

- **Hydrologic Conditions of Concern (XII.D. page 54)**

The County recommends that an additional provision be added to Section XII.D. Certain Permittees have employed HCOC mapping efforts to assist developers in identifying areas where HCOC conditions exist. In the interim, while an appropriate LID metric is developed, the Permittees will engage in an HCOC mapping effort to identify HCOC areas in the Santa Ana Region of Orange County. This effort will provide a tool that project proponents can use to comply with the HCOC requirements as part of the Model WQMP and provide an enhanced benefit to help maintain hydrologic conditions in those areas most susceptible to water quality degradation due to new development and significant redevelopment. The proposed language for the new provision Section XII.D.5. is:

Within 12 months from the date of adoption of this order, the principal permittee shall develop a map to identify the HCOC areas in the Santa Ana Region of Orange County. This map will identify those areas susceptible to water quality degradation including downstream erosion and adverse impacts on physical structure, aquatic and riparian habitat due changes in the volume, peak discharge, and time of concentration for runoff associated with new development and significant re-development.

PUBLIC EDUCATION AND OUTREACH

- **Outreach Activities (XIII.4, page 59)**

The Tentative Order added a new requirement that the Permittees conduct individual or regional workshops for various business-related sectors on an annual basis. However, past experience with these types of workshops has shown that it is very difficult to garner the support of the business community and to have them attend since they are concerned about time spent away from the office. Instead of spending the resources on the development and implementation of workshops, which are very time intensive for everyone, it is suggested that the Permittees explore other, alternative methods and provide outreach to the business sector through existing mechanisms including industry related events, chamber of commerce, etc. Thus, the County recommends that the section be modified as follows:

4. The permittees shall continue their outreach and other public education activities. Each permittee should try to reach the following sectors: manufacturing facilities; mobile service industry; commercial, distribution and retail sales industry; residential/commercial landscape construction and services industry; residential and commercial construction industry; and residential and community activities. ~~Individual workshops (or regional workshops) for each of the aforementioned elements shall be administered by each permittee (or on a countywide basis) by July 1, 2010 and on an annual basis thereafter. The permittees shall propose, by July 1, 2010, the mechanisms that will be used to outreach to the above mentioned business-related sectors and the frequency at which the mechanisms will be utilized.~~ Commercial and industrial facility inspectors shall distribute developed educational information (Fact Sheets) to

these facilities during inspections. Further, for restaurant, automotive service centers and gasoline service station corporate chains, new information or that which has been previously developed shall be provided to corporate environmental managers during outreach visits that should take place twice during the permit term. The outcomes from all outreach requirements contained herein shall be reported in the applicable annual reports.

MUNICIPAL FACILITIES

- **Conveyance System Inspection (XIV, page 60)**

The Tentative Order prescribes that stormwater conveyance systems be inspected annually. Following systematic, thorough and repeated inspection of the underground portions of the conveyance system during earlier permit terms, the County requests that the obligation to annually inspect conveyance systems apply only to the open channel portions of the system.

TRAINING

- **Training Program (XVI, page 62-63)**

The Tentative Order prescribes that a schedule of training be delivered by the Principal Permittee on an annual basis. Further to a specific ROWD commitment, the Permittees have developed a core competencies and skills based training program framework for 6 key areas of stormwater program functional responsibility predicated on a 2 year schedule for the development and delivery of a significantly revised training modules. The County requests that the training requirements be revised for consistency with this framework. In addition, the requirements should allow a Permittee to deliver its own equivalent training in lieu of receiving training from the Principal Permittee.

WATERSHED ACTION PLANS AND TMDL IMPLEMENTATION

- **Waterbodies with Technical TMDLs (B.3, page 66)**

The Tentative Order includes a description of the selenium and nitrogen-related efforts within the watershed and describes the collaborative approach that has been utilized over the past 4 years. However, the section then goes on to describe what may occur if the stakeholders do not participate or if the collaborative approach “fails to achieve the TMDLs”. Since the collaborative approach is designed to assist in addressing the rising groundwater source and the Regional Board may issue waste discharge requirements for rising groundwater if the Permittees do not attempt to mitigate this source, the County recommends that the section be modified as follows so that this direct cause and effect is more explicit:

3. Through the Nitrogen and Selenium Management Program, the watershed stakeholders are collaboratively developing comprehensive nitrogen and selenium management plans, which are expected to form the basis, at least in part, for a revised nutrient TMDL implementation plan and the selenium implementation plan. A collaborative watershed approach to implement the

nitrogen and selenium TMDLs for San Diego Creek and Newport Bay is expected to continue. ~~As long as the stakeholders are participating in and implementing the collaborative approach, if approved, they will not be in violation of this order with respect to the nitrogen and selenium TMDLs for San Diego Creek and Newport Bay. The stakeholders' participation in and implementation of the collaborative approach will satisfy any wasteload allocations assigned to the permittees under this permit for compliance with the nitrogen and selenium TMDLs. In the event that any of the stakeholders does not participate, or if the collaborative approach is not approved or ceases to exist, fails to achieve the TMDLs, the Regional Board will~~ may exercise its option to issue individual waste discharge requirements or waivers of waste discharge requirements.

- **Numeric Effluent Limits (E, page 73) [Also addressed in Attachment A]**
Although Section XVIII discusses the requirements for TMDLs including the related targets and wasteload allocations, section XVIII E incorrectly identifies that “numeric effluent limits” are included within the Tentative Order for the TMDLs. The County contends that this language is counter to the intent of the Tentative Order for the following reasons:
 - Numeric effluent limits are monitored at the end of pipe – section XVIII recognizes in numerous places that the monitoring for the TMDLs is within the receiving waters, not end of pipe
 - Numeric effluent limits are used to assess compliance with the Permit – if the discharger exceeds the effluent limit, they are out of compliance with the Tentative Order/requirement. However, the Tentative Order identifies within the Receiving Water Limitations (Section IV.) and Section XVIII.E. that compliance will be achieved through an iterative process with the application of more effective BMPs.

Thus, the use of the term “numeric effluent limit” is incorrectly being used and should be replaced throughout the Fact Sheet, Findings and Tentative Order with “wasteload allocation” as follows:

Fact Sheet – V., page 13

The proposed order includes ~~numeric effluent limits based on the~~ wasteload/load allocations developed and approved by the Regional Board, State Board, Office of Administrative Law and the EPA.

Fact Sheet – IX., page 17

This order recognizes the significant progress made by the permittees during the first, second and third term permits in implementing the stormwater regulations. The permit also recognizes regional and innovative solutions to such a complex problem. For these reasons, the order is somewhat less prescriptive when compared to some of the MS4 NPDES permits for urban runoff issued by other Regional Boards. However, it incorporates an integrated watershed approach in

solving urban runoff related water quality and quantity issues. The proposed permit also includes ~~numeric effluent limits based on~~ wasteload/load allocations and an emphasis on implementation of low impact development principles. With these requirements, it should achieve the same or better water quality benefits because of the programs and policies already being implemented or proposed for implementation, including regional and watershed wide solutions.

The major requirements include: (1) Discharge prohibitions; (2) Receiving water limitations; (3) Prohibition on illicit discharges and illegal connections; (4) Public and business education; (5) Adequate legal authority; (6) Programs and policies for municipal facilities and activities; (7) Inspection Activities by the municipalities; (8) A program to address runoff from residential areas; (9) New development/re-development requirements including a requirement to fully implement low impact development principles and to minimize any hydrologic conditions of concern; (10) Waste load allocations for nutrients, sediment, and fecal coliform bacteria; metals, and pesticides, ~~including numeric effluent limits~~; and (11) Monitoring and reporting requirements.

Fact Sheet – IX., page 20

The proposed order includes special sections for the protection of impaired waterbodies. The 303(d) listed waterbodies fall under the following four categories:

- a. 303(d) listed with no TMDLs: The permittees are required to develop and implement pollutant-specific Watershed Action Plans to control the discharge of the pollutant causing the impairment.*
- b. 303(d) listed with a technical TMDL (no implementation plan): If the TMDL specifies a wasteload/load allocation for urban runoff or stormwater, the proposed order includes the appropriate load allocation ~~or a numeric effluent limit derived from it.~~*
- c. 303(d) listed with a TMDL implementation plan that has a compliance date beyond the permit term: The permittees are required to implement control measures to reduce the pollutant causing the impairment and monitor the progress towards achieving the wasteload allocation ~~target numeric effluent limit.~~*
- d. 303(d) listed with a TMDL implementation plan that requires meeting the target goals within the permit term: ~~Numeric effluent limits based on the~~ wasteload allocations are included in the proposed order.*

Finding 72, page 23

This order includes wasteload allocations ~~numeric effluent limits~~ for those constituents for which the Regional Board has already established TMDLs. Consistent with the federal stormwater laws and regulations, the order does not include numeric effluent limits for other potential pollutants. Federal Clean Water Act requires the permittees to have appropriate controls to reduce the

discharge of pollutants to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods, and such other sections as the Administrator or the State determines appropriate for the control of such pollutants (33 USC 1342(p)(3)(B)). MEP is a dynamic performance standard and it evolves as our knowledge of urban runoff control measures increases.

Waterbodies with Technical TMDLs (E, page 73)

1. Except for sediment TMDLs in San Diego Creek and Newport Bay, compliance determination is based on monitoring within the receiving waters. For sediment TMDLs, compliance determination is based on end-of-pipe monitoring.

2. Based on the TMDLs, wasteload allocations ~~numeric effluent limits~~ are specified for most constituents. If the monitoring results indicate an exceedance of a wasteload allocation, ~~a violation of the numeric effluent limits~~, the permittees shall reevaluate the current control measures and propose additional BMPs/control measures. This reevaluation and proposal for revisions to the current BMPs/control measures (revised plan) shall be submitted to the Executive Officer within 12 months of determining that a violation has occurred. Upon approval, the permittees shall immediately start implementation of the revised plan.

ATTACHMENT C

MONITORING AND REPORTING ISSUES AND COMMENTS ON TENTATIVE ORDER NO. R8-2008-0030 NPDES NO. CAS618030

INTRODUCTION

Attachment C contains the principal monitoring and reporting program comments of the County of Orange (the “County”) on Tentative Order No. R8-2008-0030 dated November 10, 2008 (“Tentative Order”).

The County has endeavored to provide a complete set of comments on the Tentative Order. However, the County reserves the right to submit additional comments relating to Tentative Order No. R8-2008-0030 and the supporting Fact Sheet/Technical Report to the Regional Board in the future.

COMMENTS

TRANSITION THE URBAN STREAM BIOASSESSMENT PROGRAM FROM A SOLELY NPDES SEMIANNUAL PROGRAM TO AN ANNUAL HYBRID PROGRAM

The Tentative Order requires continued implementation and evaluation of the Bioassessment element of the Monitoring Program (p. 85; III.1.f.). The County requests that this element of the monitoring program be revised to allow integration with the regional bioassessment monitoring initiative being coordinated by the Southern California Stormwater Monitoring Coalition through the Southern California Coastal Water Research Project (SCCWRP). The revision would transition the existing bioassessment monitoring to a program of annual surveys using Targeted (NPDES program) and Random (Regional program) sites.

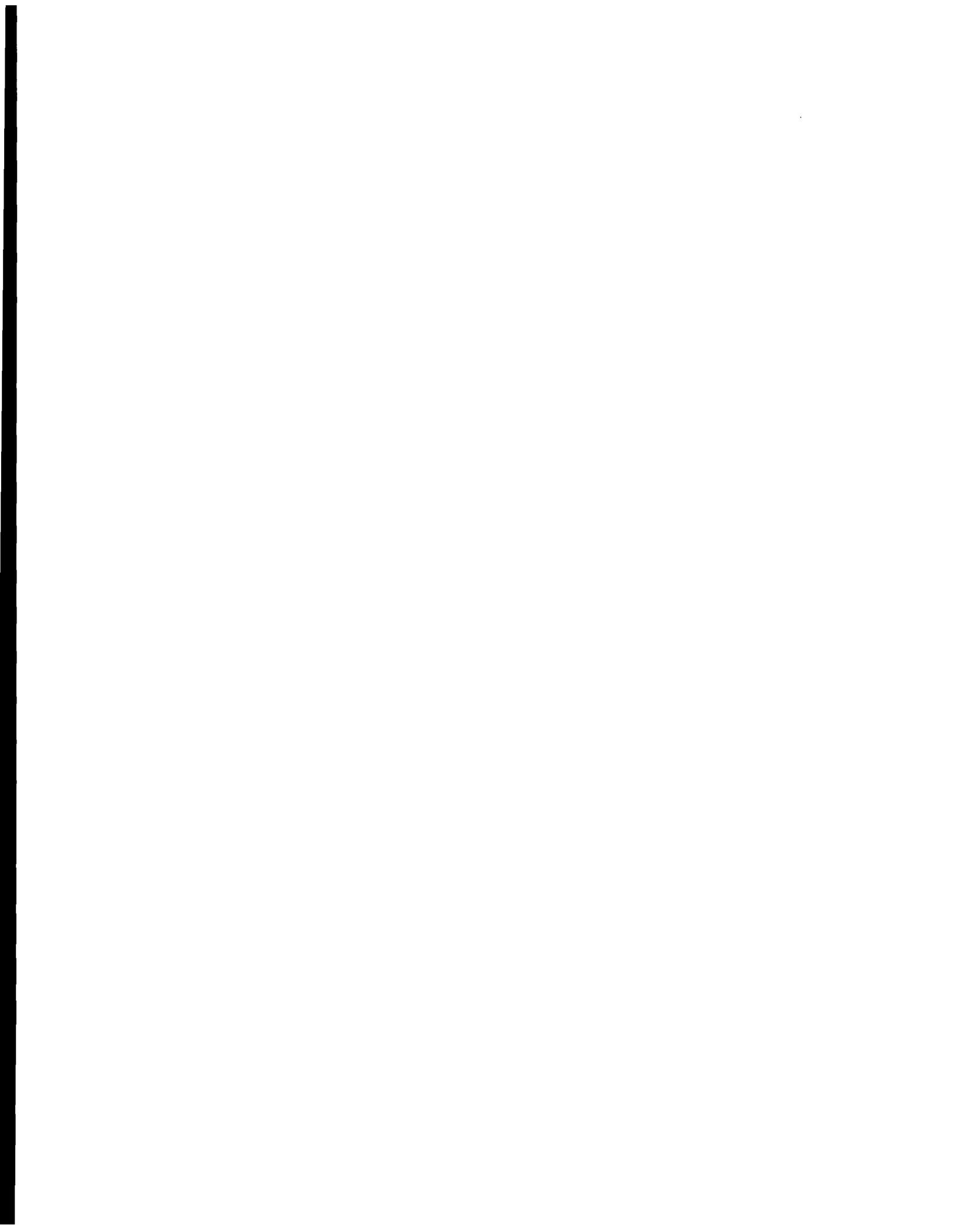
ELIMINATE THE LAND USE CORRELATION PROGRAM ELEMENT

The Tentative Order requires continued implementation and evaluation of the Land Use Correlation element of the Monitoring Program (page 85; III.1.h). The County requests that the Land Use Correlation element be eliminated from the program for the following reasons:

- The most beneficial information from the Land Use Correlation program element has already been obtained from the development of the Hines Nursery/Northwood and Quail Hill areas of Irvine.
- The current monitoring locations in the drainage channels surrounding the former Tustin air station receive significant amounts of runoff from the adjacent neighborhoods. This interference effect makes assessment of the air station redevelopment difficult to isolate from ambient conditions. Further, downstream water quality has not shown any significant changes since development of the former Tustin air station began in early 2007.

