



Linda S. Adams
Agency Secretary

California Regional Water Quality Control Board

Central Coast Region



Arnold Schwarzenegger
Governor

Internet Address: <http://www.waterboards.ca.gov/centralcoast>
895 Aerovista Place, Suite 101, San Luis Obispo, California 93401-7906
Phone (805) 549-3147 • FAX (805) 543-0397

November 3, 2008

Ms. Robin Fried
University of California, Santa Cruz
1156 High Street
Santa Cruz, CA 95064

Dear Ms. Fried:

WATER BOARD STAFF COMMENTS ON DRAFT STORM WATER MANAGEMENT PLAN REVISED SEPTEMBER 2008, UNIVERSITY OF CALIFORNIA, SANTA CRUZ, SANTA CRUZ COUNTY

On October 3, 2008, the Central Coast Regional Water Quality Control Board (Water Board) received the University of California, Santa Cruz (University) Draft Storm Water Management Plan (SWMP). Water Board staff has reviewed the September 2008 Draft SWMP and we have identified improvements the University must make for us to recommend approval of the SWMP. Please see the attached Table of Required Revisions. Please respond with a further revised SWMP, or comments describing further revisions to the SWMP, prior to the Water Board's final review and consideration of public comment. The following sequence of events describes an optimal process for final review of the SWMP:

Water Board staff will:

- 1) Post the attached draft Table of Required Revisions on or prior to November 4, 2008, on the same webpage where the SWMP will be posted for the 60-day public comment period. An announcement of the web posting, including web address, will be sent by email.
- 2) At the close of the 60-day public comment period on approximately January 5, 2009, Water Board staff will review comments received on the SWMP from the public, including comments from the University describing their revisions to the SWMP.
- 3) Water Board staff will prepare a final Table of Required Revisions and a final recommendation on the adequacy of the SWMP.
- 4) If Water Board staff recommends approval of the SWMP, that approval will be conditioned on the University making the required revisions by a date certain.
- 5) If a member of the public or the University requests a Water Board hearing, Water Board staff will recommend the Water Board approve the University's SWMP (with the required revisions) for coverage under the General Permit for

California Environmental Protection Agency

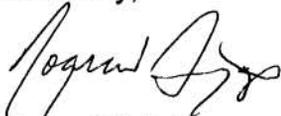


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Stormwater Discharges from Small Municipal Separate Storm Sewer Systems at
the March 20, 2009 Water Board Meeting.

If you have questions regarding this matter, please contact **Phil Hammer at (805) 549-3882** or Matt Thompson at (805) 549-3159.

Sincerely,



Roger W. Briggs
Executive Officer

Attachment: Draft Table of Required Revisions

cc: Steve Shimek, Monterey Coastkeeper (by electronic mail)



DRAFT TABLE of REQUIRED REVISIONS
University of California, Santa Cruz Draft SWMP

Acronyms/Abbreviations:

BMP - Best Management Practice
 SWMP - Storm Water Management Plan
 University - University of California, Santa Cruz
 LID - Low Impact Development
 Water Board - Central Coast Regional Water Quality Control Board

Item Number	SWMP Section	Subject	Issue	Required Revisions
1	BMP # 1	Effectiveness Assessment	The SWMP states that the University will use a survey to determine target audiences' awareness of the educational brochures, but the SWMP does not indicate that the University will use a survey to determine target audiences' awareness of the content of the educational brochures. The goal of the educational brochures should be for targeted audiences to become aware of the brochures' content. The effectiveness assessment should reflect this goal by ensuring that awareness of the brochures' content will be assessed during the survey.	Modify the effectiveness assessment of BMP # 1 to ensure that awareness of the educational brochures' content will be assessed during the survey.
2	Public Education and Outreach BMPs	Community-Based Social Marketing	The University's cover letter for the revised SWMP states the University will "reconsider the potential effectiveness of a community-based social marketing program in the future if additional approaches are needed to prompt desired behaviors." This commitment should be included in the SWMP as a specific BMP.	Include a BMP in the SWMP to consider use of community-based social marketing in the future if additional approaches are needed to prompt desired behaviors.

