

Construction Industry Coalition on Water Quality

October 8, 2009

Keith Elliott
Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501-3348

RE: Tentative Order No. R8-2009-0033 (NPDES Permit No. CAS618033) Waste Discharge Requirements for the Riverside County Flood Control and Water Conservation District, the County of Riverside, and the incorporated cities of Riverside County within the Santa Ana Region.

Dear Mr. Elliott:

On behalf of the more than 3,000 member companies of the Construction Industry Coalition on Water Quality (CICWQ), we would like to thank the Santa Ana Regional Water Quality Control Board (Regional Board) for the opportunity to offer this public comment on the Draft Riverside County Municipal Separate Storm Sewer System Permit, Tentative Order No. R8-2009-0033 (Draft Permit). This letter provides suggestions that we have for the Draft Permit, and reaffirms our positions concerning the planning and land development provisions (most notably Low Impact Development requirements) discussed and debated during development of the recently adopted north Orange County MS4 permit and the proposed San Bernardino County MS4 permit.

I. Introduction

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

These organizations work collectively to advance the ability of our members to fulfill the region's infrastructure, development, and residential needs. Members of all of the above-referenced organizations are affected by the Draft Permit, as are thousands of construction employees and builders who work to meet the demand for modern infrastructure and housing in Riverside County. Our organizations support reasonable efforts to improve water quality in a cost effective manner. Our comments and suggestions on the Draft Permit, as well as our active involvement with the Regional Board and other stakeholders in the Orange County MS4 process earlier this year and in 2008, reflect our commitment to protect water quality, while at the same time, preserving our member's economic viability in this difficult economic environment. Our membership has invested substantial resources into developing sound engineering approaches for Low Impact Development (LID) stormwater management techniques and for hydromodification control, facilitating the appropriate application of these valuable approaches to water quality management. Our comments reflect this commitment to sound engineering practices and consideration of site-specific feasibility considerations.

II. Comments on Draft Permit

A. Comments on Finding No. 15

The Draft Permit states in part in Finding No. 15: "This order incorporates a volume capture metric based on the design volume specified in the WQMP and also includes a metric based on EIA." CICWQ has reviewed the Draft Permit and cannot find where EIA would apply as a LID BMP sizing standard or where EIA is referenced in the requirement to update the model WQMP. We have on many occasions pointed out the flaws of using EIA as a LID performance metric and how EIA is being misapplied in the LID context (See CICWQ Comments on Orange County MS4 Permit, February 2009). Accordingly, we recommend striking the EIA reference and supporting citations (footnotes 13 and 14) in Finding No. 15.

B. Comments on Section XI: New Development (Including Significant Redevelopment)

During review of the Draft Permit, we noted some instances of inconsistent section and footnote numbering and citation references to certain locations in the Draft Permit. These include:

1. Section XII E.3 (the reference to Section XII.D.5.a.1 should be changed to XII.D.4.a.1);
2. Section XII.E.8 footnote 48 (footnote 48 cites Section XI.E.6 and Section XI.E.6.a.vi; if this footnote is not modified per our suggested comment below, it should be changed to Section XII.E.10 and Section XII.E.10.a.vi, respectively);
3. Section XII.E.8 footnote 49 (footnote 49 makes reference to footnote 85; this should read “footnote 48”);

CICWQ’s primary concern with the Draft Permit is the Regional Board’s requirement of a zero discharge standard for selecting appropriate LID BMPs sized to treat the 85th percentile, 24-hour storm event. The Draft Permit clearly states in Footnote No. 48 (page 90 of 121) that a “properly engineered and maintained bio-treatment system may be considered only if infiltration, harvesting and reuse and evapotranspiration cannot be feasibly implemented at a project site.” Feasibility criteria that are “technically-based” are to be established in the Water Quality Management Plan (WQMP) update process. CICWQ strongly disagrees with the narrow interpretation of what constitutes a LID BMP (see EPA definitions later in this letter), and with the decision to relegate the determination to use biotreatment or biofiltration LID BMPs to the WQMP update process whereby feasibility criteria will be specified. There is no evidence to suggest that the exclusion of biofiltration LID BMPs in the LID standard will lead to better water quality on a long-term pollutant removal basis. Moreover, we object to the exclusion of cost considerations when evaluating the feasibility of LID BMP implementation, especially when evaluating the feasibility of requiring stormwater harvest and use as a suitable means for pollutant removal.