REDUCE THE INLAND CHANNEL BACTERIOLOGICAL / PATHOGEN MONITORING PROGRAM

The Tentative Order requires continued implementation and evaluation of the Bacteriological / Pathogen Monitoring element of the Monitoring Program (page 85; III.1.e). Additional sampling of Newport Bay watershed sources began in 2005 at the request of the Regional Board for increased data collection to strengthen statistical power assessments of water quality conditions. Currently weekly channel monitoring is conducted in San Diego Creek and Santa Ana-Delhi Channel by both OC Environmental Health and the Orange County Program. This intensive monitoring requirement should now be reduced since almost four years of intensive data has been obtained.





ORANGE COUNTY

Public Works

Our Community. Our Commitment.

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April 9, 2009

By E-mail and U.S. Mail

Gerard Thibeault
Executive Officer
California Regional Water Quality Control Board, Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Subject: Second Draft of Order No. R8-2009-0030 NPDES No. CAS618030

Dear Mr.  Thibeault:

The County is in receipt of the second draft of *Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the Incorporated Cities of Orange County Within the Santa Ana Region Areawide Urban Storm Water Runoff Orange County* (Order No. R8-2009-0030) dated March 25, 2009 and welcomes the opportunity to provide comments on the revised Order. The Permittees were involved in the development of these comments and the cities of Anaheim, Brea, Buena Park, Costa Mesa, Cypress, Garden Grove, Fullerton, Huntington Beach, Irvine, La Palma, Laguna Hills, Lake Forest, Newport Beach, Orange, Placentia, Santa Ana, Seal Beach, Stanton, Tustin, Westminster have directed that they be recognized as concurring entities.

The County would like to commend your staff again on both their initial efforts to incorporate the recommendations made in the Report of Waste Discharge into the Order and subsequent willingness to address the comments and key concerns presented in our letter of February 13, 2009. In particular, the series of stakeholder meetings to discuss the Tentative Order's land development provisions have been particularly helpful. Many of the specific comments, which centered on increased administrative burdens, over-extension of local regulatory reach, and TMDL integration, have been resolved. In addition, from the stakeholder meetings has emerged an initial series of consensus points that has provided the foundation for provisions that now prescribe a technically robust framework for implementing low impact development approaches to benefit water quality in the context of integrated watershed master planning.

The County's remaining areas of principal concern relate to reporting, inspection of commercial facilities, revisions to the land development requirements and the Coyote Creek TMDL, specifically:

Reporting

a. Reporting Requirements

The revised Order continues to require additional reporting to Regional Board staff and submittal of entire enforcement databases. The County continues to believe that the refining of existing reporting mechanisms, rather than the creation of additional reporting obligations, is the most effective approach to increasing transparency and accountability for our respective agencies. In addition, the opportunity for a collaborative and strategic review of current reporting would also likely provide a means of moving toward greater regional consistency and reduce the reporting burden of the Program for both the Regional Board and for the Permittees. The format of San Bernardino's municipal stormwater program has already been mentioned as one alternative model that should be considered in this context.

b. Compliance Submittals

The revised Order includes several requirements to be fulfilled and reported to the Regional Board within the first 6 months, or concurrent with the first annual report submittal, following adoption of the Order. The County is concerned that this timeline does not provide the Permittees with sufficient time to comply with the associated requirements. Furthermore, many of the Permittees have already completed their budgets for the upcoming fiscal year. Therefore, the County requests that these requirements, with the exception of the interim requirement previously discussed with Regional Board staff concerning hydrologic condition of concern (HCOC) mapping, be revised to include submittal dates of at least 12 months from adoption to allow the Permittees an adequate time period for compliance.

Inspections

a. Commercial Inspections

The revised Order continues to include new requirements that increase the universe of commercial facilities subject to inspection. The principal concerns here are the significant resource implications for cities, at a time of extraordinary fiscal and resource constraint. For example, three of the larger Permittees have calculated that the revised commercial inspection obligation will necessitate them conducting 5,551 additional inspections over a five year permit term. There also remains an underpinning question regarding the technical justification for this expanded program.

There is a substantial body of environmental quality and programmatic performance data available to inform development of a more appropriately constructed risk-based scheme for directing inspection resources. The Permittees would again advocate that the permit should provide an opportunity to develop this scheme as an alternative to the entirely arbitrary designation of risk in the current version of the permit and that alternate forms of inspections, such as self certifications, be available for consideration. It is therefore recommended that Section X.2 and 3 be revised as follows:

"2. Each permittee shall conduct, or require to be completed, commercial facility inspections as indicated below and subject to limitations on municipal action under the constitutions of California and the United States. To establish priorities for inspection, the permittees shall continue to prioritize commercial facilities/businesses within their jurisdiction as a high, medium or low threat to water quality based on such factors as the type, magnitude and location of the commercial activity, potential for discharge of pollutants to the MS4, any history of unauthorized, non-storm water discharges, proximity and sensitivity of receiving waters, materials used and wastes generated at the site. Within 12 months of adoption of

this Order, the permittees shall develop a prioritization and inspection schedule for the commercial facilities in Section X.1 for approval of the Executive Officer. At least 10% of commercial sites (not including restaurant/food markets) must be ranked "high" and these represent the greatest threat to water quality." (Note – footnote 44 should also be deleted)

"3. Each permittee shall conduct, or require to be completed, commercial facility inspections for compliance with its ordinances, permits and this Order at frequencies determined by the approved prioritization and inspection schedule. Commercial sites ranked "high" shall be inspected at least one time per year. At a minimum, each facility shall be required to implement source control and pollution prevention measures consistent with the BMP Fact Sheets developed by the permittees. Inspections should include a review of control measures implemented, their effectiveness and maintenance; review of materials and waste handling and storage practices; evidence of past or present unauthorized, non-storm water discharges; an assessment of management/employees awareness of storm water pollution measures; and appropriate documentation of conditions."

b. Post Construction Inspections

With land development projects, the installation and subsequent maintenance of treatment controls certainly needs to be verified. However, self certification is already a verification mechanism being used by Permittees and it and other third party verification mechanisms should not be precluded by the Order in exclusive favor of Permittee inspection over the life of a project. Given the current state of the economy, the Permittees, like all municipalities, would again reiterate that they are facing shrinking budgets and the Regional Board needs to give great weight to the best use of limited resources in achieving water quality objectives.

c. Coordination of Inspections with the Regional Board

Findings 26 to 30 in the Order clearly identify that there is a shared role for the Regional Board and the Permittees in conducting inspections of many facilities. The current limited resources available to both the Regional Board and the Permittees make it especially important that coordination on inspections be enhanced. It is recommended that a formal framework for inspection responsibilities be established in the many areas of overlapping jurisdiction. This could be recognized in the Order as an item that both parties should develop.

Land Development Requirements

a. Low Impact Development

The following clarifying text changes are recommended to Section XII.C 1 and 2:

1. "Within 12 months of adoption of this Order, the permittees shall update the model WQMP to incorporate LID principles (as per this Section XII.C) and to address the impact of urbanization on downstream hydrology (as per Section XII.D) and a copy of the updated model WQMP shall be submitted for approval to the Executive Officer. Priority development projects that meet the feasibility criteria established pursuant to Section XII.E. shall implement the LID principles described in this Section XII.C."

2. "LID site design principles shall be designed to reduce runoff to the maximum extent practicable during each phase of priority development projects. The permittees shall require that each priority development project include site design BMPs during development of the preliminary and final WQMPs. The design strategy shall be to maintain or replicate the predevelopment hydrologic regime through the use of design techniques that create a functionally equivalent post-development hydrologic regime through site preservation techniques and the use of integrated and distributed micro-scale storm water infiltration, retention, detention, evapotranspiration and treatment systems as close as possible to the source of runoff. Site design considerations shall include, but not be limited to:"
(Bullets a-h remain the same)

The following text changes are recommended to Section XII.E.1:

1. "Within 12 months of adoption of this order, the Principal Permittee, in collaboration with the co-permittees, shall develop feasibility criteria for project evaluation to determine the feasibility of implementing LID BMPs." (Remaining paragraph remains the same)

b. Hydromodification

The provisions of the revised Order relating to water quality protection and the implementation of low impact development schemes have been substantially revised. They now provide a technically robust framework for implementing low impact development approaches to benefit water quality in the necessary context of integrated watershed master planning. However the Permittees are deeply concerned regarding a revision to the hydromodification provision, not considered by the stakeholder group, which appears to require that hydromodification be addressed in all development projects irrespective of the condition of the downstream conveyance channels that will receive runoff from the project. This revision appears to make irrelevant all of the careful crafting of the preceding language regarding low impact development and project design for water quality protection. We recommend that Section D.2.b be revised to read:

"b) As long as all downstream conveyance channels that receive runoff from the project remain engineered, hardened and regularly maintained to ensure design flow capacity, and no sensitive stream habitat area will be affected."

c. Comments on Report Entitled "Low Impact Development Metrics in Stormwater Permitting"

The subject report, dated January 2009, was prepared jointly by the Orange County and Ventura County Stormwater Programs and was provided to Regional Board staff and to others during the above described stakeholder meetings. Dr. Richard Horner provided a formal critique of this report in comments submitted to the Regional Board on the first draft of this Order and this critique was also referenced in the comments of the Natural Resources Defense Council. Please find attached a written response to a number of Dr. Horner's issues.

Coyote Creek TMDL

Extensive comments were provided in our letter of February 13, 2009 regarding the inappropriate implementation of TMDLs developed by U.S. EPA for impaired waters in the Los

Comment Letter 2nd Draft Tentative Order No. R8-2009-0030, NPDES No. CAS618030

April 9, 2009

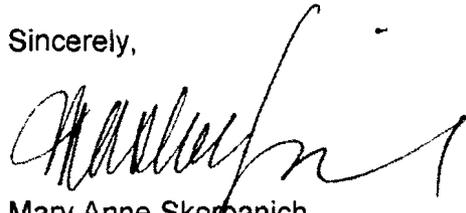
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Angeles Region. The Regional Board's response to comments did not adequately address these comments.

We appreciate the effort that you and your staff have devoted to the development of the fourth term permit for the Orange County Stormwater Program. We look forward to meeting with you and your staff to quickly resolve the Permittees' remaining concerns regarding the Order to ensure that it meets our mutual goals.

Thank you for your attention to our comments. Please contact Richard Boon at (714) 955-0670 or Chris Crompton at (714) 834-6662 with any questions on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mary Anne Skorpanich', written in a cursive style.

Mary Anne Skorpanich
Director, OC Watersheds Program

cc: City Permittees

Attachment: Response to Dr. Horner's Comments on "Low Impact Development Metrics in Stormwater Permitting"

Memorandum

Date: 9 April 2009
To: Mary Anne Skorpanich, Director, OC Watersheds Program
cc: Jeff Pratt, Public Works Director, County of Ventura
From: Eric Strecker, P.E. and Aaron Poresky, E.I.T. Geosyntec Consultants
Malcolm Walker, P.E. Larry Walker and Associates
Subject: Response to Critical Comments on "Low Impact Development Metrics
in Stormwater Permitting"

This document contains Geosyntec response to elements of "Critique of Certain Elements of 'Low Impact Development Metrics in Stormwater Permitting'" (Dr. Richard Horner, February 2009 (paper not dated))

Dr. Horner's paper is referenced in a subsequent memorandum from the Natural Resources Defense Council (NRDC) to Ms. Carolyn Beswick and Members of the Santa Ana RWQCB titled: *Draft NPDES Stormwater Permit for the County of Orange, Tentative Order R8-2008-0030*. Comments on Dr. Horner's critique expressed herein apply to the NRDC memorandum by extension.

1 Overview

- 1.1 Dr. Horner's paper critiques elements of "Low Impact Development Metrics in Stormwater Permitting" prepared by Geosyntec Consultants and Larry Walker Associates (Geosyntec and LWA, 2009). The critique questions several assumptions and assertions made in the case studies contained therein, disagrees with the recommendations of the study, and selects elements from the study that support the assertion that a 5% effective impervious area (EIA) standard is both widely feasible and effective.

2 General Responses

- 2.1 It appears that all parties are in agreement that an appropriate LID standard must be linked to a volumetric standard. One of the objectives of the Metric paper was to determine the practicality and environmental outcomes of the LID metrics proposed in the draft April 2008 Ventura Countywide permit and the November 2008 Orange Countywide permit. The Metrics paper addressed the lack of such a volumetric standard in the Draft Ventura County permit. Without a volumetric standard the EIA metric may be abused. It is acknowledged that a volumetric standard is included in the Draft Orange County permit.
- 2.2 Geosyntec and LWA do not agree with, nor does the Metrics paper support, the validity or effectiveness of a 5% EIA limit. While values in the range of 5% EIA have been found to correspond to a "threshold" for channel degradation in some studies, the use of these findings to support a 5% EIA standard for new development and redevelopment projects relies on two tenuous links. First, the definition of EIA contained in the two draft permits does not necessarily correspond to the definition employed by studies of the impacts of EIA. Second, the studies finding approximate thresholds of 5% EIA were based on watershed averages, not individual projects or parcels. The Metrics paper states that a volumetric criterion for LID implementation does not need to be linked to a specific spatial extent of disconnection and/or compliance on a lot-by-lot basis to be protective, and that establishing a lot-by-lot criterion could inadvertently cause adverse impacts to receiving water quality (e.g., could lead to sprawl or preclude infill/redevelopment projects from occurring).
- 2.3 From the arguments provided in the critique, it appears that Dr. Horner misinterpreted the context in which the LID provisions of the draft MS4 permits are proposed. The critique argues against a "delta volume" approach and for a "full volume approach" to LID sizing. We fully support the component of the draft permits that require treatment of the entire "water quality volume." The critique's apparent misunderstanding is to confuse the LID design standard with the water quality design standard. The bulk of the argument against a delta-volume as a LID sizing metric is based on this apparent misunderstanding and the resulting assumption that any volume above the delta volume would be allowed to discharge without treatment or hydrologic control. This is not the case for either the Ventura or Orange Countywide draft permits. Both the water quality treatment and hydromodification elements of the draft permits would prohibit this from occurring. This item is discussed further in Section 3.1 below.
- 2.4 Geosyntec and LWA do not agree with, nor does the Metrics paper support, the critique's assertion that infiltration and reuse are feasible in all densities and types of development. A variety of limitations can prevent infiltration on a project site which are typical in

southern California. Dr. Horner's study "Investigation of the Feasibility and Benefits for Low-Impact Site Design Practices ("LID") for Ventura County" (Horner, 2007) does not consider site specific infiltration rates and other limitations on infiltration; rather, it relies on a modeling study that assumed rather high infiltration rates based on San Fernando Valley soil types and applied those results in a rather simplified way to different case studies for example projects from San Diego County. Geosyntec has previously prepared a critique of this study (Geosyntec, 2008) that found various misrepresentations of findings and problematic assumptions that tended to result in uncertainty about claims of feasibility and effectiveness of an EIA standard at all project densities.

- 2.5 Horner (2007) relies on capture and reuse as a fall-back strategy where infiltration is not feasible. Stormwater reuse for the purpose of stormwater management requires a sufficient demand during the wet season to replenish the capacity of storage units to be effective as a stormwater management device. Horner (2007) does not attempt to demonstrate the effectiveness of capture and reuse. It is well understood that if sufficient water demand does not exist during the rainy season, the volume of storage that can be made available for subsequent storms is minimized. This would result in overall poor performance of capture and reuse to achieve stormwater management goals. Furthermore the Metric paper would be remised if it did not acknowledge the "practicality" challenges that are associated with the implementation of capture and reuse options, such as building and health code compliance.
- 2.6 We appreciate the detailed comments the critique offers on the case studies contained in the Metrics paper. Several were well-founded and could be used to make the case studies more robust. However, it is apparent that several others were made without consideration for the stated purposed of the case studies and thus unfairly misrepresent the findings of these studies. The findings of the Metrics paper do not support a lot-by-lot EIA criterion. In fact, the case studies demonstrate that lot-by-lot EIA limits are not the only, nor necessarily the best, way to realize the benefits of LID. The scope of the studies is not broad enough to dismiss the feasibility of this criterion nor did it attempt to do so. The critique takes this lack of dismissal as support for a lot-by-lot EIA limit and labels important constraints identified by the case studies as simply "negative". The critique's detailed comments on specific assumptions are tangential to the underlying discussion of whether a lot-by-lot EIA limit is superior to more appropriate watershed-scale metrics that may be better linked to the resources they are attempting to protect, as well as supported by the research on the impacts of impervious area on riparian ecology.

