Municipal Storm Water Permit for the San Diego Region, the Orange County Vector Control District (The District) would like make the following comments;

- The District recognizes the intricate relationship of a water quality issues and public health concerns as they relate to the potential for storm water treatment control BMPs (i.e. media filters, vault separator units, bioswales, extended detention basins, constructed wetlands and the like) to become mosquito breeding sources if not properly designed and regularly maintained.

- The District urges that storm water treatment control BMPs which are required by the aforementioned permit and other water quality regulations need to be assessed, selected, and implemented by the Copermitees (or other responsible parties) with vector minimization principles in mind and long-term maintenance funding in place.

- Vector control agencies are charged with protecting public health by reducing the possibility of vector-borne disease. It is our hope that the possibility of mosquito production be addressed at the earliest stages of project planning and permitting processes. Clarification of long-term ownership and provisions for regular maintenance to minimize mosquito production are also concerns than need to be addressed at the outset. The ordeal of retrofitting to correct problems resulting from omitting vector control considerations are far more onerous than the proactive alternative.

We are looking forward to attending the public hearing on April 11, 2007 and welcome any feedback or questions you may have.

Sincerely,

Amber Semrow

Amber Semrow
Biologist, OCVCD

naiop
National Association of Industrial and Office Properties
The Forum for Commercial Real Estate

SoCal Chapter

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April 4, 2007
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First Class Mail and E-Mail to: jhaas@waterboards.co.gov

California Regional Water Quality Control Board
San Diego Regional Board
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San Diego, California 92123-4353

RE: ORANGE COUNTY MUNICIPAL STORM WATER PERMIT TENTATIVE ORDER NO. R9-2007-0002

Dear Members of the Board:

The SoCal Chapter of the National Association of Industrial and Office Properties (NAIOP SoCal) represents commercial real estate professionals and the owners and developers of industrial, office and commercial properties in Orange and Los Angeles Counties.

NAIOP SoCal is a member of the Coalition for Clean Water and a Healthy Economy that is on record raising objections to several sections of the San Diego County Permit adopted by the Board on January 24, 2007. To the extent the proposed Orange County MS4 Permit proposes those same objectionable changes, NAIOP SoCal is raising the same objections outlined by the Coalition for Clean Water and a Healthy Economy to the San Diego MS4 Permit, which include, but are not limited to:

- The shift of enforcement obligations from the Regional Board to the Permittees requiring inspection by the Permittees of industrial and commercial sites to determine if such sites have obtained coverage under the applicable NPDES permit.
- Requirements in the Order that exceed the federal MEP standard, including the control of runoff from all construction and industrial sites, additional inspection and MS4 cleaning requirements, and advanced treatment.
- Unfunded mandates that, as an example, require inspections of new classes of industrial and commercial facilities.

NAIOP SoCal agrees with the comments submitted by allied industry associations including the Building Industry Association of Orange County. As we continue to evaluate the impact of the proposed modifications, we anticipate submitting additional comments.

Sincerely,

Vickie Talley

Vickie Talley, Director of Government Affairs

F6 10-6000.02