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ORANGE COUNTY WATER DISTRICT

ORANGE COUNTY'S GROUNDWATER AUTHORITY

June 20, 2014

Michelle Beckwith
Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501

Subject: ***Comments on Renewal of Waste Discharge Requirements, Orange County Flood Control District, County of Orange and Incorporated Cities of Orange County, Areawide Urban Storm Water Runoff Management Program (NPDES Permit No. CAS 618030) Order No. R8-2014-0002***

Dear Ms. Beckwith,

The Orange County Water District (OCWD, the District) is a special district formed in 1933 to manage the Orange County Groundwater Basin (Basin). The Basin currently provides approximately two-thirds of the water supply for 2.4 million residents of north and central Orange County within the District's boundary.

In 1936, OCWD began actively recharging the Basin with water from the Santa Ana River. Currently, OCWD operates 30 recharge facilities in and around the Cities of Anaheim and Orange in which it recharges Santa Ana River base flow, recycled water, imported water, and storm water. An average of 50,000 acre-feet per year of storm water, or enough water for 100,000 families, is recharged by OCWD each year. Given water supply realities in southern California, storm water is a critical source of local water supply in Orange County.

OCWD covers must but not all of the urbanized areas within the permit area. One of OCWD's primary objectives in managing the Basin is protecting groundwater quality. As part of this effort, OCWD regularly monitors the quality of all recharge sources, including storm flow.

PO Box 8300
Fountain Valley, CA 92728-8300

18700 Ward Street
Fountain Valley, CA 92708

(714) 378-3200
(714) 378-3373 fax

www.ocwd.com

As manager of the Orange County Groundwater Basin, please accept the following comments on the draft Orange County MS4 Permit. The first section of this letter contains our general comments, followed by specific comments and suggested modifications to the language of the permit.

GENERAL COMMENTS

Protection of Groundwater Quality

OCWD recognizes the environmental benefits of utilizing the principles of low-impact development and reducing pollution caused by urban runoff. The District's primary concern, as the 5th term MS4 permit is adopted for the County of Orange, is managing infiltration in a manner that protects groundwater from degradation and contamination. Such protection is best accomplished through careful siting and management of infiltration facilities utilizing knowledge of water quality generated by various land uses within Orange County, site-specific land uses, depths to groundwater, and underlying groundwater quality, among other factors. Specific comments listed below are intended to strengthen provisions for protecting groundwater quality when infiltration BMPs are utilized for managing stormwater on-site.

Definition of Receiving Waters

The definition of "receiving waters" should be clarified in the permit. Section IV.A states,

> "Discharges from Co-permittees' MS4s must not cause or contribute to exceedances of receiving water quality standards (designated beneficial uses and water quality objectives) for surface or ground waters..."

Please make clear whether the provisions of Section IV, Receiving Water Limitations, apply to both surface water and groundwater. The Monitoring and Reporting Program contains extensive requirements for surface water monitoring, however, these do not appear to apply to groundwater.

The permit needs to contain provisions that are protective of both surface water and groundwater quality. To this end, continuing to collect data on the performance of infiltration BMPs in protecting groundwater quality is critical, as explained in the comment below.

Need for Studies of Performance of Infiltration BMPs Related to Groundwater Quality Protection

Section XII.B.5.g of the 4th term Orange County permit (R8-2009-0030) required the principal permittee to "develop a pilot program to monitor the impact of groundwater infiltration systems on the quality of groundwater."

To date, we are only aware of one study in Orange County, being conducted by the City of Anaheim, where data are being collected to evaluate the impacts of on-site LID groundwater infiltration systems on the quality of groundwater. One study alone cannot come close to characterizing the impact of on-site LID style groundwater infiltration systems within an area as large and diverse as Orange County.

It is critical that site-specific data within Orange County continue to be collected. Studies conducted by the Los Angeles and San Gabriel Watershed Council that suggest that infiltration LID BMPs do not result in degradation of groundwater quality may be valid for these areas but are not substitutes for collecting Orange County specific data. To this end, we recommend that the requirement for pilot studies be continued in the 5th term permit to ensure that on-site LID infiltration practices within Orange County are protective of groundwater quality.

Consultation with Groundwater Management Agencies

The 4th term permit provided for consultation with groundwater management agencies, such as OCWD, when infiltration BMPs are proposed for new developments and significant re-developments (XII.C.4). Some co-permittees have incorporated this consultation as part of the process of reviewing and approving Preliminary/Conceptual and Final WQMPs. This allowed OCWD to review the plans and suggest changes to provide greater protection of groundwater quality, if needed. It appears that this consultation process is not included in the new draft permit.

OCWD recommends that the 5th term permit continue this consultation process and strengthen it to make it mandatory that co-permittees consult with the appropriate groundwater management agencies for all WQMPs that incorporate the use of infiltration BMPs. Recommended language to Section XII.I. can be found below.

Regional and Sub-Regional Infiltration Facilities

The Orange County stormwater program must include the development of regional and sub-regional facilities as alternatives to on-site LID BMPs. OCWD believes that it will be more effective to manage and monitor infiltration systems that are grouped or clustered on a regional basis, compared to having individual systems at a larger number of locations. In addition, regional facilities have a greater potential to contribute to replenish groundwater supplies.