3 Specific Responses to the Critique

- 3.1 **Selection of an LID Design Storm.** On pages 1 through 3, the critique references a variety of studies that have found that the "full water quality volume" (calculated in a variety of ways across the country) represents the "point of diminishing returns" for water quality improvement. While we believe that this assumption should always be confirmed through analysis of site-specific rainfall patterns, we are in general agreement. The recommendations of the Metrics paper are not to replace the established water quality treatment criteria with the LID criteria. Rather, the Metrics paper recommends that the LID criteria should be less than the full water quality criteria and allow for natural condition runoff potential to be factored into calculations.

It appears that Dr. Horner erroneously treats the LID and water quality provisions of the draft permits interchangeably. Among the various regulatory standards that the critique cites (Georgia, Washington, Maine, Pennsylvania, North Carolina), only one standard appears to require retention of a specific design storm (Pennsylvania). This standard requires treatment of the first 2" of runoff from all impervious surfaces and permanent removal (i.e., infiltration, ET, or reuse) of 1" of runoff from new impervious surfaces. This does not seem to represent a "full volume" standard, nor does it seem to be consistent with the logic that the critique uses to support a full retention standard. Note that this "standard" is in a guidance document that is a draft form and has not been adopted to date. The other standards that were mentioned only require treatment of the design storm. It is not clear how these example regulations support a standard that would require capture and infiltration or reuse of the entire water quality volume. .

- 3.2 **Performance of LID vs. WQ Design Storm.** The critique relies on an event-based methodology to illustrate the difference between a "delta volume" and "full volume" approach, which inherently over-states the difference between these two standards. The critique claims that a "delta volume" design storm would result in significant impacts while a full volume design storm would result in none. (P 2)

"When managing water quality, in contrast, any untreated volume (in the delta volume scenario, this would be the amount that originally flowed from the undeveloped land) would deliver to the receiving water the many pollutants characteristic of urban runoff. There, these pollutants would create negative physical, chemical, and biological effects. On the other hand, if the appropriate water quality volume is used (i.e. no less than the 85th percentile event) the LID-based stormwater management BMPs should deliver no pollutants to the receiving water, since the retention and reuse or infiltration of that volume is practicable and achievable, as I have demonstrated separately by analyzing a range of development scenarios in southern California." [Emphasis added]

This excerpt shows an apparent misunderstanding of BMP performance factors. BMPs are not designed to capture all of the runoff volume from every storm, but only that volume up to the design storm volume (e.g., 0.75 inches). Thus, the argument above applies only to a specific storm depth for which the difference in performance for "full volume" BMPs and for "delta volume" BMP would be greatest. Long term performance of a BMP depends on the patterns of rainfall and the drawdown rate of the BMP in addition to the storage volume provided. All other factors equal, the use of a "delta volume" approach (i.e., a smaller storage volume) would indeed infiltrate a lower portion of the overall runoff than a "full volume" approach, but the difference may be something on the order of capturing 70% versus 80% of the average annual runoff volume, not an "all or nothing" outcome. As the critique points out, the difference between the "delta volume" and the "full volume" is small for the cases considered. The runoff that is between the difference of the "delta volume" and the "full volume" would still require treatment to remove pollutants before discharge, which is not considered in the critique.

3.3 Use of Horner, 2007 as a Basis for Assumption of Feasibility. Dr. Horner's critique refers to his study entitled "Investigation of the Feasibility and Benefits for Low-Impact Site Design Practices ("LID") for Ventura County" as evidence of the benefits and feasibility of LID implementation at all densities. Geosyntec has already provided a critique of this study (Geosyntec, 2008) in which we found:

- Three of the six case studies assumed a lower imperviousness than typical of their land use category. For example, the restaurant case study assumed an imperviousness of 49%, although the Ventura County Hydrology Manual lists an average imperviousness of 85% for this land use. Lower imperviousness yields less runoff-generating surface and more area available for infiltration.
- The study assumed that all of the pervious area would be available for infiltration; no reduction was made to account for necessary building setbacks or to account for scenarios in which some pervious area is upgradient of impervious area or otherwise not suitable for infiltration.
- Dr. Horner's study made questionable use of a study of the benefit of infiltration basins in the San Fernando Valley. Geosyntec's critique identifies issues with this study as well as issues in the applicability of this study to Dr. Horner's findings for Ventura County. For example, the San Fernando Valley study assumed infiltration rates of 0.5 to 2 inches per hour and made use of daily rainfall totals from a San Fernando gage. The 2007 study did not attempt to validate or adjust these assumptions for the range of rainfall and soil conditions present in Ventura County.

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- In higher density development and in areas of Ventura County that experience larger rainfall events, the conclusions of Dr. Horner's study were not supported by his calculations. The 2007 study relied on a fall-back strategy of capture and reuse where infiltration would not be sufficient to mitigate stormwater runoff; however, the study did not evaluate the effectiveness or feasibility of this concept.

Overall, the findings of the Horner (2007) study do not appear to fully support the stated conclusions related to volume reduction and feasibility of meeting an EIA standard. Considering the simplifications that the study relied upon, we believe that there should be more qualifications of, or limitations on, the findings.

3.4 Benefits of LID in Case Studies. Dr. Horner's critique asserts that the case studies contained in the Metrics paper do not address the benefits of LID. First, the stated intent of the studies was to evaluate the feasibility of implementation of a variety of interpretations of an EIA standard for LID implementation. It was not to perform a cost-benefit analysis. The primary benefits of LID lie in the volume reduction it can achieve on suitable sites. In fact, each scenario was linked to the volume retained on-site, thereby implicitly describing the benefits of implementation. The studies identified different ways in which equivalent benefit could be achieved.

3.5 Walnut Village assumption of infiltration rate. The critique contends that an assumption of 0.2 inches per hour for B soils is too low, and that the study ignores a basic tenant of LID: that soils should not be compacted during development. This case study was of an actual redevelopment project in Anaheim that included underground parking under the majority of the site and landscaped areas typically measuring 4-8 feet in width between the adjacent roadways and building foundations. We would like to make several comments related to this contention:

- In redevelopment projects, the condition of underlying soils may be out of the control of the site design engineer. While it is considered a "best practice" to recondition soil through soil amendments, this practice can only be feasibly implemented to a certain depth. If a low permeability soil layer lies below this depth, whether due to prior site compaction or natural site conditions, then reconditioning the surface, while increasing moisture storage capacity, would not necessarily increase the rate at which moisture storage capacity can be regenerated by infiltration.
- Both roadways and building foundations require compaction of underlying soils for structural stability. In an ideal scenario, the soil underlying the thin strips of landscaping would not be compacted, however it may very well be within the practical influence area of adjacent compacted areas.

- In cases where the landscaped area is proximate to the foundation of the underlying garage, compaction may be required for structural purposes, and in fact, infiltration may be prohibited for structural reasons.
- Typical guidance in the design of infiltrative BMPs suggests a factor of safety to account for long-term degradation of infiltration rates. For example, the Stormwater Management Manual of Western Washington (WADOE, 2005) recommends a factor of safety of 4 for BMPs relying primarily on infiltration in soils with unadjusted infiltration rates from 0.5 to 8.0 inches per hour. Such guidance seems prudent where the result of failure is the discharge of greater volumes of runoff to receiving waters and/or long durations of standing water potentially leading to public health concerns. The critique cites a range from 0.57 in/hr to 1.4 in/hr for B soils from the NRCS soil survey, a source which generally considers soils in their natural state (NRCS, 2007). Quoting from this source (Section 630.0702):

“As a result of construction or other disturbances, the soil profile can be altered from its natural state and the listed group assignments generally no longer apply, nor can any supposition based on natural soils be made that will accurately describe the hydrologic properties of the disturbed soil. In these circumstances, an onsite investigation should be made to determine the hydrologic soil group.”

Factoring the effects of incidental compaction in the urban environment and a prudent factor of safety, the assumption of 0.2 inches per hour as a design infiltration rate for B soils is consistent with the critique’s citations. While the critique accurately points out that a slightly higher assumption would indeed reduce the drawdown time to less than 72 hours, this does not negate the fact that with relatively deep BMPs over soils with low infiltration rates, limited storage capacity would be regenerated for sequential storms. Such sequential storm sets are responsible for a large fraction of total precipitation in Southern California.

3.6 Walnut Village – “non-essential hardscape”. Geosyntec and LWA agree that in some cases more hardscape is used in development than necessary. However, it should not be taken as a given that landscaping is less expensive. The statement in the case study should have been “apparently non-essential hardscape”. The case studies explicitly state that not all site-specific constraints could be evaluated. It is likely that some of the hardscape that was removed for the 0% EIA case could have been needed for ADA access or to meet parking standards, if the case study were to be evaluated more closely.

3.7 60 California – appropriateness of greenroofs and cisterns. We appreciate the critiques’s perspective on the trend of BMPs towards greenroofs and reuse. We fully

embrace these technologies in places where they can be demonstrated to have a good chance of success. However, the critique does not demonstrate that the use of greenroofs and stormwater reuse are commonplace. Currently, greenroofs have been implemented primarily in a few large cities and primarily on public buildings.

The critique refers to an established program of rainwater harvesting and reuse in Texas. While eastern Texas receives greater rainfall than Southern California, the critique states that western Texas “has rainfall conditions very much like southern California’s”. A detailed review of the Texas Rainwater Harvesting Guidelines (TWDB, 2005) showed that this program is primarily targeted toward using harvesting to meet water demands, not to control stormwater. It should also be noted that large parts of Texas receive summer rainfall in the form of thunderstorms which rarely, if ever, occur during the summer in Southern California. Figure 1 provides a summary comparison between precipitation and evapotranspiration patterns in western Texas versus southern California.

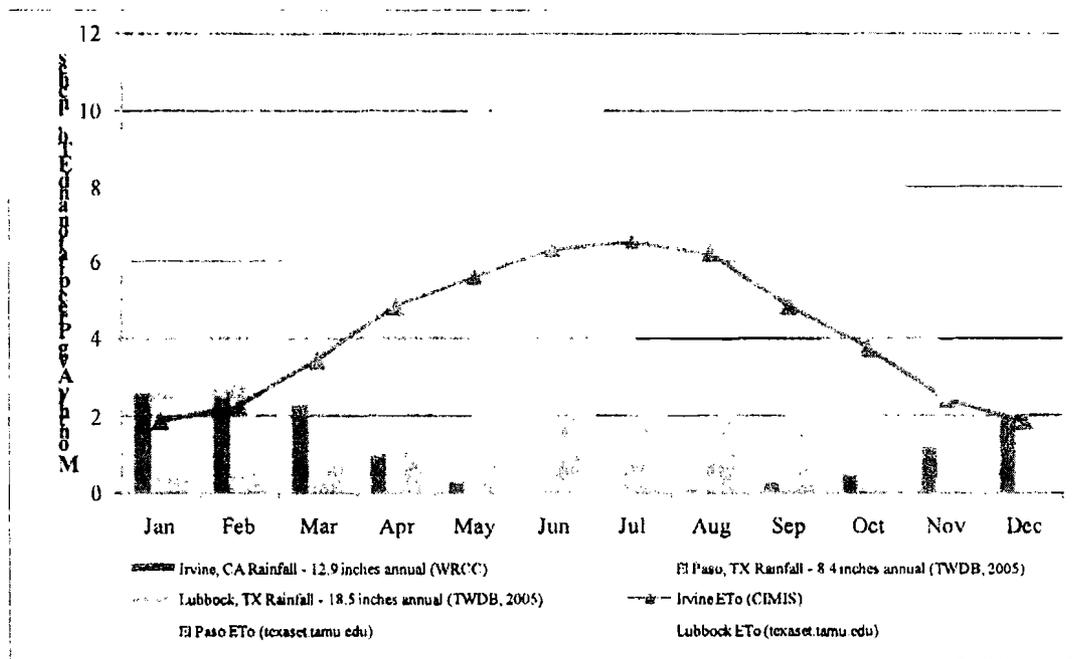


Figure 1: Comparison of precipitation and ET patterns between western Texas and southern California

Based on this preliminary comparison, western Texas appears to be a more favorable location than southern California for rainwater harvesting to manage stormwater impacts and meeting water demands. First, periods of higher rainfall are coincident with periods of higher ETo in west Texas, while the opposite is true in southern California. Second,

rainfall occurs more steadily throughout the year in west Texas compared to the normally dry spring, summer and fall months of southern California.

3.8 60 California – anticipated performance of greenroofs and cisterns. The critique provides a somewhat vague defense for the performance of greenroofs in Southern California. One cited study found that a greenroof in Pennsylvania could reduce average annual runoff volumes by 50 percent. This study was compared to Southern California by saying that pan evaporation rates are between 3.3 and 4.2 inches per month in Pennsylvania from June to September (presumably a wet season in that locale) while November – February pan evaporation ranges from 3.5 to 4.0 in Los Angeles. A review of local ET data in Los Angeles County showed that this comparison is not valid. Monthly ET rates in Southern California range from about 1.5 to 2.5 from November through February. Also, rainfall is more seasonally concentrated in Southern California than in the mid-Atlantic region. Figures 2 and 3 below provide a comparison between Irvine, CA and the Washington, DC vicinity, for example.

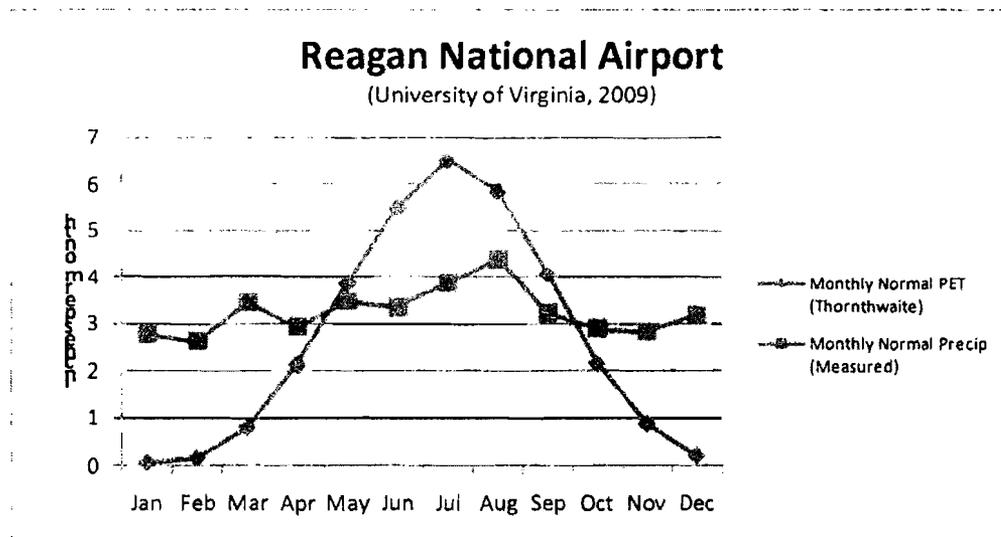


Figure 2: Monthly normal patterns of ET and precipitation at Reagan National Airport

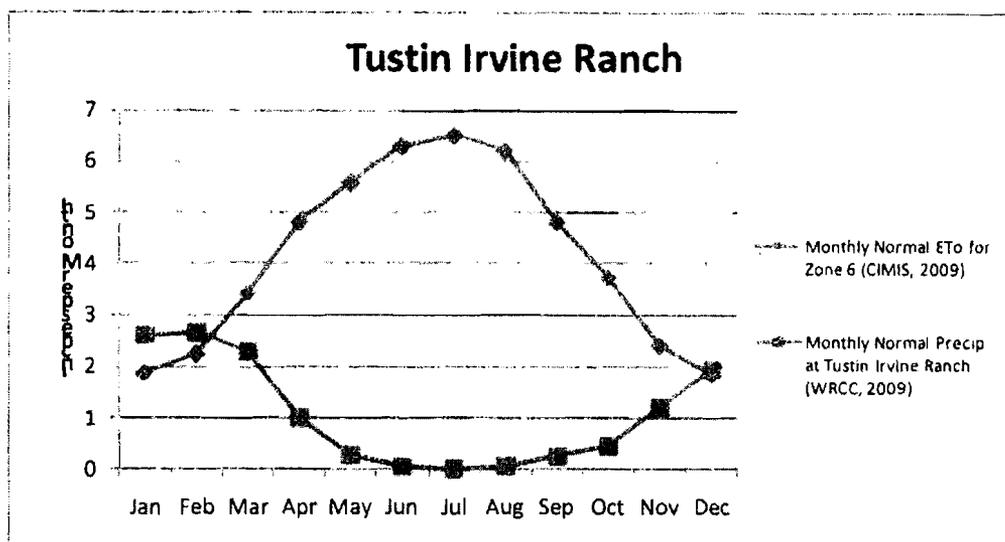


Figure 3: Monthly normal patterns of ET and precipitation in Irvine, CA

Dr. Horner states: "Therefore, Los Angeles has as much evaporation potential in the months when it most needs that potential as locations with successful green roofs elsewhere." Figure 2 shows that ET rates in December, January, and February are lower than the average precipitation. As precipitation is rarely average, on frequent occasions rainfall rates will significantly exceed ET rates. Thus Dr. Horner's conclusion does not seem to be supported by the examples provided.

