



Linda S. Adams  
Agency Secretary

# California Regional Water Quality Control Board

## Central Coast Region



Arnold Schwarzenegger  
Governor

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April 3, 2009

Ms. Robin Fried  
Environmental Health & Safety Office  
University of California, Santa Cruz  
1156 High Street  
Santa Cruz, CA 95064

Dear Ms. Fried:

### **NOTICE OF ENROLLMENT – NPDES SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS GENERAL PERMIT; UNIVERSITY OF CALIFORNIA SANTA CRUZ, SANTA CRUZ COUNTY, WIDID # 3 44MS05079**

The Central Coast Regional Water Quality Control Board (Water Board) received a Notice of Intent, Storm Water Management Plan (SWMP), map, and fee for the University of California Santa Cruz's (University's) Municipal Separate Storm Sewer System (MS4). These items are required to enroll in the National Pollutant Discharge Elimination System General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems, Order No. 2003-0005-DWQ (General Permit).

Water Board staff reviewed the University's SWMP and found it, combined with a number of specific revisions described in Attachment 1, to be in compliance with the General Permit and to meet the maximum extent practicable (MEP) standard set forth in the General Permit. The University's SWMP was available to the public for a 60-day comment period, and we received comments from stakeholders. Water Board staff responded to all comments received. These comments and responses are contained in Attachment 2. The comment letters are contained in Attachment 3.

The public did not request a hearing for the Water Board to consider approval of the SWMP and enrollment of the University under the General Permit. We also understand that the University, upon receipt of this amended Notice of Enrollment, will withdraw its request for a hearing. The General Permit states that if no hearing is necessary, the Water Board Executive Officer will notify the regulated MS4 that it has obtained permit coverage only after Water Board staff has reviewed the SWMP and has determined that the SWMP meets the MEP standard established in the General Permit.

I am hereby approving the University's SWMP with the following condition: Pursuant to Water Code Section 13383, the University of California Santa Cruz is required to amend the SWMP no later than **June 3, 2009**, to include all the changes shown in the "Final Table of Required Changes," Attachment 1 to this letter. Per Water Code Section 13385, failure to make these revisions may subject the University of California Santa Cruz

*California Environmental Protection Agency*



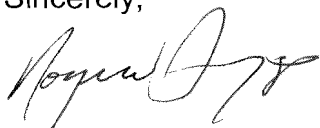
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to Administrative Civil Liability for up to \$10,000 for each day of violation. The University must provide a copy of the revised pages of the SWMP to the Water Board no later than **June 3, 2009**.

As of April 3, 2009, discharges from the University's MS4 are authorized by the General Permit. The University is required to implement the SWMP and comply with the General Permit. The University's first annual reporting period ends June 30, 2010. The University's first annual report is due to the Water Board on September 15, 2010, and shall cover the period from April 3, 2009 through June 30, 2010.

Thank you for your cooperation and efforts to enroll the University under the General Permit. If you have questions regarding this matter, please contact **Phil Hammer at (805) 549-3882, or [phammer@waterboards.ca.gov](mailto:phammer@waterboards.ca.gov)** or Matt Thompson at (805) 549-3159 or [mthompson@waterboards.ca.gov](mailto:mthompson@waterboards.ca.gov).

Sincerely,



Roger W. Briggs  
Executive Officer

cc: (by electronic mail)

Robert Curry, [curry@ucsc.edu](mailto:curry@ucsc.edu)

Don Stevens, Habitat and Watershed Caretakers, [don@bind.com](mailto:don@bind.com)

Grey Hayes, [coastalprarie@aol.com](mailto:coastalprarie@aol.com)

Kim Busby, California Polytechnic State University, [kbusby@calpoly.edu](mailto:kbusby@calpoly.edu)

Attachment 1: Final Table of Required Revisions

Attachment 2: Response to Comments

Attachment 3: Comment Letters Received during 60-day Public Comment Period

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## ATTACHMENT 1

### TABLE of REQUIRED REVISIONS University of California, Santa Cruz Storm Water Management Program

Acronyms/Abbreviations:

- BMP - Best Management Practice
- LID - Low Impact Development
- SWMP - Storm Water Management Plan
- University - University of California, Santa Cruz
- 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	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.