We agree that LID BMPs that retain stormwater on site should be used when it is optimal to do so. We do not think, however, that such BMPs should be mandated as a condition of permit compliance to the complete exclusion of other options. Such an approach would impose a universal hydrology standard mandating the on-site retention of a certain volume of water, regardless of likely water quality implications. Vegetated LID BMPs such as biotreatment and biofiltration must be available to a project developer to meet the LID standard without the requirement to perform an infeasibility analysis. CICWQ suggests the following permit modifications (in underline) to reflect the explicit use of biotreatment LID BMPs to meet the volume capture standard:

Section XII.E.8. The Permittees shall reflect in the Water Quality Management Plan Guidance and Template and require each priority development project to infiltrate, harvest and re-use, evapotranspire, or bio-treat⁴⁸ the 85th percentile storm event (“design capture volume”), as specified in Section XII.D.4 ~~XI.D.5.I.1~~ above. Any portion of the design capture volume that is not infiltrated, harvested and re-used, evapotranspired, captured, or bio-treated⁴⁹ onsite by LID BMPs shall be treated and discharged using LID or similarly effective treatment control BMPs or mitigated in accordance with the requirements set forth in Section XII.E.8 and/or Section XII.F, below.

⁴⁸ A properly engineered and maintained bio-filtration, bio-retention, or other bio-treatment system may be considered only in accordance with the priorities specified in Section XII.E.7. if infiltration, harvesting and reuse and evapotranspiration cannot be feasibly implemented at a project site (feasibility criteria will be established in the WQMP [Section XI.E.6] and the technically based feasibility criteria [Section XI.E.6.a.vi]. Specific design, operation, and maintenance criteria for bio-treatment systems shall be part of the model WQMP that will be produced by the permittees.

Mandating the complete on-site retention of capture volume (i.e. runoff that never leaves as surface flows) is not a reasonable approach for a number of reasons. First, total, 100 percent retention remains a practical infeasibility in most circumstances, and is not a goal that can be achieved for most projects within any reasonable cost, despite best efforts. Infiltration BMPs can be land-intensive unless underground injection control wells can be used and many developments would not move forward as site constraints can limit the availability of land to

dedicate for infiltration. Some areas subject to the Draft Permit are underlain by perched groundwater that is shallow and degraded. Infiltrating in these areas can mobilize and exacerbate preexisting contamination, create rising groundwater that then interferes with land development, or other problems. Infiltration can cause changes to habitat type, and to the hydrology of ephemeral streams, should the duration of flows be extended. It also can result in geotechnical instability and increased seismic risk, when rising groundwater increases the potential for liquefaction. Many soils in the area covered by the Draft Permit are not amenable to infiltration, given surface content such as silts and clay and underlying geology. Infiltration must be evaluated carefully and done in a way that protects underlying groundwater and aquatic resources, yet the Draft Permit is weighted heavily and unnecessarily in favor of infiltration over more appropriate LID BMPs for a given site's setting and context.

Rainfall and stormwater capture and harvest systems, given the volume of water that they have to handle under the existing sizing standard, are in our estimation generally infeasible except for the largest of development scales because of the inability to regenerate volume in harvest and use storage tanks given the timing of precipitation in southern California relative to irrigation needs and the back-to-back nature of winter rain events. Harvesting is limited by reuse option, social acceptability, competing policy goals, and economic considerations, including the need to demonstrate that the water quality benefits of this approach warrant the significant investment entailed. A significant obstacle to harvesting is the limited availability of reuse options, whether on a local or regional basis. There are very few projects where a project proponent has a water demand that can be satisfied with captured stormwater. Typically, there would have to be open space, parks or golf courses immediately nearby or associated with the project to make this option even possible. The demand must be relatively immediate after collection so that the cisterns can be emptied and made available for the next storm. This is particularly important in Southern California, where storms characteristically sweep through the area in a series. It is not possible to build cisterns so large that they capture the volume from the entire storm series, and there is no need to irrigate in between such storms.

Moreover, no one has yet to address the cost of harvesting stormwater. Certainly, at some cost and at some scales, harvesting is not practicable. What are the appropriate benchmarks against which to measure this aspect? Should harvesting stormwater be used only if it is comparable in cost to reclaimed water? What if it is five times more expensive per acre foot to produce harvested stormwater? Should it be promoted under that circumstance? Because there has been no economic study, it is difficult to gage this aspect of practicability. But this certainly counsels in the favor of including harvesting into a broader array of BMP options than just those that infiltrate, harvest, or evapotranspire stormwater.