Dr. Horner's critique does not address anticipated performance and feasibility of capture and reuse systems.

3.9 **60 California – regulatory barriers to indoor reuse.** We agree that codes should not be regarded as unbending. However, we feel it would not be responsible to discuss indoor reuse and its current feasibility without mentioning the current limitations and considering the time that may be needed to get code changes in place. We do not state that this should be basis for dismissing this approach.

3.10 **Ventura K-mart – scope of study.** We agree that the scope of this case study was too narrow to draw wide-ranging conclusions about cost. Likewise, the study did not "reject" tree boxes, bioretention, pervious pavement, green roofs, or water harvesting as the critique indicates. The study simply stated that two typical BMPs were chosen for evaluation. This is an issue of scope, not logic.

Dr. Horner himself took a simplified approach to costs by relying on the EPA report entitled: *Reducing Stormwater Costs through LID Strategies and Practices* (EPA 841-F-07-006, December 2007 - available for download at www.epa.gov/nps/lid). This

report generally found that LID could result in cost savings. It is well understood that design criteria play a large factor in the cost of BMPs, however only two of 17 case studies contained in the EPA 2007 reported design criteria. Likewise, only three of 17 estimated performance. It is not clear whether these sites were designed to similar standards. It is also unclear whether these sites represent opportunistic examples (i.e., sites that had a natural fit for LID-type BMPs) or whether they are a true cross-section of development sites with the various inherent constraints.

Some of the studies contained in EPA (2007) relied on BMPs, such as narrowing street width and downspout disconnection, which would not be widely applicable to many high-density redevelopment projects. Of the BMPs contained in the case studies that would likely be used for higher-density projects (bioretention, permeable pavement, green roofs, and cisterns), permeable pavement was considered in only two of 17 case studies, and green roofs were considered in only one of the 17 studies (cost-benefit analysis showed substantially greater costs than benefits for this study). Cisterns with reuse were not considered in any of the 17 studies. Considering these factors, this source should not be relied upon solely in evaluating the costs of implementing the proposed permit requirements.

- 3.11 **Ventura K-mart – method of runoff estimation.** We agree that the NRCS curve number is not the best method to use for small storms, however the critique of this method is tangential to overall results, and use of the NRCS curve number method would actually tend to under-predict infrastructure requirements (i.e., cost). We appreciate this comment. It is noted that in Dr. Horner's previous evaluation of feasibility and effectiveness (Horner, 2007), the curve number method was used to establish the volume that would need to be infiltrated on-site.
- 3.12 **Ventura K-mart – assumption of infiltration rate.** We appreciate this correction. It appears that an adjustment factor was not applied as described in Section 3.5 to account for long-term decline in infiltration rate. Correction of this error would result in substantially increased infrastructure requirements (i.e., cost).

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Noble, Connie

From: Carlstedt, Timothy J.
Sent: Monday, June 22, 2009 2:05 PM
To: Noble, Connie
Subject: FW: Tentative Order R8-2009-0030

Attachments: 73018632_1.DOC

From: Carlstedt, Timothy J.
Sent: Thursday, April 23, 2009 11:07 AM
To: 'Mr. David Rice'
Cc: 'Michael Adackapara (madackapara@waterboards.ca.gov)'; 'Chris.Crompton@ocpw.ocgov.com'; 'Boon, Richard [OCPW]'; 'Hunt, Geoffrey'
Subject: Tentative Order R8-2009-0030



73018632_1.DOC
(44 KB)

From: Carlstedt, Timothy J.
Sent: Thursday, April 23, 2009 11:06 AM
To: 'Mr. David Rice'
Cc: Michael Adackapara (madackapara@waterboards.ca.gov); Chris.Crompton@ocpw.ocgov.com; Boon, Richard [OCPW]; Hunt, Geoffrey
Subject: Tentative Order R8-2009-0030

Mr. Rice--

On behalf of the County of Orange, I am submitting the attached TMDL Errata Sheet for consideration by you and Regional Board staff before the Regional Board hearing tomorrow. Please feel free to call if you have any questions or would like to discuss these issues.

Tim

Print Less - - Go Green

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Tentative Order No. R8-2009-0030
Third Draft April 10, 2009
TMDL Errata Sheet

I. The Tentative Order's TMDL Provisions Generally Are Consistent with State and Federal Law

Section XVIII of the Tentative Order includes TMDL implementation provisions. Implementation of or compliance with the TMDL Wasteload Allocations (WLAs) is to be through BMP implementation. See Finding J.52. Specifically, Section XVIII.E. provides that if receiving water monitoring indicates exceedances of the WLAs, permittees shall reevaluate their BMPs and propose to the Executive Officer (E.O.) additional BMPs to address the exceedances. Upon E.O. approval, permittees are to begin implementing the additional or revised BMPs. This iterative BMP process is substantially similar to the process mandated by U.S. EPA and the State Board for permittees to comply with receiving water limitations. See, e.g., State Board Order WQ 99-05 and Tentative Order Section IV.

The Tentative Order's TMDL provisions also are consistent with U.S. EPA policy on establishing NPDES storm water requirements based on WLAs. See U.S. EPA Office of Water Memorandum: *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs*, November 22, 2002 (U.S. EPA Memo). According to the memorandum:

The policy outlined in this memorandum affirms the appropriateness of an iterative, adaptive management BMP approach, whereby permits include effluent limits (e.g., a combination of structural and non-structural BMPs) that address storm water discharges, implement mechanisms to evaluate the performance of such controls, and make adjustments (i.e., more stringent controls or specific BMPs) as necessary to protect water quality.

U.S. EPA Memo at p. 5.

Neither federal law nor U.S. EPA guidance requires that MS4 permits include provisions for strict compliance with numeric WLAs.

II. Minor Clarifying Revisions Should Help Support the Permit

The U.S. EPA Memo suggests that, when non-numeric water quality-based effluent limits are imposed in an MS4 permit, the permit's administrative record, including any fact sheet, should support that BMPs are expected to be sufficient to implement the WLAs. Accordingly, the following minor clarifying revisions to the Tentative Order should be helpful.

Finding J.52:

This order requires permittees to comply with established TMDL wasteload allocations specified for urban runoff and/or storm water by implementing the necessary BMPs. NPDES regulations at 40 CFR 122.464(d)(vii)(B) require that NPDES permit conditions be consistent with the assumptions and requirements of any available wasteload allocations prepared by the state and approved by U. S. EPA. The BMP iterative process required by this order is reasonably expected to implement requires the permittees to comply with the urban runoff/storm water wasteload allocations specified in (1) Regional Board-adopted and USEPA approved TMDLs (including TMDLs for nutrients, fecal coliform, diazinon and chlorpyrifos); (2) Regional Board-adopted TMDLs that are approved by the State Board and State Office of Administrative Law and that are thereby effective (approval of organochlorine compounds TMDLs by the State is pending); and, (3) USEPA-promulgated TMDLs (including toxics TMDLs for the Newport watershed). Continuation of water quality/biota monitoring and analysis of the data are essential

to better understand the impacts of storm water discharges on the water quality of the receiving waters, impairment caused by urban runoff, compliance with the wasteload allocations and for assessing the effectiveness of control measures.

Order Section XVIII.E.2:

Based on the TMDLs, effluent limits have been specified to ~~ensure consistency with~~ implement the available wasteload allocations. If the monitoring results indicate ~~an exceedance~~ of the wasteload allocations, the permittees shall reevaluate the current control measures and propose additional BMPs/control measures. This reevaluation and proposal for revisions to the current BMPs/control measures (revised plan) shall be submitted to the Executive Officer within 12 months of determining that ~~an exceedance violation~~ has occurred. Upon approval, the permittees shall immediately start implementation of the revised plan.

III. Technical TMDLs Should Not be Incorporated Into the Permit

Notwithstanding the County's overall general support for the Tentative Order's TMDL provisions, wasteload allocations from TMDLs that have not been adopted into the Basin Plan with implementation plans should not be included as enforceable requirements in the permit.

Under state law:

Before a TMDL is enforceable, it must be incorporated into the appropriate Basin Plan by amending the Basin Plan in accordance with state law. If TMDLs are not incorporated into Basin Plans, they have no legal standing under state law and cannot be enforced by Regional Boards. A Basin Plan amendment requires approval by the appropriate Regional Boards, the State Water Resources Control Board (State Board), the Office of Administrative Law, and the U.S. Environmental Protection Agency Region 9.

State Water Resources Control Board TMDL Q&A. See State Board Web Site at: www.swrcb.ca.gov/water_issues/programs/tmdl/docs/tmdl_factsheet.pdf.

State law also requires that implementation plans be developed with TMDLs. See State Board Web Site at: www.swrcb.ca.gov/water_issues/programs/tmdl/background.shtml ("In California, the SWRCB has interpreted state law . . . to require that implementation be addressed when TMDLs are incorporated into Basin Plans . . .").

Section XVIII.B. indicates that the TMDLs in that section all are "Technical TMDLs (No Implementation Plans). The Regional Board's web site provides the following position regarding Technical TMDLs:

Technical TMDL – USEPA established technical TMDLs (without implementation plans) for toxic pollutants in San Diego Creek and Newport Bay on June 14, 2002. **Regional Board staff are developing the State required Basin Plan amendments, including implementation plans.**

See Regional Board web site at: www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/index.shtml#projects (emphasis added).

Finally, to the extent applicable, the federal regulations at 40 C.F.R. 122.44(d)(1)(vii)(B) provide that, when developing water quality based effluent limits under paragraph (d), the effluent limits must be consistent with the assumptions and requirements of any "available wasteload allocations for the discharge **prepared by the State and approved by EPA** pursuant to 40 CFR 130.7." (Emphasis added.) This is consistent with state law in that only "available" WLAs are relevant.

In summary, unless and until the technical TMDLs in Section XVIII.B. are adopted into the Basin Plan with implementation plans, the WLAs are not enforceable and should not be permit conditions.

The County suggests that the following revision to Section XVIII.B.3 could provide a workable solution:

Order Section XVIII.B.3:

In summary, work related to the following established TMDLs is ongoing:

- a) Metals (San Diego Creek and Newport Bay (including Rhine Channel))
- b) Metals (Mercury, Chromium) (Rhine Channel)
- c) Organochlorine compounds (San Diego Creek and Newport Bay; also see Paragraphs 5 and 6, below)
- d) Selenium (San Diego Creek and Newport Bay)
- e) Copper, lead and zinc (Coyote Creek, TMDL developed by the EPA and the Los Angeles Regional Water Quality Control Board for wet weather)
- f) Copper (Coyote Creek, TMDL developed by the EPA and the Los Angeles Regional Water Quality Control Board for dry weather)

This Order requires permittees to comply with the wasteload allocations in these TMDLs as required by state law.

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ORANGE COUNTY

Public Works

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May 8, 2009

By E-mail and U.S. Mail

Gerard Thibeault
Executive Officer
California Regional Water Quality Control Board, Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Subject: Comment Letter, Tentative Order No. R8-2009-0030 NPDES No. CAS618030


Dear Mr. Thibeault.

At the April 24, 2009 public hearing, the Santa Ana Regional Board held open the comment period on several land development provisions of the tentative order before it – *Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the Incorporated Cities of Orange County Within the Santa Ana Region Areawide Urban Storm Water Runoff Orange County* (Order No. R8-2009-0030). Specifically, the Board agreed to accept comments on Sections XII.C.1 and C.2, which had been revised the day of the hearing. We understand the Board intends to adopt the order at the May 22, 2009 public hearing.

The County of Orange, the Principal Permittee, is disappointed that last minute changes introduced at the hearing and subsequent to the hearing in the form of the fourth draft of the Order create a permit significantly different from the one the County came to the April 24th hearing ready to support. Nonetheless, the County welcomes the opportunity to provide additional comments on these key provisions. The Permittees were involved in the development of these comments and the cities of Anaheim, Buena Park, Cypress, Fountain Valley, Irvine, La Palma, Laguna Hills, Lake Forest, Newport Beach, Orange, Placentia, Tustin, Villa Park and Westminster have directed that they be recognized as concurring entities.

Sections XII.C.1 and C.2 pertain to land development and, specifically, "low impact development" or "LID." Prior to the April 24th hearing, the Order's land development provisions had been the subject of a series of stakeholder meetings. In our letter of February 13, 2009, we highlighted this series of meetings and noted that they had produced general areas of agreement, which include:

1. Performance standards for implementing LID BMPs, other than an EIA percentage (3-5%) are acceptable if a technically equivalent standard can be identified.
2. Sizing LID BMPs to capture the 85th percentile storm event (current DAMP criteria for water quality volume) is an acceptable alternative to EIA as a performance standard

provided that technically-based, strict, and clear feasibility criteria are developed for any project that cannot meet the LID BMP requirements.

3. Prioritized LID/SUSMP BMPs for water quality volume capture are represented by: a) infiltration BMPs; b) harvesting and reuse BMPs; and c) vegetated (or evapotranspiration) BMPs, including bioretention and biofiltration. Water quality volume not captured by LID BMPs shall be treated consistent with DAMP requirements.

Additionally, the County of Orange endorsed these general areas of agreement as "default" requirements pending development of watershed based standards through a watershed master plan (Section XII.D.5). In fact, we specifically agreed to enhanced watershed master planning requirements as part of this integrated approach.

These general areas of agreement were by and large reflected in the third draft of the Order. It is the County's position that they should continue to inform the framework of the Order's land development provisions. The changes made in the fourth draft of the Order, while deceptively small, will fundamentally alter this framework.

Attachment A presents a visual representation of the framework for land development that essentially reflects the land development provisions of the third draft of the Order. It predicates compliance on management of the 85th percentile storm volume; presumes the application of LID BMPs based upon a prioritized consideration of infiltration; capture and re-use, evapotranspiration, and bio-retention/bio-filtration and requires treatment of any residual runoff volumes for which the application of LID BMPs has been determined to be infeasible at site, sub-regional and regional scales. This framework also integrates options for water quality credits and provides for alternate compliance approaches including participation in a watershed project and contributions to an "in-lieu" fund. It also explicitly recognizes bioretention/biofiltration BMPs as LID BMPs and the continued and entirely legitimate contribution of effective structural BMPs such as constructed wetlands and detention ponds to the practice of stormwater quality management. The County's specific comments and suggestions regarding Sections XII.C.1., and X.II.C.2. which are presented below, support this framework.