In order for infiltration to provide a water supply benefit, infiltration needs to occur in areas where it replenishes the aquifers that are used for water supply. There are areas of the groundwater basin where infiltration would recharge the shallow aquifer system which is not widely used for water supply. In such areas, it would be more effective, from a water supply perspective, to relocate on-site infiltration to a regional or sub-regional facility located in an area where infiltration replenishes aquifers more heavily utilized for water supply. This is an alternative compliance approach that should be allowed as long as it provides equivalent water quality benefits as on-site LID BMPs.

We urge the Regional Board to continue to encourage development of regional/sub-regional facilities, striking a balance between requiring on-site LID controls and utilizing alternative compliance approaches that (1) improve surface water quality, (2) maximize beneficial use of stormwater for water supply, and (3) protect groundwater quality.

Maintenance of Infiltration Facilities

We continue to be concerned that individual, small-scale infiltration facilities will not be maintained properly over the long term and their performance will suffer, negating both LID principles and reducing groundwater recharge. OCWD's experience through more than seventy years of operating groundwater recharge facilities is that all infiltration facilities clog and thus require regular maintenance to sustain their recharge performance.

Vertical Separation between BMPs and Groundwater

Both the 4th term permit and the draft 5th term permit require a vertical separation from the bottom of an infiltration facility to the seasonal high groundwater of 10 feet or more. There is an exception from this 10-foot separation for cases where groundwater does not support or have the potential to support beneficial uses. Please note that the entire Orange County Groundwater Basin supports or has the potential to support beneficial uses, therefore, this exception language is unnecessary.

SPECIFIC COMMENTS
(Note: Underlined sections are suggested additions, cross-outs are suggested deletions)

IX.B.2: An industrial site must be prioritized as high priority if the site meets any of the following criteria: … e. Infiltration LID BMPs have been installed on-site.

IX.B.3: These factors include, but are not limited to: … b. the potential for pollutants to be mobilized by stormwater into surface waters or groundwater.

IV.A.: Discharges from the Co-permittees' MS4s must not cause or contribute to exceedances of receiving water quality standards (designated beneficial uses and water quality objectives) for surface water or cause or contribute to degradation or contamination of groundwater or …"

XII.A.1.c: Minimize the quantity of urban runoff draining directly to impermeable surfaces and MS4s; maximize the use of permeable surfaces to percolate storm water into the ground consistent with protection of groundwater quality.

XII.A.1.e: Encourage the use of infiltration, rainwater harvest and use, green or brown roofs, and other low-impact development methods where those methods are protective of groundwater quality and are likely to be effective…

XII.A (add new subsection 8): The co-permittees, in consultation with the appropriate groundwater management agency, shall continue to develop pilot projects to monitor the impact of groundwater infiltration systems on the quality of groundwater. This monitoring program should be implemented by identifying two or more new pilot project locations. The studies would involve at each location: (1) analyzing the quality of the runoff prior to infiltration; (2) monitoring the quality of the infiltrate through the vadose zone; and (3) monitoring groundwater quality upgradient and downgradient of the infiltrations system(s).

XII C.12.a.viii: depth and screened interval for any infiltration system.

XII.D.12. Structural treatment control BMPs must not cause or contribute to an exceedance of groundwater quality objectives, Maximum Contaminant Levels (MCLs), or otherwise contribute to the degradation of groundwater quality.

XII.D (add new subsection 15): Infiltration systems must not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or more daily traffic); auto repair shops; car washes; fleet storage areas; nurseries or any other high threat to water quality land uses or activities. [Note: This language is taken from in R8-2009-0003 Section XII.B.5.f.]

XII.F.2: The Co-permittees must require retention LID BMPs for the design capture volume, or the maximum portion thereof, wherever, based on Substantial Evidence, such controls are... and d. where impacts to groundwater quality will not cause an exceedance of water quality objectives or MCLs or otherwise contribute to degradation of groundwater quality.

XII.G.3: When retention LID BMPs are demonstrated to be infeasible according to Section XII.G.1. above, the Co-permittees must require biotreatment control BMPs whenever these are... and d. where impacts to groundwater quality will not cause an exceedance of water quality objectives or MCLs or otherwise contribute to degradation of groundwater quality.

XII.I.2: This section requires a vertical separation from the bottom of an infiltration facility to the seasonal high groundwater of 10 feet or more ~~except for cases where groundwater does not support or have the potential to support beneficial uses.~~

XII.I: Add to the end of the section a new subsection 9: Where a grading plan or similar specific plan of development proposes to infiltrate the entire design capture volume or a portion thereof (infiltration LID BMPs), the co-permittee shall consult with the appropriate agency managing the affected or potentially affected groundwater basin at an early stage of the process of reviewing the project WQMP and prior to the approval of the final WQMP. The co-permittee shall provide adequate information to allow said agency to review the potential effects of the BMP.

Thank you for the opportunity to submit these comments.

Sincerely,

Michael R. Markus, P.E., D.WRE, BCEE, F.ASCE
General Manager