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3	Public Participation	University Neighbors	The University's cover letter for the revised SWMP identifies several activities the University conducts to foster participation from University neighbors. The SWMP should include a BMP committing to ongoing implementation of these activities to foster University neighbors' participation. The BMP should detail how the activities relate directly to SWMP development and implementation.	Include a BMP committing to ongoing implementation of current activities to foster University neighbors' participation. Describe how the activities relate directly to SWMP development and implementation.
4	BMP # 41	Outfall Screening	The University removed language from the SWMP that previously committed the University to monitoring all outfalls at least once annually. Removal of this language results in uncertainty regarding the scope of this program at the Main Campus. The SWMP states that main outfalls will be screened; however, it is unclear what constitutes a "main" outfall and how many main outfalls are present at the Main Campus.	Modify BMP #41 to identify the percentage of outfalls that will be screened in permit years 4 and 5 at the Main Campus.
5	BMP # 55.5	Interim Hydromodification Criteria	The interim hydromodification control standards provided are not quantifiable or supported by technical findings. For example, the range of flows for which pre- and post-project flow rates and durations must match is not identified. Any proposed control standards, including numeric criteria for flow volume, rate, and duration control, will require review by Water Board staff	Replace the BMP with the following or equivalent: Within one year of enrollment under the General Permit, the City will have adequate development review and permitting procedures to impose conditions of approval, or other enforceable mechanisms, to implement quantifiable measures (numeric criteria) for hydromodification control.

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			<p>based on technical findings to determine the standards' adequacy. The University has 12 months from the date of their enrollment under the General Permit to develop and adopt quantifiable interim hydromodification control standards with Water Board approval. Inclusion of the draft standards in the SWMP is not appropriate at this time.</p>	
6	BMP # 55.5	Interim Hydromodification Criteria	<p>The SWMP does not include a schedule and approach to develop quantifiable interim hydromodification criteria.</p>	<p>Revise the SWMP to include a schedule for developing interim hydromodification control criteria, including a period of no less than three (3) weeks to allow for Water Board staff's review of the proposed criteria. The Revised SWMP shall state that any interim hydromodification control criteria (numeric and non-numeric) proposed by the University will be submitted within one year of enrollment and should take into account the ability to maximize infiltration of clean storm water, minimize runoff volume and rate, serve as a useful quantifiable measure of healthy watersheds, and be consistent with the intended goals of the Water Board including, but not limited to, healthier and more sustainable watersheds by 2025. The proposed criteria will be as effective as the following:</p> <ul style="list-style-type: none"> • For new and re-development projects, Effective Impervious Area¹

¹ Effective Impervious Area is that portion of the impervious area that drains directly to a receiving surface waterbody via a hardened storm drain conveyance without first draining to a pervious area. In other words, impervious surfaces tributary to pervious areas are not considered Effective Impervious Area.

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				<p>shall be maintained at less than five percent (5%) of total project area.</p> <ul style="list-style-type: none"> • For new and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, the post-construction runoff hydrographs shall match within one percent (1%) the pre-construction² runoff hydrographs, for a range of events with return periods from 1-year to 10-years. • For projects whose disturbed project area exceeds two acres, preserve the pre-construction drainage density (miles of stream length per square mile of watershed) for all drainage areas serving a first order stream³ or larger, and ensure that post-project time of concentration is equal or greater than pre-project time of concentration. <p>The Water Board Executive Officer will notify the University and other interested persons of the acceptability of the University's proposed interim hydromodification control criteria for new and re-development. The Water Board shall provide interested persons the opportunity for comment and a hearing, if requested, before the Water Board if any party is aggrieved by the Water</p>

² Pre-construction condition is defined as undeveloped soil type and vegetation.

³ A first order stream is defined as a stream with no tributaries.

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				Board staff's determination, prior to Water Board action being final.
7	BMP # 55.6	Hydromodification Management Plan	While the SWMP discusses development of long-term hydromodification requirements, it does not describe the process to be followed to develop the requirements as part of a Hydromodification Management Plan.	<p>Modify BMP # 55.6 to describe how and when the University will develop long-term hydromodification criteria and control measures as part of a Hydromodification Management Plan that will be based on a technical assessment of the impacts of development on the University watersheds. An adequate technical assessment will address the following:</p> <ul style="list-style-type: none"> • Hydrograph modification (flow volume, duration, and rate); • A wide range of flow events and continuous flow modeling; • Effects of imperviousness; • Evaluation of downstream affects (stream stability); • Buffer zone requirements; and • Water quality impacts. <p>The assessment should result in:</p> <ul style="list-style-type: none"> • Numeric criteria for runoff rate, duration, and volume control for development and redevelopment projects; • Numeric criteria for stream stability impacts for development and redevelopment projects; • Identification of areas within the University where these criteria must be met; • Specific performance and monitoring criteria for installed hydromodification