Specific Comments on Sections XII.C.1 and C.2

At the April 24th hearing, the representative from U.S. EPA stated that the changes to Sections XII.C.1 and C.2 were made at EPA's request. The County understands that Section XII.C.1. was revised to address U.S. EPA's concern regarding the possibility of inordinate delay in Executive Officer approval of the required criteria for determining LID feasibility. The U.S. EPA revision removes reference to the application of the feasibility criteria. The consequence of removing the feasibility criteria is that each priority development project will need to provide the Executive Officer with project specific criteria as part of any feasibility analysis. This could subsequently result in administrative burden, additional costs and staff time as well as potential project delays. In **Attachment B** we have included proposed redline language for Section XII.C.1, making as few changes as possible, that clarifies this procedure and relates it to the update of the model WQMP.

It is less clear why U.S. EPA requested the change to Section XII.C.2. The effect of the change, however, does appear clear. It would fundamentally alter the framework discussed above. Specifically, the prioritization principle outlined in the third bullet point above would be eviscerated. As revised by U.S. EPA, any priority development project that could not meet the

performance goal by using the identified LID BMPs would have to obtain a waiver from the Executive Officer.¹ There would be no prioritization nor use of any other BMPs—LID or otherwise—without Executive Officer approval. It is not clear what effect U.S. EPA's revision would have on the BMP requirements of Section XII.B which is predicated on the use of all effective BMPs, including LID BMPs and others.

At the April 24th hearing, you and your staff agreed to add "biotreatment" to the identified LID BMPs that could be used to meet the performance goal in section XII.C.2. The Board supported this change. However, this change is not reflected in the fourth draft of the Order. While the term "bio-filter" has been added to the identified LID BMPs, a new footnote provides that bio-filtration, bio-retention or bio-treatment only may be used if other identified LID BMPs (infiltration, harvest and reuse, and evapotranspiration) are not feasible. This additional qualification is not what the Board supported at the April 24th hearing. Alternate revised language for Section X.II.C.2 is also presented in **Attachment B**. Again, making as few changes as possible, this language restores the feasibility criteria to the framework and otherwise attempts to address the County's concerns.

The new footnote, as well as U.S. EPA's other changes to Section XII.C.2, highlight a significant problem with the approach the Order has taken. Instead of allowing permittees the discretion to use whatever means they determine are effective to meet the substantive requirements of the Order, the fourth draft dictates that permittees use not just LID BMPs to meet the requirements, but a pre-selected subset of LID BMPs. That is a clear violation of section 13360(a) of the Water Code which prohibits Regional Boards from prescribing the manner in which a permittee is to comply with a permit. Eric Strecker of Geosyntec, an expert in the field, provided testimony on April 24, 2009 that this requirement is not technically sound.

Finally, your attention is drawn to a preliminary analysis of fiscal impact prepared by the City of Simi Valley with respect to the application of LID requirements to a 5.23 acre affordable housing project. This analysis provides preliminary information on the potentially significant cost impacts of retaining stormwater on site, and is included in **Attachment C**. It should be noted that a similar analysis is not available at this time for north Orange County.

Thank you for your attention to our comments. Please contact Richard Boon at (714) 955-0670 or Chris Crompton at (714) 955-0630 with any questions on this matter.

Sincerely,



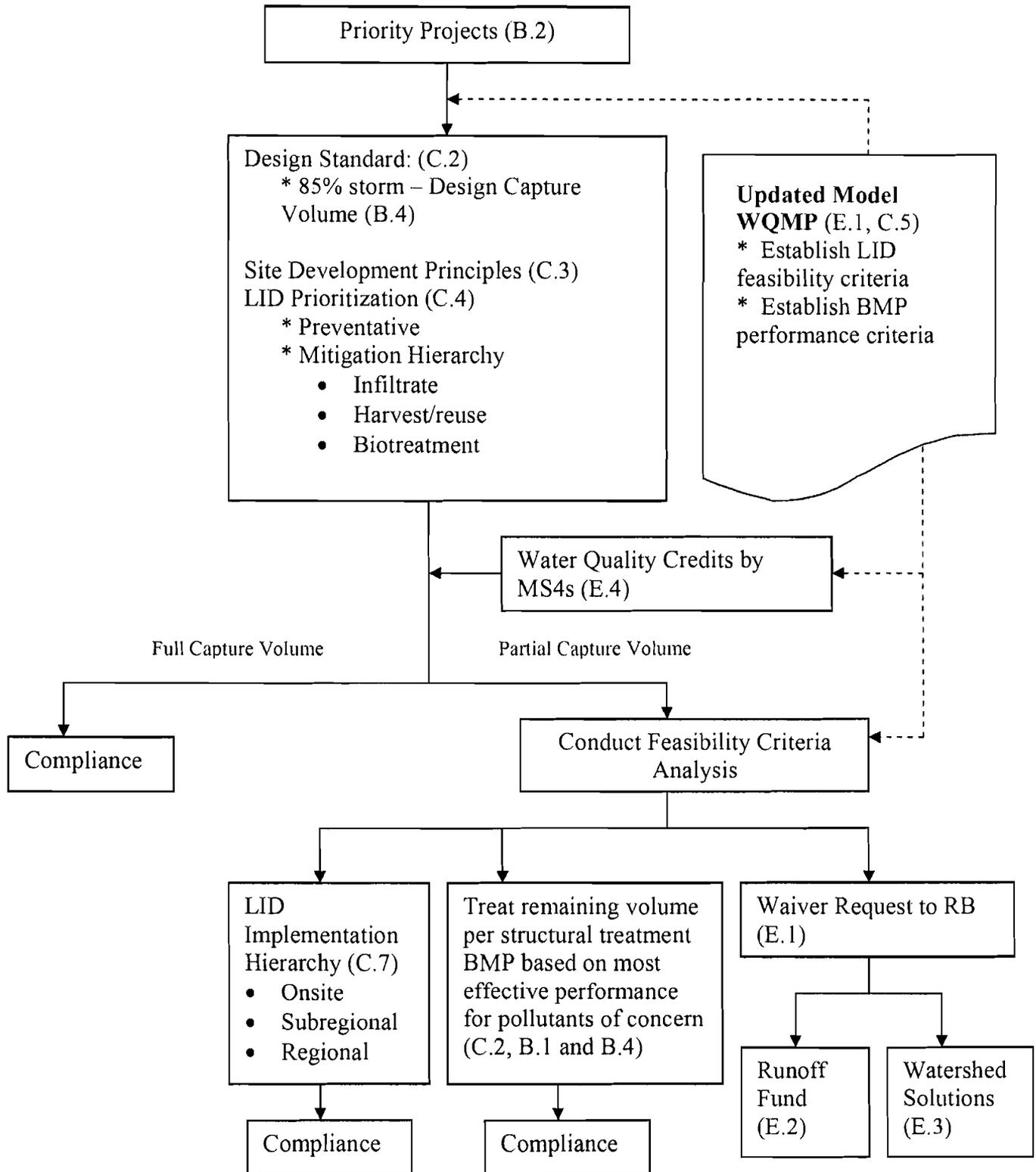
Mary Anne Skorpanich
Director, OC Watersheds Program

cc: Board Members
City Permittees

¹ During recent discussions with U.S. EPA and your staff on this issue there seemed to be some misunderstanding as to the conditions under which waivers would be required.

Attachment A: Process Flow Chart
Attachment B: Alternate Revised Language
Attachment C: Letter of May 6, 2009 from City of Simi Valley to Building Industry Association – Preliminary Analysis of the Fiscal Impact to new Development by the Requirements of the Tentative Order of the Ventura County MS4 Permit

Attachment A: LID Process



ATTACHMENT B - REGULATED COMMUNITY
PROPOSAL (May 7, 2009)

Order No. R8-2009-0030 (NPDES No. CAS 618030)

53 of 93

The County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County
Areawide Urban Storm Water Runoff

NOTE: RB changes
from Third to Fourth
Draft in blue.
Regulated
community changes
to Fourth Draft in
red.

**C. LOW IMPACT DEVELOPMENT TO CONTROL POLLUTANTS IN URBAN
RUNOFF FROM NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT:**

1. Within 12 months of adoption of this order, the permittees shall update the model WQMP to incorporate LID principles (as per Section XII.C) and to address the impact of urbanization on downstream hydrology (as per Section XII.D) and a copy of the updated WQMP shall be submitted for review and approval by the Executive Officer⁵⁵. As provided in Section XII.J, 90 days after approval of the revised model WQMP, ~~Priority development projects that meet the feasibility criteria established pursuant to Section XII.E~~ shall implement the LID principles described in this section, Section XII.C. To the extent the Executive Officer has not approved feasibility criteria as provided in Section XII.E.1, the infeasibility of implementing LID BMPs shall be determined through a project-specific analysis submitted to the Executive Officer for approval.
2. The permittees shall reflect in the WQMP and otherwise require that each priority development project infiltrate, harvest and re-use, evapotranspire, ~~or capture, or bio-filter/treat⁵⁶~~ the 85th percentile storm event ("design capture volume"), as specified in Section XII.B.4.A.1, above. ~~Projects that do not comply with this requirement shall meet the requirements established in section XII.E. for alternative or in-lieu compliance.~~ Any portion of this the design capture volume that is not infiltrated, harvested and re-used, evapotranspired, ~~or captured or bio-filtered/treated⁵⁷~~ onsite by LID BMPs shall be treated and discharged using LID or conventional similarly effective treatment control BMPs or mitigated as set forth in Section XII.C.7, below. Projects that do not comply with this requirement shall meet the requirements established in Section XII.E. for alternative or in-lieu compliance.
3. The permittees shall incorporate LID site design principles to reduce runoff to a level consistent with the maximum extent practicable standard during each phase of priority development projects. The permittees shall require that each priority development project include site design BMPs during development of the preliminary and final WQMPs. The design ~~strategy goal~~ shall be to maintain or replicate the pre-development hydrologic regime through the use of design techniques that create a functionally equivalent post-development hydrologic regime through site preservation techniques and the use of integrated and distributed micro-scale storm water infiltration, retention, detention,

⁵⁵ The Executive Officer shall provide members of the public with notice and at least a 30-day comment opportunity for all documents submitted in accordance with this order. If the Executive Officer, after considering timely submitted comments, concludes that the document is adequate or adequate with specified changes, the Executive Officer may approve the document or present it to the Board for its consideration at a regularly scheduled and noticed meeting.

⁵⁶ A properly engineered and maintained bio-filtration, bio-retention or other bio-treatment systems may be considered only if infiltration, harvesting and reuse and evapotranspiration are not feasible in accordance with the priorities specified in Section XII.C.4.

⁵⁷ A properly engineered and maintained bio-filtration, bio-retention or other bio-treatment systems may be considered only if infiltration, harvesting and reuse and evapotranspiration are not feasible in accordance with the priorities specified in Section XII.C.4.

evapotranspiration, filtration and treatment systems as close as feasible to the source of runoff. Site design considerations shall include, but not be limited to:

- a. Limit disturbance of natural water bodies and drainage systems; conserve natural areas; preserve trees; minimize compaction of highly permeable soils; protect slopes and channels; and minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies;
 - b. Minimize changes in hydrology and pollutant loading; require incorporation of controls, including structural and non-structural BMPs, to mitigate the projected increases in pollutant loads and flows; ensure that post-development runoff durations and volumes from a site have no significant adverse impact on downstream erosion and stream habitat; minimize the quantity of storm water directed to impermeable surfaces and the MS4s; minimize paving, minimize runoff by disconnecting roof leader and other impervious areas and directing the runoff to pervious and/or landscaped areas, minimize directly connected impervious areas; design impervious areas to drain to pervious areas; consider construction of parking lots, walkways, etc., with permeable materials; minimize pipes, culverts and engineered systems for storm water conveyance thereby minimizing changes to time of concentration on site; utilize rain barrels and cisterns to collect and re-use rainwater; maximize the use of rain gardens and sidewalk storage; and maximize the percentage of permeable surfaces distributed throughout the site's landscape to allow more percolation of storm water into the ground;
 - c. Preserve wetlands, riparian corridors, vegetated buffer zones and establish reasonable limits on the clearing of vegetation from the project site;
 - d. Use properly designed and well maintained water quality wetlands, bio-retention areas, filter strips and bio-filtration swales; consider replacing curbs gutters and conventional storm water conveyance systems with biotreatment systems, where such measures are likely to be effective and technically and economically feasible;
 - e. Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site;
 - f. Establish development guidelines for areas particularly susceptible to erosion and sediment loss;
 - g. Implement effective education programs to educate property owners to use pollution prevention measures and to maintain on-site hydrologically functional landscape controls; and
 - h. During the early planning stages of a project, the LID principles shall be considered to address pollutants of concern identified in the Watershed Action Plans and TMDL Implementation Plans, and the LID BMPs shall be incorporated into the sites conceptual WQMP.
4. The selection of LID principles shall be prioritized in the following manner (from highest to the lowest priority): (1) Preventative measures (these are mostly non-

structural measures, e.g., preservation of natural features to a level consistent with the maximum extent practicable standard; minimization of runoff through clustering, reducing impervious areas, etc.) and (2) Mitigation (these are structural measures, such as, infiltration, harvesting and reuse, bio-treatment, etc. The mitigation or structural site design BMPs shall also be prioritized (from highest to lowest priority): (1) Infiltration (examples include permeable pavement with infiltration beds, dry wells, infiltration trenches, surface and sub-surface infiltration basins. All infiltration activities should be coordinated with the groundwater management agencies, such as the Orange County Water District); (2) Harvesting and Re-use (e.g., cisterns and rain barrels); and (3) Bio-treatment such as bio-filtration/bio-retention.

5. Even though the LID principles are universally applicable, there could be constraining factors, such as: soil conditions, including soil compaction, saturation (e.g., hydric soils) and permeability, groundwater levels, soil contaminants (Brownfield developments), space restrictions (in-fill projects, redevelopment projects, high density development, transit-oriented developments), naturally occurring contaminants (e.g., selenium in the soil and the groundwater in the Newport Bay Watershed), etc. In such cases, the LID principles could be integrated into other programs, such as: Smart Growth⁵⁸, New Urbanism⁵⁹ or regional or sub-watershed management approaches. Also see Section E, below, for alternatives and in-lieu programs.
6. The LID BMPs shall be designed to mimic pre-development site hydrology through technically and economically feasible preventive and mitigative site design techniques. LID combines hydrologically functional site design with pollution prevention methods to compensate for land development impact on hydrology and water quality.
7. If site conditions do not permit infiltration, harvesting and re-use, and/or evapotranspiration, capture, and/or biotreatment of the design capture volume at the project site as close to the source as possible, the alternatives discussed below should be considered and the credits and in-lieu programs discussed under Section E, below, may be considered:
 - a. Implement LID principles at the project site. This is the preferred approach. For example, in a single family residential development: connect roof drains to a landscaped area, divert driveway runoff to a vegetated strip and minimize any excess runoff generated from the development. The pervious areas to which the runoff from the impervious areas are connected should have the capacity to infiltrate, and/or harvest and re-use, evapotranspire, capture, or treat at least the design capture volume.

⁵⁸ Smart Growth refers to the use of creative strategies to develop ways that preserve natural lands and critical environmental areas, protect water and air quality, and reuse already-developed land.

⁵⁹ New Urbanism is somewhat similar to Smart Growth and is based on principles of planning and architecture that work together to create human-scale, walkable communities that preserve natural resources.