We are on record as stating that the use of infiltration, harvest and reuse, and evapotranspiration BMPs may be fairly described as a favored first tier of LID BMPs, but they should not be universally mandated to the exclusion of all other options. While we understand that the Regional Board and NGOs would prefer to see the retention BMPs applied everywhere, and every project retain the entire capture volume on site, there seems to be an appreciation that this ideal is not possible, or even necessarily desirable, as a universal mandate. Biofiltration, bioretention, filter strips, and other BMPs based on using vegetation to promote stormwater treatment should be added to the suite of LID BMPs available to project proponents without performing an infeasibility analysis.

We are also concerned about the continuing relegation of regional or sub-regional biotreatment type BMPs to a less favored status. Specifically, biotreatment BMPs including natural treatment systems such as those that are part of the Irvine Ranch Water District's Natural Treatment System in Orange County can remove vast quantities of pollutant load, and provide other benefits such as habitat, flood control, and aesthetic, recreational and educational value. To relegate multi-benefit biotreatment BMPs to a status inferior to on-site retention BMPs is not justified on a water quality basis, and is bad public policy, essentially depriving the region of an extremely important and effective approach to managing water quality. Sinking water on an ad-hoc, site-by-site basis can have adverse consequences such as altering the natural flow regime of the receiving waters, depriving riparian corridors of base and storm flows, mobilizing pre-

existing contamination in shallow groundwater, and causing damage from rising groundwater, etc.

We agree that the use of conventional BMPs as the principal approach for stormwater management should be a last resort, available only when objective infeasibility criteria are satisfied, and when off-site opportunities are not readily available. When LID BMPs are infeasible, and off-site opportunities are not available, the use of conventional BMPs that have been demonstrated to be effective on the pollutants of concern should be a compliance option.

CICWQ continues to point out to the Regional Board that the narrow LID that staff is requiring in the permit to meet the volume capture standard is inconsistent with U.S. EPA guidance which promotes filtration and biotreatment as part of LID. Of the five U.S. EPA sources regarding LID, four included biotreatment-type terms, such as detention (i.e., slow down, treat, then release), filtration, and surface release of stormwater. In a compilation of case studies by U.S. EPA, most of 17 exemplary projects included biotreatment elements, such as bioretention, swales, wetlands, and green roofs. *See* U.S. EPA 841-F-07-006, discussed in the May 8, 2009 submittal to the Santa Ana Regional Board from Mr. Eric Strecker, Geosyntec. Each of two case studies described in another EPA document, *see* EPA 841-B-00-005, included the use of under-drains, and one of them specifically fed into the main storm drain system. A U.S. EPA document updated in January 2009 references additional resources, one of which refers to the many practices used to adhere to LID principles of promoting a watershed's hydrologic and ecological functions, such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. *See* EPA-560-F-07-231. A fact sheet used in conjunction with that document describes under-drains used to release treated stormwater off site, permitting planted areas to safely allow filtration of stormwater.

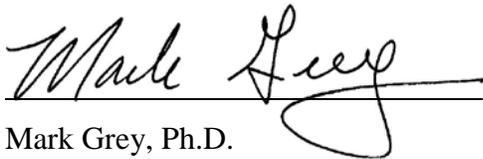
We have submitted several comment letters in the recent past and along with those letters submitted technical analysis to support our position that biotreatment LID BMPs be included, without a detailed feasibility analysis, in the volume capture requirements cited in Section XII.d.4. We incorporate by reference comments and analysis submitted to the Santa Ana

Regional Board regarding the Orange County MS4 permit on February 13, 2009 and May 8, 2009 and the San Bernardino County MS4 permit on September 9, 2009.

III. Summary

CICWQ continues to be an active participant working with the Regional Board and other stakeholders moving forward, and we trust that the Regional Board will continue to promote and engage in an inclusive stakeholder process leading up to permit adoption. If you have any questions or want to discuss the content of our comment letter, please feel free to contact me at (909) 396-9993, ext. 252, (909) 525-0623, cell phone, or mgrey@biasc.org.

Respectfully,

A handwritten signature in black ink that reads "Mark Grey". The signature is written in a cursive style with a long horizontal line extending from the end of the name.

Mark Grey, Ph.D.
Technical Director
Construction Industry Coalition on Water Quality