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Julie Roth, Executive Director
DSCSOC

Comments on LEHR/SCDS Environmental Restoration
Quarterly Monitoring Report, Winter 2006
Prepared for University of California, Davis, by Brown and Caldwell
August 2006

Julie,

I have reviewed the UCD LEHR Winter 2006 water monitoring report, and I continue to find significant deficiencies in the monitoring of stormwater runoff from the LEHR site. Presented below are my comments on this report.

On page 2-2, the report states, *"Stormwater monitoring is normally conducted twice during the rainy season (October-March) each year."* You may recall that in November 2005 you and I documented large-scale runoff of stormwater from the LEHR site. This was the first major storm of the season and therefore represented "first flush" conditions; however, it was not sampled by UCD staff.

As DSCSOC has repeatedly discussed, the stormwater runoff monitoring program that UCD has been conducting at LEHR is largely cosmetic and could be said to be designed to not find problems. It is frankly appalling that UCD has been allowed to continue this program without correcting the significant deficiencies in it. Any credible stormwater runoff monitoring program must include a sampling program that can take repeated samples during the first major stormwater runoff event of the season.

During the late 1960s and early 1970s, in working with my graduate students at the University of Wisconsin, Madison, I conducted one of the first quantitative urban stormwater runoff monitoring programs that had been conducted at that time. The purpose of this program was to assess the magnitude of nutrient releases in stormwater runoff from a part of Madison. The program was conducted as part of a graduate student's PhD dissertation. A paper summarizing the results of these studies,

> Kluesener, J. W., and Lee, G. F., "Nutrient Loading from a Separate Storm Sewer in Madison, Wisconsin," *Journ. Water Pollut. Control Fed.* 46(5):920-936 (1974).
> http://www.members.aol.com/annejlee/KluesenerLeeNutrLoad.pdf

discusses the approach used, which included automatic sampling, which would start taking samples from a storm sewer as the flow in the sewer began to occur, and would take samples over the duration of the storm runoff. As expected, significant changes in the concentrations occurred during the runoff event, where of particular concern was the initial runoff ("first flush"). The concentrations in this first flush were often much higher than later in the storm.

UCD should be required to develop a credible stormwater runoff monitoring program from the LEHR site, in which first flush sampling occurs and sampling continues during the course of the storm. If a graduate student in Wisconsin can do this in the seventies, certainly the University of California, Davis, should be able to do it in the 2000s.

Page 4-6 of the Brown and Caldwell report, in section 4.5 Stormwater and Surface Water Monitoring, indicates that mercury was found at 0.521 µg/L in the LF-1 stormwater sample. Again, UCD has failed to submit a credible report in which data that show a significant water quality problem are not discussed (evidently, hoping that no one will review the report and find that the mercury concentration in the stormwater runoff from the LEHR site was over 10 times the allowed concentration under the California Toxics Rule). As DSCSOC has repeatedly pointed out, very high concentrations of mercury have been found in stormwater runoff from the LEHR site.

Appendix D of this report, on page 2 of 6, shows that UCD is continuing to use a CRDL (analytical detection limit) of 0.2 µg/L for mercury. It is obviously a fundamentally flawed monitoring program when the allowed analytical detection limit for mercury is four times the regulatory limit. Previously, at the request of DSCSOC, UCD was required to conduct analysis of mercury in stormwater runoff using adequate detection limits. They have now been allowed by the RPMs to revert back to inadequate detection limits. This should be immediately corrected.

The high mercury of 0.521µg/L in LF-01 occurred on 03/20/06. It is certainly appropriate to inquire as to what the mercury content was in the first flush runoff that occurred in November 2005, which UCD failed to sample. It could have been much higher.

Previously, when the RPMs did not take action to begin to address the grossly inadequate monitoring program for mercury in stormwater runoff from the LEHR site, DSCSOC brought this situation to the attention of the CVRWQCB, which resulted in Bill Marshall, of that Board's staff, indicating that UCD should immediately develop best management practices to control the mercury in stormwater runoff from the LEHR site. Since this problem continues, it will be necessary to go back to Bill Marshall to indicate that action needs to be taken by the Board to force UCD to comply with regulatory requirements of not discharging mercury in stormwater runoff to Putah Creek at concentrations above the current CTR limit of 50 ng/L (0.05 µg/L).

As DSCSOC has pointed out, based on information from Bill Woods of the US EPA Region 9, ultimately the regulatory limit for mercury in stormwater runoff could be on the order of a few ng/L, since concentrations above this amount can lead to methylmercury formation, which bioaccumulates in fish tissue to excessive levels. UCD should be required to control mercury to meet that limit as well, when it is officially adopted. Further, because of the chronic problems

with the grossly inadequate stormwater runoff monitoring, UCD should be required to monitor each storm, using techniques that can sample the concentrations of pollutants in the runoff during the course of the storm, until such time as it has been adequately demonstrated over a several-year period that the mercury control program is effective.

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GFL:ds
Copy to: W. Marshall, CVRWQCB