The County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County
Areawide Urban Storm Water Runoff

- b. Implement as many LID principles as possible at the project site close to the point of storm water generation and infiltrate, ~~and/or~~ harvest and re-use, evapotranspire, capture, or biotreat at least the design capture volume through designated ~~infiltration/treatment~~ areas elsewhere within the project site. For example, at a condominium development: connect the roof drains to landscaped areas, construct common parking areas with pervious asphalt with a sub-base of rocks or other materials to facilitate percolation of storm water, direct road runoff to curbsless, vegetated sidewalks. The pervious areas which receive runoff from impervious areas should have the capacity to infiltrate, harvest and re-use, evapotranspire, capture, or treat at least the design capture volume.
- c. Implement LID on a sub-regional basis. For example, at a 100 unit high density housing unit with a small strip mall and a school: connect all roof drains to vegetated areas (if there are any vegetated areas, otherwise storm water storage and reuse may be considered or else divert to the local storm water conveyance system, to be conveyed to the local treatment system), construct a storm water infiltration gallery below the school playground to infiltrate and/or harvest and re-use the design capture volume. The pervious areas to which the runoff from the impervious areas are connected should have the capacity to infiltrate, harvest and re-use, evapotranspire, capture, or treat at least the design capture volume. (Also see discussion on hydrologic conditions of concern, below.)
- d. Implement LID on a regional basis. For example, several developments could propose a regional system to address storm water runoff from all the participating developments. The pervious areas to which the runoff from the impervious areas are connected should have the capacity to infiltrate, harvest and re-use, evapotranspire, capture, or treat at least the design capture volume from the entire tributary area. (Also see discussion on hydrologic conditions of concern, below.)



CITY OF SIMI VALLEY

Home of The Ronald Reagan Presidential Library

May 6, 2009

Holly Schroeder
Chief Executive Officer
Building Industry Association - LA/Ventura Chapter
28460 Avenue Stanford, Suite 110
Santa Clarita, CA 91355

SUBJECT: PRELIMINARY ANALYSIS OF THE FISCAL IMPACT TO NEW DEVELOPMENT BY THE REQUIREMENTS OF THE TENTATIVE ORDER OF THE VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT DATED FEBRUARY 24, 2009

Dear Ms. Schroeder:

As we discussed, the City of Simi Valley has performed a preliminary analysis of the fiscal impact to new development as a result of the requirements of the Tentative Order of the Ventura County Municipal Separate Storm Sewer System Permit (MS4). The analysis also included consideration of the mutual agreement between Heal the Bay (HTB), the Natural Resources Defense Council (NRDC), and the Co-Permittees. In reviewing the language of the mutual agreement, City staff indicated two possible interpretations of the agreement concerning whether or not water from pervious surfaces is allowed to leave the site.

Staff performed a hypothetical analysis based upon an actual affordable housing project constructed in the City of Simi Valley. The project was constructed by Cabrillo Development Company approximately five years ago and is located on Alamo Street between Tapo Canyon Road and Tapo Street. It included 70 units, having 34 units designated affordable, on a 5.23-acre site (227,818 sq ft) and originally costing \$12,738,000 with an affordable housing subsidy of \$36,300 per unit. The findings are summarized below with a more detailed summary and explanation of the analysis provided in Attachment 1.

In summary, the analysis estimated that each alternative would have increased development costs as follows.

1. Tentative Order (4th Draft) issued February 24, 2009 would have increased developer costs by \$570,900 or 4.48%. The affordable housing subsidy would increase by \$16,791 to \$53,091.
2. Mutual agreement between HTB, NRDC, and Co-Permittees (surface water allowed to leave the site from pervious surfaces) would have increased costs by \$664,000 or 5.21%. The affordable housing subsidy would increase by \$19,524 to \$55,824.

3. Mutual agreement between HTB, NRDC, and Co-Permittees (no surface water allowed to leave the site) would have increased costs by \$1,029,000 or 8.08%. The affordable housing subsidy would increase by \$30,258 to \$66,558.

As can be seen, the estimated additional cost of implementing the revised draft of the permit and the variations of the mutual agreement on a project with an affordable component ranged from 4.5% to 8%, or in this application to a real project a cost differential ranging from \$570,900 to \$1,029,000.

Should conditions become unfavorable to retain and infiltrate, it is possible that these costs could easily double this amount and thus exceed 20% of the developer's cost to construct with subsequent increases to the affordable elements.

It is important to remember that lacking a technical guidance manual and specific volume criteria and BMP sizing guidance that these numbers can only be interpreted as preliminary in nature but should still provide a good example for further discussion on the subject.

Thank you for your time. If you have any questions, please call me at 805-583-6701.

Sincerely,



Mike Sedell
City Manager

cc: City Council
City Attorney
Sam Unger, Los Angeles Regional Water Quality Control Board
Ventura County Co-Permittees
Natural Resources Defense Council
Heal the Bay

PRELIMINARY ANALYSIS OF THE FISCAL IMPACT TO NEW DEVELOPMENT BY THE REQUIREMENTS OF THE TENTATIVE ORDER OF THE VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT DATED FEBRUARY 24, 2009

Case 1:

Site with excellent soils conditions under design requirements of current permit language allowing surface filtration methodology. In this situation, it should be noted that a certain degree of infiltration technology could also be substituted for a portion of the project area for a nominal cost increase.

Itemization of Costs:

1. Onsite bio-filtration, 154,360 sq ft of site (all of building, and a majority of concrete and asphalt areas) @ \$2.50 per sq ft of cost for treatment devices such as bio-swales, modified landscaping, etc. **\$385,900**
2. Modified landscaping meeting current design methodology implied by permit with some potential for bio-filtration, storage, runoff and limited infiltration. 73,458 sq ft @ \$2.50 per sq ft. **\$185,000**

Total cost for a primary bio-filtration scenario under current permit - \$570,900 or 4.48% of project cost.

Case 2:

Site having excellent to low to moderate soils problems with some clay near upper layers, but overall good infiltration (sand and coarse sand) in lower zones below 10 - 15 feet in depth. Infiltration by darcy dry wells and modified landscaping appropriate. No onsite bio-filtration necessary to comply with agreement language.

Itemization of Costs:

1. Onsite infiltration for via darcy dry wells and limited infiltration trenches as necessary depending onsite conditions. 118,000 sq ft of building rooftop and impervious surfaces not converted to impermeable surfaces. (Note: only impervious surfaces, rooftops and high travel drive asphalt areas and concrete curb and gutter not converted to impermeable surfaces were included in this calculation). Requires installing two darcy wells with associated piping and limited infiltration trenches with grading and site modifications. **\$170,000**

2. Convert 34,363 sq ft of impermeable concrete and asphalt paving to permeable surface at onset. Additional cost of paving materials with associated ground preparation for porous media meeting the storage, infiltration and evapotranspiration requirements of such improvements. 34, 363 sq ft @ \$9.00 per sq ft. **\$309,000**
3. Modified landscaping meeting current draft design methodology and criteria. 73,459 sq ft @ 2.50 per sq ft. **\$185,000**

Total cost for a primary retention scenario - \$664,000 or 5.21% of project cost.

Case 3:

Site with very significant soils problems having clay or high groundwater to interfere with retention and infiltration.

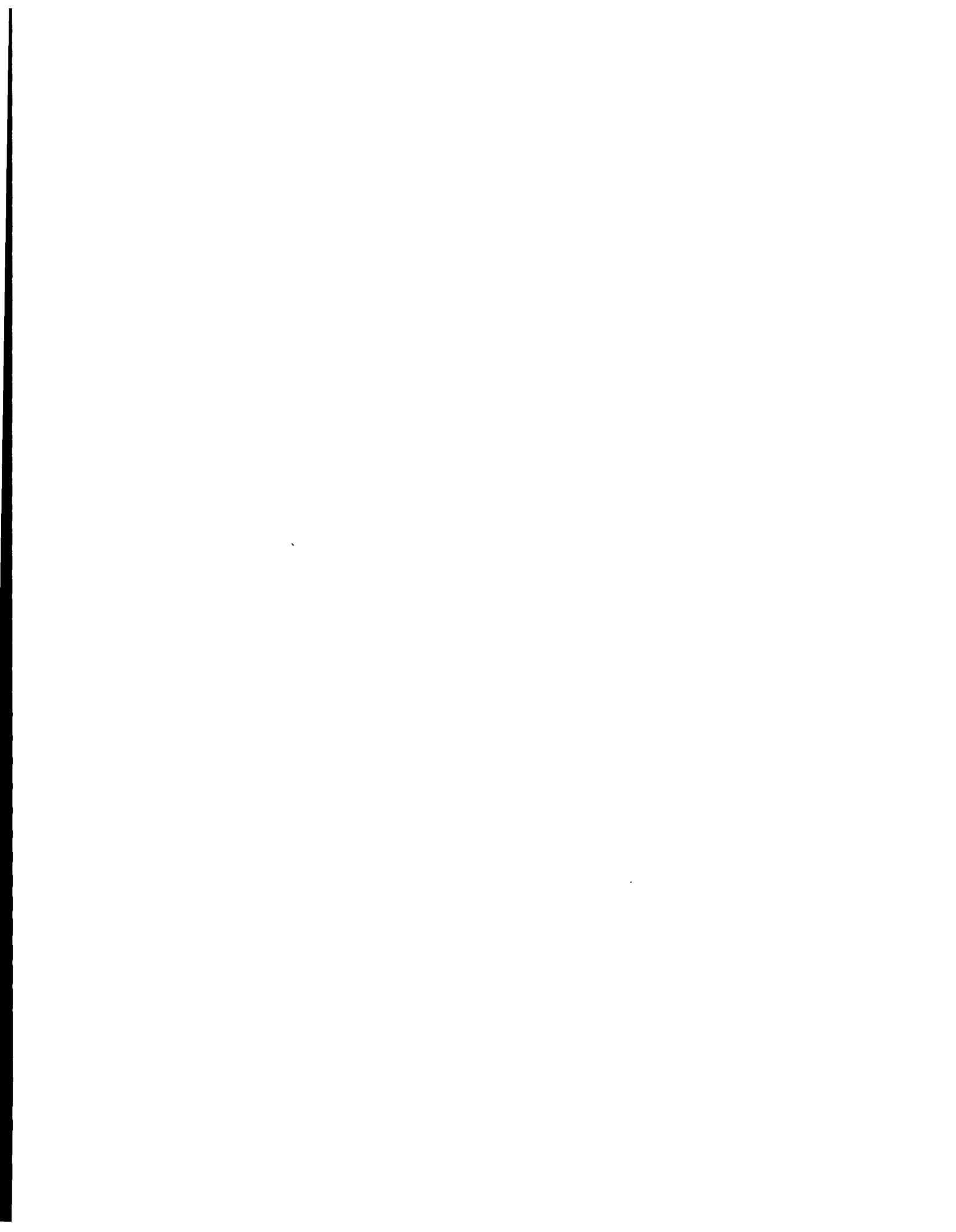
Itemization of Costs:

1. Cistern and distribution system for 22 buildings having 67,575 sq ft of roof.
\$220,000
2. Porous asphalt concrete and concrete per item 2 of Scenario 2 above for 34,363 sq ft.
\$309,000
3. Modified landscaping. **\$185,000**
4. Treat remaining 18% unconverted impervious area by increasing ability of all existing landscape for added treatment and increased shallow depth storage to store and effectively treat accept this added water. 125,880 sq ft @ \$2.50 per sq ft.
\$315,000

Total cost for a primary retention scenario - \$1,029,000 or 8.08% of project cost.

Additional Considerations:

Impact of added BMP's (under the mutual agreement) to mitigate an extremely adverse conditions for this site could likely double above costs (\$1,330,000 ideal case and \$2,058,000 non-ideal case-adverse soils conditions). This is an approximation. A detailed analysis was not done to arrive at this approximation. If this scenario occurs it may be more cost effective to provide offsite mitigation.



Noble, Connie

From: Carlstedt, Timothy J.
Sent: Monday, June 22, 2009 2:05 PM
To: Noble, Connie
Subject: FW: Tentative Order No. R8-2009-0030: Technical TMDLs

Attachments: Technical TMDL Errata; State Board TMDL Guidance Appendix B; State Board TMDL Guidance

From: Carlstedt, Timothy J.
Sent: Thursday, May 14, 2009 4:05 PM
To: 'Mr. David Rice'
Cc: Hunt, Geoffrey [COCO]; Coffee, Mary Lynn
Subject: Tentative Order No. R8-2009-0030: Technical TMDLs

David--

This is to follow up on our call on May 12, 2009. As you recall, participants on the call included staff and counsel (yourself) for the Santa Ana Regional Board, EPA Region 9 staff, and representatives and counsel (including myself) for permittees the County of Orange and the City of Irvine. Permittees raised their concern that the current stakeholder process of working with Regional Board staff on development and implementation of TMDLs could be undermined by language in the current draft of the North County MS4 permit. This email summarizes the issue and how Regional Board staff proposed to address our concern.

The Issue

The initial draft of the permit did not implement wasteload allocations (WLAs) from the EPA-developed TMDLs for toxic pollutants, including metals and selenium, and organochlorine compounds (OCs). These TMDLs do not have implementation plans and are referred to as "technical" TMDLs. The initial draft of the permit indicated that, in collaboration with permittees, staff was developing its own TMDLs for metals and selenium that would include implementation plans and that permittees would continue to participate in the development and implementation of these TMDLs. Similarly, the Regional Board has adopted its own TMDLs for OCs, including an implementation plan. Even though this TMDL has not been approved by the State and EPA, the draft permit indicated that permittees have already been taking steps to implement this TMDL.

The current draft of the permit reiterates that staff, in collaboration with permittees, is developing and beginning to implement (even before EPA approval) revised TMDLs (including implementation plans), that will supplant the EPA technical toxics TMDLs. Such collaboration includes participation in and performance under requirements of cooperative stakeholder water quality programs, including those established by the Cooperative Agreement, the Nutrients and Selenium Management Program, and the Toxics Reduction Implementation Program. However, the current draft also provides that until the Regional Board TMDLs are have been approved by EPA, permittees are to comply with the WLAs specified in the EPA technical TMDLs for metals, selenium and OCs. The draft permit provides that compliance with the WLAs is to be though an iterative BMP process.

Agree to Disagree

As an initial matter, permittees reiterated their position that under state law TMDLs are not enforceable until they have been incorporated into the Basin Plan. Further, under state law, TMDLs must include an implementation plan. Accordingly, it is not appropriate to implement the technical TMDLs in an MS4 permit. Attached is additional support for permittees' position; I believe you are familiar with the 1999 memo to Gerard Thibeault from the State Board Office of Chief Counsel (which is included in Appendix B to the attached State of California TMDL guidance).

Because of the resolution reached below, we agreed that we would disagree on this point. Permittees, of course, reserve the right to raise this issue in subsequent proceedings.

The Resolution

When permittees raised the concern to you and staff that a third party might bring an action against permittees for failing to

achieve the EPA WLAs (notwithstanding that permittees were working to develop and implement Regional Board WLAs via their performance pursuant to cooperative stakeholder water quality programs), staff replied that, provided permittees continued to participate in the development and implementation of the Regional Board's TMDLs via these programs, the Board would deem them to be in compliance with the permit. In other words, permittees would not have to simultaneously continue to work on developing and implementing the Regional Board WLAs via stakeholder cooperative programs and at the same time take additional, but undefined, measures to achieve the EPA WLAs, since the measures required under the cooperative stakeholder water quality programs are designed to meet the EPA WLAs, as well as to develop substitute Regional Board TMDLs, including WLAs and implementation plans. You and staff agreed that you would look into clarifying this position with revised permit language and include any such revisions in an errata sheet before the May 22, 2009 Regional Board hearing to adopt the permit. For your convenience, attached is proposed redline language (which also addresses our concern with the Coyote Creek technical TMDL).

Please feel free to call if you have any questions.

Tim

Print Less Go Green

Timothy J. Carlstedt

T 415.393.2471

F 415.393.2286

tim.carlstedt@bingham.com

B I N G H A M

Bingham McCutchen LLP

Three Embarcadero Center

San Francisco, CA 94111-4067



Technical TMDL
Errata



State Board TMDL
Guidance Appe...



State Board TMDL
Guidance

**Tentative Order No. R8-2009-0030
Fourth Draft April 30, 2009
Technical TMDL Errata Sheet**

Section XVIII.B.9.