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				control infrastructure; <ul style="list-style-type: none"> • Riparian buffer zone requirements; and • Appropriate hydromodification controls measures such as LID concepts, on-site hydrologic and water quality controls, and in-stream controls.
8	New Development BMPs	Runoff Treatment	The SWMP only discusses treatment of runoff from new parking lots and roads. Runoff from other pollutant generating development (restaurants, residences, operations centers, fueling areas, vehicle maintenance, etc.) must also be treated. A list of the types of new development from which runoff must be treated is needed. Identification of the design storm for treatment of runoff from these types of new development is also needed.	Identify a list of the types of new development from which runoff must be treated, including restaurants, residences, operations centers, fueling areas, and vehicle maintenance areas. Identify the design storm for treatment of runoff from these types of development.
9	Section 4.2.5.2	Application of New Design Standards	The SWMP states that “changes in design requirements may not be expressed in construction projects for three or four years.” However, the SWMP does not identify the stage in the project planning, design, and funding process that will be used as the cut-off point to determine which projects in the development pipeline will be subject to new design requirements.	Identify the stage in the project planning, design, and funding process that the University will use as the cut-off point to determine which projects in the development pipeline will be subject to new design requirements. For projects in the planning, design, and funding process at the time the new design requirements take effect, the cut-off point must be chosen in order to apply the new design requirements to as many projects as feasible.
10	Section 4.2.5.3	Long-term Watershed Protection	While the general text of the SWMP mentions that area plans will consider long-term watershed protection, the	Include a BMP stating how and when the University will 1) develop quantifiable measures that indicate how the University's

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			SWMP does not include a BMP for incorporating long-term watershed protection into area plans. In addition, the SWMP does not discuss incorporating long-term watershed protection into other planning processes (long-range development plans, policies, standards, etc.). To ensure the goal of long-term watershed protection is achieved, quantifiable measures for watershed protection must be developed as part of this planning. The University needs to develop a specific BMP committing to these tasks.	watershed protection efforts achieve desired watershed conditions; 2) evaluate existing watershed protection efforts, including: long range development plans, area plans, policies, standards, guidance manuals, and BMPs; and 3) adapt or change the existing efforts as needed to achieve long-term watershed protection.
11	Section 4.2.5.3	Riparian Buffers	The SWMP states that "adequate" buffers for riparian areas will be developed, but does not provide any information regarding how adequacy will be determined. This lack of specificity results in uncertainty regarding the level of protection water bodies will receive. The Water Board's Basin Plan requires 30-foot buffers wherever possible.	Include a BMP to establish 30-foot buffers for water bodies to protect them from encroachment from new development and redevelopment. For situations where 30-foot buffers are not feasible, describe the process the University will use to ensure adequately sized buffers will be used. Include in the process evaluation of buffer size within the context of healthy functioning watersheds.
12	BMPs # 68, 77, and 78	Effectiveness Measurement	The effectiveness measurement identified for this BMP does not assess the effectiveness of the BMP. The number of illicit discharges reported or detected does not reflect the effectiveness of road, parking lot, and MS4 sweeping/cleaning.	Modify BMPs #68, 77, and 78 to include effectiveness measurements that the University can use to assess the effectiveness of each BMP, such as measuring the amount of material collected during sweeping/cleaning.
13	BMP # 75	Effectiveness Measurement	The University's cover letter for the revised SWMP states that effectiveness of this BMP is assessed during preparation of the industrial storm water	Modify BMP #75 to include a description of the effectiveness assessment that is conducted for this BMP, including assessment of storm water monitoring data

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			annual report. This information should be included in the SWMP, including a description of how the University assesses effectiveness.	collected at the facility.
14	BMP # 63	Inspections	While the SWMP includes inspections of hazardous material storage areas, it does not include inspections of other potential pollutant generating "municipal" locations and activities, such as the Central Garage.	Include a BMP for conducting inspections of potential pollutant generating "municipal" locations and activities, such as the Central Garage.
15	Monitoring	Monitoring	The University conducts storm water monitoring, but does not describe the monitoring in the SWMP. Monitoring is an important aspect of a stormwater program, and therefore must be described in the SWMP.	Include a description of the monitoring program, including the purpose of the monitoring, as well as a discussion of its frequency, locations, and constituents monitored. Also include a description of any planned assessment or revision of the monitoring program.
16	BMP # 108	Effectiveness Measurement	The SWMP does not discuss using monitoring data to assess program effectiveness.	Modify BMP #108 to commit the University to using monitoring data to assess program effectiveness.