9. The permittees with discharges tributary to Coyote Creek or the San Gabriel River shall develop and implement a constituent-specific source control plan BMPs for copper, lead and zinc until a TMDL implementation plan is developed. The source control plan shall include a monitoring program and shall be completed within 12 months from the date of adoption of this order. The source control plan shall be designed to achieve ensure compliance with the following wasteload allocations:

Table 6

[Add a footnote with a citation to the R4/EPA TMDL for San Gabriel River/Coyote Creek.]

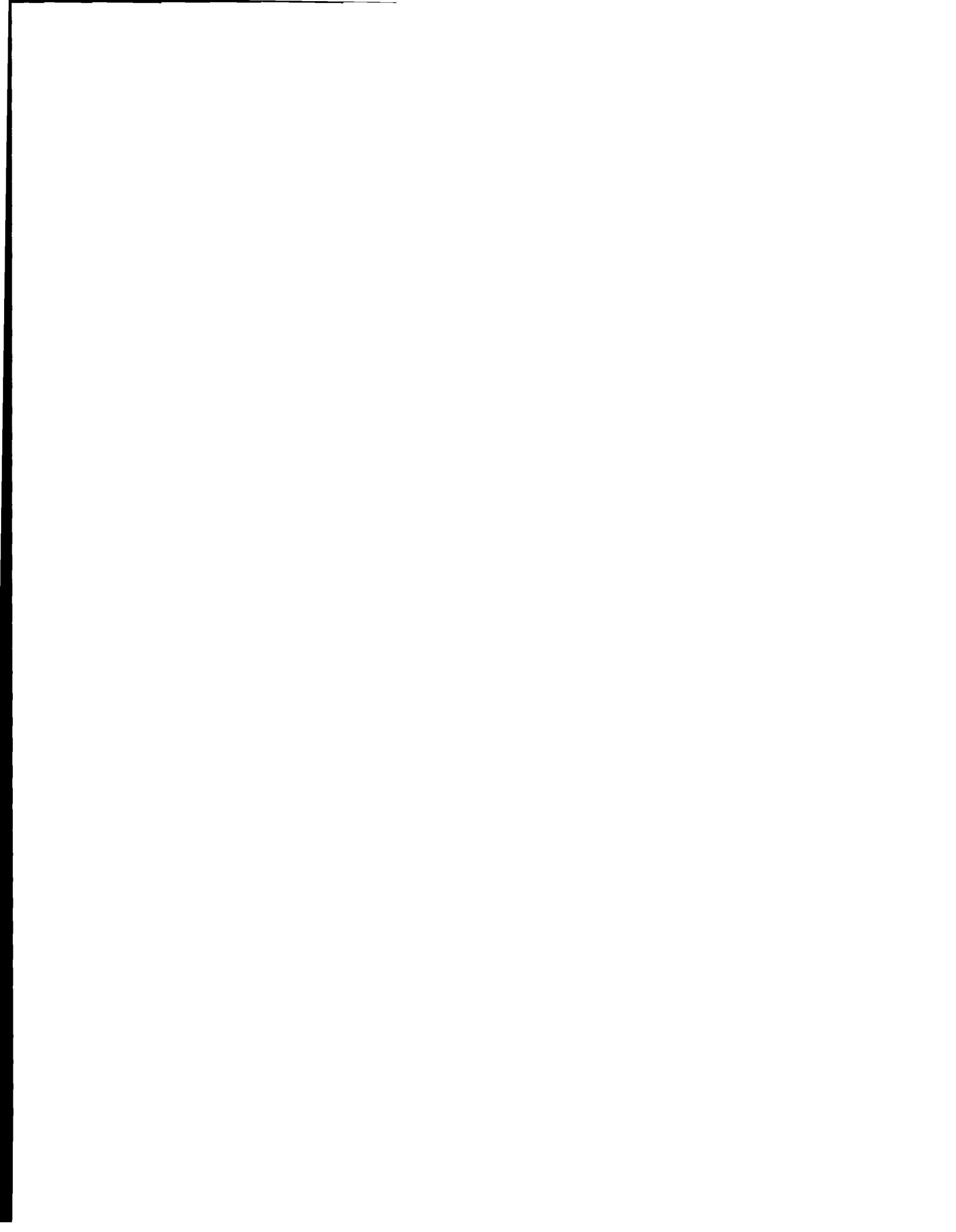
Section XVIII.E.

2. In Section XVIII.C and D, Based on the TMDLs, effluent limits have been specified to ensure consistency with the TMDL wasteload allocations. If the monitoring results indicate an exceedance of the wasteload allocations, the permittees shall reevaluate the current control measures and propose additional BMPs/control measures. This reevaluation and proposal for revisions to the current BMPs/control measures (revised plan) shall be submitted to the Executive Officer within 12 months of determining that an exceedance has occurred. Upon approval, the permittees shall immediately start implementation of the revised plan.
3. In Section XVIII.B, interim effluent limits have been specified to ensure consistency with the EPA-developed technical TMDL wasteload allocations. If monitoring results indicate an exceedance of the wasteload allocations, the permittees shall reevaluate current control measures and propose additional BMPs/control measures as provided in Section XVIII.E.2, provided, however, that permittees shall be deemed to be in compliance with the interim effluent limits as long as they continue to actively collaborate with Regional Board staff in developing the revised TMDLs as provided in Section XVIII.B.2.

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APPENDIX B: SWRCB MEMOS RELATED TO TMDL DEVELOPMENT

This appendix contains legal memorandums issued by SWRCB's Office of Chief Counsel (OCC) relating to TMDLs. Table B-1 provides a list of the memos included.

Table B-1. TMDL-related Memos Issued by OCC

Title	Date
TMDLs for Condition-Based Impairments	6/21/02
The Distinction Between a TMDL's Numeric Targets and Water Quality Standards	6/12/02
The Extent to Which TMDLs Are Subject to the Alaska Rule	1/28/02
Legal Authority for Offsets, Pollutant Trading, and Market Programs to Supplement Water Quality Regulation in California's Impaired Waters	10/16/01
Regulatory and Statutory Time Limits Implicated in Developing California's 303(d) Listing and Delisting Policy	8/2/01
Timing Requirements for Regional Board Agenda Items	7/10/01
Guidance Regarding the Extent to Which Effluent Limitations Set Forth in NPDES Permits Can Be Relaxed in Conjunction With a TMDL	1/26/01
Guidance Regarding Section 303(d) List for the 2002 Submission	12/21/00
Economic Considerations in TMDL Development and Basin Planning	10/27/99
Do TMDLs Have to Include Implementation Plans?	3/1/99
TMDL Questions (Litigation Re: Medium and Low Priority Waters)	1/7/99
Guidance on Consideration of Economics in the Adoption of Water Quality Objectives	1/4/94



Winston H. Hickox
Secretary for
Environmental
Protection

State Water Resources Control Board

Office of Chief Counsel
1001 I Street, 22nd Floor, Sacramento, California 95814
P.O. Box 100, Sacramento, California 95812-0100
(916) 341-5161 ♦ FAX (916) 341-5199 ♦ www.swrcb.ca.gov



Gray Davis
Governor

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.swrcb.ca.gov.

1 1 2 SAVE AS

TO: TMDL Roundtable,
c/o Thomas Mumley, San Francisco Bay RWQCB
Statewide TMDL Manager

FROM: /s/
Michael J. Levy
Staff Counsel
OFFICE OF CHIEF COUNSEL

DATE: June 21, 2002

SUBJECT: TMDLS FOR CONDITION-BASED IMPAIRMENTS

The TMDL Roundtable has asked about the legal status of waters on the 303(d) list that are designated as impaired for conditions rather than pollutants. In short, when waters are listed as impaired for conditions that are caused by pollutants, the Regional Water Quality Control Boards must establish a TMDL for those pollutants that cause or contribute to the impairing condition.

Two subdivisions of section 303(d) of the Clean Water Act¹ are implicated in this analysis. Section 303(d), subdivision (1)(A), requires each state to identify the waters within its jurisdiction that are not attaining water-quality standards. (33 U.S.C. § 1313(d)(1)(A).) The result of that process is commonly known as the 303(d) list. The federal regulations additionally require the 303(d) list to include an identification of the pollutants causing or expected to cause violations of standards. (40 C.F.R. § 130.7(b)(1)(4).)

For the waters on the 303(d) list, section 303(d), subdivision (1)(C), requires the state to develop TMDLs for the pollutants that are impairing those waters. (33 U.S.C. § 1313(d)(1)(C).) In many instances, however, waters on the 303(d) list are not identified as impaired by a specific pollutant, but by conditions that are caused in whole or in part by pollutants. Examples of these stressors include accelerated eutrophication (typically associated with excessive nutrients), toxicity (miscellaneous toxic constituents), and temperature (thermal discharges and sediment). Subdivision (1)(A) does not prohibit identifying waters as impaired by such conditions, and the United States Environmental Protection Agency has approved this approach, for example, by approving the 1998 303(d) list. Such listings, however, do not impact the state's obligation under

¹ All references herein to any "section" are to the federal Clean Water Act, and references to "subdivision" are to specific subdivisions of section 303(d) of the Clean Water Act.

subdivision (1)(C) to develop TMDLs for the pollutants impairing those waters. Accordingly, where waters are listed as impaired for conditions commonly associated with pollutants, the Regional Water Quality Control Boards must identify the pollutants underlying or contributing to the conditions, and either establish TMDLs for those pollutants, or establish TMDLs that otherwise correct the conditions leading to the impairment. (33 U.S.C. § 1313(d)(1)(C).)

Should you have any questions about this memorandum, feel free to contact me at (916) 341-5193 or mlevy@swrcb.ca.gov.

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- 3 -

June 21, 2002

cc: (Continued)

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TO: Ken Harris, DWQ
Paul Lillebo, DWQ

FROM: Michael J. Levy
Staff Counsel
OFFICE OF CHIEF COUNSEL

DATE: June 12, 2002

SUBJECT: THE DISTINCTION BETWEEN A TMDL'S NUMERIC TARGETS AND
WATER QUALITY STANDARDS

This memorandum is intended to explain the distinction between numeric targets in a total maximum daily load (TMDL) and water quality standards. In general, section 303(d) of the Federal Clean Water Act (CWA)¹ requires each state to establish a TMDL for waters within its boundaries for which effluent limitations are not stringent enough to implement applicable water quality standards.² TMDLs, in turn, must be established at a level necessary to implement the applicable water quality standards.³ In short:

1. TMDLs require a quantitative numeric target necessary to implement existing water quality standards;
2. While a TMDL's numeric target is an interpretation of existing water quality standards, it is not a water quality standard itself, and therefore, the processes required when adopting such standards do not apply;
3. Strategies to attain water quality standards, such as TMDLs, do not change the fact that enforcement of the Clean Water Act against point source dischargers is primarily through their NPDES permits; A TMDL's numeric target is not directly enforceable against dischargers absent a corresponding permit provision.

¹ The CWA is more accurately identified as the "Federal Water Pollution Control Act." (See 33 U.S.C. § 1251 et seq.) As used above, "section 303(d)" refers to the section number of the CWA as enacted by Congress. The same section is codified in title 33 of the United States Code in section 1313(d). Text in the body of this memorandum refers to the sections of the CWA as enacted by Congress. Corresponding citations to title 33 appear in footnotes.

² See generally 33 U.S.C. § 1313(d)(1)(A)-(D); see also 40 C.F.R. § 130.7.

³ 33 U.S.C. § 1313(d)(1)(C); 40 C.F.R. § 130.7(c)(1).

I. TMDLs Require the Calculation of a Quantitative Numeric Target Necessary to Implement Water Quality Standards in Impaired Water Bodies

Section 303(d) contains two sentences regarding what a TMDL actually is. The first sentence requires establishment of the "total maximum daily load" for those pollutants suitable "for such calculation." The second sentence states that "[s]uch load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality."⁴ Based on these statements, a TMDL should be based on a quantitative value, or target,⁵ designed to attain water quality standards in a particular water body.

The federal regulations corroborate that TMDLs require a quantitative numeric target. First, they repeat essentially the same statements from the statute.⁶ Next, they define a TMDL as the "sum" of the individual waste load "allocations" for point sources and load "allocations" for nonpoint sources and natural background.⁷ Both types of allocations are based on the concept of "loading capacity," which the regulations define as the greatest "amount" of loading (i.e., the introduction of matter or thermal energy) that a water body can receive without violating water quality standards.⁸ Finally, the regulations provide that TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate "measures."⁹ Federal regulations, therefore, envision TMDLs (including the respective load and waste load allocations) as establishing a quantitative target for a particular water body that will assure attainment of water quality standards.

The developing body of federal case law also views TMDLs in the same way. As was recently noted by the United States District Court for the Northern District of California, "[a] TMDL defines the specified maximum amount of a pollutant which can be discharged or 'loaded' into

⁴ 33 U.S.C. § 1313(d)(1)(C).

⁵ Although the term "numeric target" does not appear in the CWA, use of the phrase is a matter of convenience due to a peculiarity in the CWA vernacular. The term "TMDL" has come to have two meanings, the first of which is the numeric target, or the literal "load" referenced in section 303(d). The term "TMDL" is also used to reference not merely the load, but the allocations of the load and the implementation plan as well. For clarity, in this document the term "target" or "numeric target" refers to the "load", and the term "TMDL" is reserved to describe the culmination of the state's responsibilities under section 303(d), i.e., the load, allocations, and implementation plan.

⁶ 40 C.F.R. § 130.7(c)(1).

⁷ *Id.*, § 130.2(i).

⁸ *Id.*, §§ 130.2(e) and (f).

⁹ *Id.*, § 130.2(i).

the waters at issue from all combined sources.”¹⁰ Federal courts outside of California and the Ninth Circuit share the same view.¹¹

The U.S. Environmental Protection Agency, Region IX (EPA) also views TMDLs as containing water body-specific targets necessary to attain water quality standards. According to a recent publication from EPA:

“[a] TMDL is a written, quantitative assessment of water quality problems and contributing pollutant sources. It identifies one or more numeric targets based on applicable water quality standards, specifies the maximum amount of a pollutant that can be discharged (or the amount of a pollutant that needs to be reduced) to meet water quality standards, allocates pollutant loads among sources in the watershed, and provides a basis for taking actions needed to meet numeric target(s) and implement water quality standards.”¹²

Numerous pages of that publication are devoted to explaining how TMDL targets are used to interpret narrative or numeric water quality standards and to explaining the requirement to quantify the loading capacity and allocations.¹³

In short, the Clean Water Act, federal regulations, case law, and interpretive guidance from EPA all describe TMDLs as requiring numeric pollutant targets that are established at levels necessary to achieve water quality standards in impaired waters.

II. A TMDL Implements Existing Water Quality Standards; It Does Not Create New Standards

The federal regulations specify essentially four components of water quality standards. These are use designations, water quality criteria based upon those uses, an antidegradation policy, and certain policies generally affecting the application and implementation of water quality standards.¹⁴ Water quality criteria are defined as “elements of State water quality standards,

¹⁰ *Pronsolino v. Nastro* (9th Cir., 2002) --- F.3d ----, 2002 WL 1082428, p. 3, quoting *Dioxin/Organochlorine Center v. Clarke* (9th Cir. 1995) 57 F.3d 1517, 1520.

¹¹ See, e.g., *American Iron and Steel Institute v. EPA* (D.C.Cir. 1997) 115 F.3d 979, 1002, citing 40 C.F.R. § 132.2; *Manasota-88, Inc. v. Tidwell* (11th Cir. 1990) 896 F.2d 1318, 1321; *Scott v. City of Hammond* (7th Cir. 1984) 741 F.2d 1318, 1321.

¹² U.S. Environmental Protection Agency, Region IX, Guidance for Developing TMDLs in California (January 7, 2000), p. 1, which is available at: www.epa.gov/region09/water/tmdl.

¹³ *Id.*, pp. 2-6.

¹⁴ 40 C.F.R. §§ 131.6(a), (c), and (d); 40 C.F.R. § 131.13. Unlike TMDLs, which are specific plans to attain standards in a specific water body, section 131.13 policies are generally applicable policies, e.g., mixing zones, low flows, and variances. See Memorandum to Paul Lillebo, Basin Planning Unit Chief, Division of Water Quality,

expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use.”¹⁵ Federal law contemplates, “[w]hen criteria are met, water quality will generally protect the designated use.”¹⁶

Similar to federal requirements, under state law, each Regional Board must establish water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of nuisance.¹⁷ Water quality objectives are “the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.”¹⁸ The Water Code provides that such beneficial uses include, but are not limited to: domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.¹⁹

Under state and federal law, therefore, water quality standards designate the uses to be made of the water and set criteria necessary to protect the uses. These standards have two functions: (1) they establish the water quality goals for a specific water body; and (2) they serve as the regulatory basis for establishing water quality-based treatment controls and strategies (such as TMDLs) beyond the required technology-based levels of treatment.²⁰

Water quality objectives or criteria can be expressed in numeric terms (i.e., concentration or mass per time), or narrative terms (e.g., “no toxics in toxic amounts”).²¹ When adopting a TMDL for an impaired water body, sometimes the numeric criteria can be used as the TMDL target (e.g., mass-per-time criteria). More typically, however, to comply with TMDL requirements, the objective will need to be translated into another measure amenable to allocating the total load (e.g., concentration-based numeric criteria, or narrative criteria). While this translation involves articulating a new number to express the existing criteria for the purposes of section 303(d), selection of this new number does not establish a new water quality standard.

from Michael J. Levy, Staff Counsel, Office of Chief Counsel, re: *The Extent to Which TMDLs are Subject to the Alaska Rule* (January 28, 2002) (hereinafter “*TMDLs and the Alaska Rule*”).

¹⁵ 40 C.F.R. § 131.3(b).

¹⁶ *Ibid.*; 33 U.S.C. § 1313(c)(2)(A).

¹⁷ Wat. Code, § 13241.

¹⁸ *Id.*, § 13050, subd. (h).

¹⁹ *Id.*, § 13050, subd. (f).

²⁰ 40 C.F.R. § 131.2.

²¹ 40 C.F.R. § 131.11.

Although the assignment of a numeric value that ultimately must be implemented in NPDES permits may at first glance appear similar to establishment of a water quality standard, a comparison of the statutory requirements for TMDLs and water quality standards demonstrates they are quite distinct: section 303(c) of the Clean Water Act requires creation of the water quality standards; section 303(d) requires TMDLs to implement those standards when technology-based limits are insufficient.²² “[T]he basic purpose for which the § 303(d) list and TMDLs are compiled [is] the eventual attainment of state-defined water quality standards.”²³ TMDLs are therefore not themselves standards, but mechanisms to implement them. Unlike water quality standards, TMDLs do not designate existing or potential uses. They do not establish new criteria necessary to protect uses, but rather, interpret existing criteria. They do not establish policy guiding the circumstances under which water quality must be protected against degradation. TMDLs merely create an enforceable strategy to attain those standards (with seasonal variations and a margin of safety) that were already established but which are not yet attained in a specific water body.²⁴ TMDLs thus serve as a means to an end. That end is the attainment and maintenance of existing water quality standards.²⁵

III. Water Code Section 13241 Does Not Apply When Establishing the Numeric Targets in a TMDL

Water Code Section 13241 establishes the requirements attendant to the Regional Boards’ adoption of water quality objectives. Because “it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses,” the section requires the Regional Boards to consider a number of factors when establishing objectives. These include:

- a. Past, present, and probable future beneficial uses of water;
- b. Environmental characteristics of the hydrographic unit, including the quality of water available to it;
- 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 to develop housing within the region; and

²² 33 U.S.C. § 1313(d).

²³ *Pronsolino v. Nastri* (9th Cir., 2002) --- F.3d ---, 2002 WL 1082428, p. 13.

²⁴ 33 U.S.C. § 1313(d)(1); 40 C.F.R. §§ 130.7(b)(1) and (c)(1).

²⁵ For a detailed analysis of how the process of creating a TMDL is distinct from and incompatible with the process of adopting a water quality standard, see *TMDLs and the Alaska Rule*, *supra* note 14.

f. The need to develop and use recycled water.²⁶

The Clean Water Act similarly provides that water quality standards “shall be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation.”²⁷ Considering these factors is appropriate because assignment of the appropriate level of water quality properly involves a balance between appropriate “designated” or “beneficial” uses of water, numeric or narrative water quality “objectives” or “criteria,” and a host of sometimes-competing policy considerations, including economic and environmental interests.

Since TMDLs are not water quality objectives, the requirements for adopting such objectives do not apply to TMDLs. Nor should they. Numeric targets used by TMDLs to implement standards are not designed to re-balance the policy interests underlying those standards. Although the state must consider a variety of factors in establishing the different elements of a TMDL, considering the economic impact of the required level of water quality, for example, is not among them; that impact was already determined when the standard was adopted. This conclusion is not altered when a TMDL is established to implement a narrative water quality objective. The economic impact associated with maintaining ambient water quality at the level described by the narrative statement was considered when the narrative objective was adopted.²⁸

While policy considerations are important in developing water quality standards, they play a smaller role in the formulation of the TMDLs that implement them. The statutory directive to adopt TMDLs to “implement the applicable water quality standards with seasonal variations and a margin of safety,”²⁹ is not qualified by the predicate “so long as it is economically desirable to do so.” Therefore, not only would an in-depth economic analysis be redundant, it would be inconsistent with federal law.

²⁶ Wat. Code, § 13241, subds. (a)-(f). Notably, section 13241 contains no dictate as to the weight the Regional Board must afford to any particular factor, only that these factors be considered.

²⁷ 33 U.S.C. § 1313(c)(2)(A). See also 40 C.F.R. §§ 131.10-13.

²⁸ That is not to say that no economic analysis is required when adopting a TMDL. Indeed, depending on the specific activity under consideration, different parts of a TMDL may require differing levels of economic considerations. Section 13241 analysis, however, is not among them. For a detailed discussion of economic analysis requirements, see Memorandum to Stefan Lorenzato, TMDL Coordinator, Division of Water Quality, from Sheila K. Vassey, Senior Staff Counsel, Office of Chief Counsel, re: *Economic Considerations in TMDL Development and Basin Planning* (October 27, 1999).

²⁹ 33 U.S.C. § 1313(d)(1)(C).

In short, a water quality standard defines the water quality goals of a water body by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses.³⁰ TMDLs, in contrast, establish numeric targets for pollutants—targets that are designed to achieve water quality standards in impaired waterbodies. TMDLs implement the existing objectives that are designed to protect designated beneficial uses and, therefore, serve as a water quality-based treatment control or strategy that necessarily rests on the established goals and balanced policy considerations embodied by water quality standards. As stated in a recent Ninth Circuit decision:

“TMDLs serve as a link in an implementation chain that includes federally-regulated point source controls, state or local plans for point and nonpoint source pollution reduction, and assessment of the impact of such measures on water quality, all to the end of attaining water quality goals for the nation’s waters.”³¹

IV. Numeric Targets in a TMDL are not Directly Enforceable Against Dischargers

The difference between water quality standards and TMDLs is highlighted in the context of the “citizen suits”, which are authorized by section 505 to enforce the CWA.³² In pertinent part, section 505 authorizes “any person” to commence a “civil action” against any person who has allegedly violated “*an effluent standard or limitation*” or “an order” issued by the EPA or a “State with respect to such a standard or limitation[.]”³³ The Clean Water Act language does not support the notion that third parties can invoke the effluent provision in section 505 to directly enforce TMDL numeric targets against dischargers.

In contrast to the broad definition of “effluent limits” in section 502 of the Clean Water Act, section 505 limits citizen suits specifically to a narrower subset of effluent standards and limitations. Section 505 states, in particular, that “[f]or purposes of this section,” the term “effluent standard or limitation” is limited to seven instances. Citizen suits are permitted to enforce:

- a. An unlawful act, under section 301(a);
- b. An effluent limitation or other limitation, under section 301 or 302;
- c. A “standard of performance” under section 306;
- d. A prohibition, effluent standard or pretreatment standards, under section 307;

³⁰ 40 C.F.R. § 131.2.

³¹ *Pronsolino v. Nastro* (9th Cir., 2002) --- F.3d ---, 2002 WL 1082428, p. 4.

³² 33 U.S.C. § 1365.

³³ 33 U.S.C. § 1365(a)(1) (*Italics added*).

- e. A certification, under section 401;
- f. A permit or condition thereof, issued under section 402; or
- g. A regulation under section 405(d).³⁴

A TMDL's numeric targets do not fall within any of these provisions. Although the regulations refer to a waste load allocation as a "type of water quality-based effluent limitation,"³⁵ TMDLs are required by section 303(d), not sections 301, 302, or 307. Nor, for that matter, does a TMDL that establishes a total load or waste load allocation of "zero" establish a directly enforceable prohibition, unlawful act, regulation, or performance standard under sections 301, 306, 307, or 405. Again, the target is established under section 303(d). No section 303(d) limit is enumerated in section 505. Accordingly, a plain reading of the effluent limits that may be directly enforced by way of a citizen suit under the Clean Water Act does not include waste load allocations required by section 303(d).

The federal regulations reveal at least one obvious explanation for the exclusion of TMDLs from matters that can be directly enforced against dischargers. Those regulations contemplate flexibility in translating waste load allocations into permit conditions. The NPDES permitting provisions require that water quality-based effluent limits must be "consistent with the assumptions and requirements of any available wasteload allocation."³⁶ The provisions do not require the limit to be "identical to the wasteload allocation." This language leaves open the possibility that the Regional Board could determine that fact-specific circumstances render something other than literal incorporation of the waste load allocation to be consistent with its assumptions and requirements.³⁷ The regulations thus contemplate the additional step of revising applicable NPDES permits to make them "consistent with the assumptions" of the TMDL.³⁸

Thereafter, it is the effluent limit set forth in the permit, and not the TMDL, that provides the potential vehicle for citizen suit enforcement under the Clean Water Act.³⁹ These requirements

³⁴ 33 U.S.C. § 1365(f).

³⁵ 40 C.F.R. § 130.2(h).

³⁶ 40 C.F.R. § 122.44(d)(1)(vii).

³⁷ The rationale for such a finding could include a trade amongst dischargers of portions of their load or waste load allocations, performance of an offset program that is approved by the Regional Board, or any number of other considerations bearing on facts applicable to the circumstances of the specific discharger.

³⁸ Of course, if a permit is already consistent with a newly adopted TMDL, the permit need not be amended to render its terms enforceable. The permit conditions are already enforceable, including by a citizens suit. (33 U.S.C. §§ 1365(a)(1)(B), 1365(f)(6).)

³⁹ *Id.*

are consistent with section 402(k)'s requirement that compliance with an NPDES permit is deemed compliance that bars most enforcement actions and citizen suits.⁴⁰

CONCLUSION

Section 303(c) of the Clean Water Act obligates the State and Regional Boards to establish water quality standards to protect appropriate designated uses of waters. Section 303(d) requires the states to establish TMDLs at levels necessary to implement those water quality standards in waters that are not attaining them. While extensive policy considerations are evaluated when adopting standards, those considerations are generally not relevant when adopting TMDLs, whose purpose is to cause the compromised waters to attain those policy-based standards.

The distinction between water quality standards and TMDLs is significant both for the manner in which they are adopted, and the manner in which they are enforced. First, because TMDLs are not water quality standards, neither federal nor state law obligates the State and Regional Boards to establish and adopt TMDLs as water quality standards. Second, the provisions of a TMDL, including its numeric targets, are not directly enforceable against dischargers by way of a citizen suit under the Clean Water Act. In general, section 505 permits such suits to directly enforce an effluent limit or standard. Because TMDLs are neither water quality standards nor a type of effluent limit addressed in section 505, TMDLs, including the respective waste load allocations, are not directly enforceable under the citizen suit provision of the Clean Water Act. The NPDES permits implementing the TMDL provide the vehicles for enforcement. The TMDL does not.

Should you have any questions about this memorandum, feel free to contact me at (916) 341-5193 or mlevy@swrcb.ca.gov.

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⁴⁰ 33 U.S.C. § 1342(k).



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TO: Paul Lillebo
Basin Planning Unit
Division Of Water Quality

FROM: Michael J. Levy
Staff Counsel
OFFICE OF CHIEF COUNSEL

DATE: January 28, 2002

SUBJECT: THE EXTENT TO WHICH TMDLS ARE SUBJECT TO THE ALASKA RULE

INTRODUCTION

This memorandum is intended to clarify which items in a Regional Water Quality Control Plan (Basin Plan) amendment that implements a total maximum daily load (TMDL) require prior approval by the United States Environmental Protective Agency (EPA) pursuant to the Alaska Rule. In summary:

- ?? The Alaska Rule requires states to obtain EPA's prior approval before new or amended water quality standards become effective. Water quality standards include beneficial uses, water quality objectives, an antidegradation policy, and certain policies that generally affect the implementation of the aforesaid.
- ?? The Alaska Rule does not apply to other items, even though they may require EPA's approval. TMDLs fall outside the Alaska Rule. TMDLs become effective under California law when promulgated, even if EPA ultimately disapproves them.
- ?? Where a TMDL, however, creates or revises a water quality standard, the standard itself (not the entire TMDL) is subject to the Alaska Rule.
- ?? Non-standards parts of a TMDL are valid and enforceable immediately upon promulgation by California.

DISCUSSION

A. The Alaska Rule Only Applies To Water Quality Standards

Historically, EPA's water quality standards regulations allowed standards to go into effect, for Clean Water Act (CWA) purposes, as soon as they were adopted and effective under state law, and to remain in effect unless and until replaced by another standard. (65 Fed.Reg. 24641, 24642.) On July 8, 1997, the United States District Court held in the matter of *Alaska Clean Water Act Alliance v. Clark* (W.D. Wash.) #C96-1762R, that the plain meaning of the CWA required that new and revised standards were not effective until approved by EPA. (*Id.*) Section 303(c)(3) states in pertinent part:

If the Administrator, within sixty days after the date of submission of the revised or new standard, determines that such standard meets the requirements of this chapter, such standard shall thereafter be the water quality standard for the applicable waters of that State.¹ (22 U.S.C. § 1313(c)(3) (emphasis added).)

Accordingly, the court found that standards do not become effective until after EPA approves the standard.

Following this decision, the parties agreed to a settlement whereby EPA would amend the federal regulations relating to adoption and revision of water quality standards. This Amendment, dubbed the Alaska Rule, appears at 40 Code of Federal Regulations section 131.21(c) through (f). The Alaska Rule states:

If a State or authorized Tribe adopts a water quality standard that goes into effect under State or Tribal law on or after May 30, 2000[, t]hen once EPA approves that water quality standard, it becomes the applicable water quality standard for purposes of the [Clean Water] Act[, u]nless or until EPA has promulgated a more stringent water quality standard for the State or Tribe that is in effect[, i]n which case the EPA promulgated water quality standard is the applicable water quality

¹ The term "applicable waters of that State" modifies the term "navigable waters", which is defined as "the waters of the United States" in CWA section 502(7). (33 U.S.C. § 1362(7).) The term "waters of the United States" is further defined in 40 CFR section 122.2. Historically, U.S. waters were interpreted quite expansively, and it was not an unfair generalization to refer to them as including most surface waters. In *Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers* (2001) 531 U.S. 159, 121 S.Ct. 675, however, the Supreme Court cast a question upon the statutory reach of the CWA, especially as it may relate to isolated, non-navigable, intrastate waters. Given this development, a more precise analysis of whether a given surface water is a water of the U.S., is warranted. The CWA does not apply to water quality standards adopted for "waters of the state" (Water Code § 13050(e)) unless they are also waters of the United States.