Item Number	SWMP Section	Subject	Issue	Required Revisions
			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.	
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	The interim hydromodification control standards provided are not quantifiable	Replace the BMP with the following or equivalent: Within one year of enrollment

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		Criteria	<p>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 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>	<p>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.</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>Modify the SWMP to include the development of interim hydromodification criteria using one of the options listed below:</p> <p>Option 1: The proposed criteria may include the following types of requirements which provide a high degree of assurance of effective hydromodification control without regard to the nuances of individual</p>

Item Number	SWMP Section	Subject	Issue	Required Revisions
				<p>watersheds:</p> <ul style="list-style-type: none"> <li>• For new and re-development projects, Effective Impervious Area<sup>1</sup> shall be maintained at less than five percent (5%) of total project area.</li> <li>• 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-construction<sup>2</sup> runoff hydrographs, for a range of events with return periods from 1-year to 10-years.</li> <li>• 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 stream<sup>3</sup> or larger, and ensure that post-project time of concentration is equal or greater than pre-project time of concentration.</li> </ul> <p>OR</p>

<sup>1</sup> 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.

<sup>2</sup> Pre-construction condition is defined as undeveloped soil type and vegetation.

<sup>3</sup> A first order stream is defined as a stream with no tributaries.

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				<p>Option 2: The University may use the following process to develop interim criteria as effective as the above criteria. "As effective as" means the University may use other approaches (including other variables or numeric criteria, different than Option 1 criteria, appropriate for the University's watersheds) to control hydromodification and protect the biological and physical integrity of the University's watersheds. Other acceptable approaches to develop interim criteria that are as effective as Option 1 include:</p> <p>A. Adopt and implement hydromodification criteria developed by another local municipality and approved by Board staff, such as the criteria the Water Board adopted for the City of Salinas, as interim criteria;</p> <p>OR use the following methodology to develop interim criteria:</p> <p>B. Include a BMP to develop interim hydromodification criteria, including a period of no less than three (3) weeks to allow for Water Board staff's review of the proposed criteria. The BMP shall state:</p> <p>The University shall develop interim flow control and infiltration criteria. These interim</p>

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				<p>criteria shall be developed within one year of the University's enrollment. For the interim criteria, the University shall:</p> <ul style="list-style-type: none"> <li>• Identify a range of runoff flow rates for which post-project runoff flow rates and durations shall not exceed pre-development runoff rates and durations, where the increased discharge rates and durations will result in off-site erosion or other significant adverse impacts to beneficial uses. Pre-development refers to the soil type, vegetation and amount of impervious surface existing on the site prior to the development project.</li> <li>• Establish numeric criteria for development projects to maximize infiltration on-site and approximate natural infiltration levels to the maximum extent practicable and to effectively implement applicable low-impact development strategies.</li> <li>• Identify the projects, including project type, size and location, to which the University will apply the interim criteria. The projects to which the University will apply the interim criteria will include all those projects that will cause off-site erosion or other significant adverse impacts to beneficial uses.</li> </ul>

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				<ul style="list-style-type: none"> <li>• Identify methods to be used by project proponents to demonstrate compliance with the interim discharge rate and duration criteria, potentially including continuous simulation of the entire rainfall record.</li> <li>• Identify methods to be used by project proponents to demonstrate compliance with the interim infiltration criteria, including analysis of site imperviousness.</li> </ul>
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"> <li>• Hydrograph modification (flow volume, duration, and rate);</li> <li>• A wide range of flow events and continuous flow modeling;</li> <li>• Effects of imperviousness;</li> <li>• Evaluation of downstream affects (stream stability);</li> <li>• Buffer zone requirements; and</li> <li>• Water quality impacts.</li> </ul> <p>The assessment should result in:</p>

Item Number	SWMP Section	Subject	Issue	Required Revisions
				<ul style="list-style-type: none"> <li>• Numeric criteria for runoff rate, duration, and volume control for development and redevelopment projects;</li> <li>• Numeric criteria for stream stability impacts for development and redevelopment projects;</li> <li>• Identification of areas within the University where these criteria must be met;</li> <li>• Specific performance and monitoring criteria for installed hydromodification control infrastructure;</li> <li>• Riparian buffer zone requirements; and</li> <li>• Appropriate hydromodification controls measures such as LID concepts, on-site hydrologic and water quality controls, and in-stream controls.</li> </ul>
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	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.

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9	Section 4.2.5.2	Application of New Design Standards	<p>also needed.</p> <p>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.</p>	<p>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.</p>
10	Section 4.2.5.3	Long-term Watershed Protection	<p>While the general text of the SWMP mentions that area plans will consider long-term watershed protection, the 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.</p>	<p>Include a BMP stating how and when the University will 1) develop where feasible quantifiable measures that indicate how the University's watershed protection efforts relative to stormwater management 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.</p>
11	Section 4.2.5.3	Riparian Buffers	<p>The SWMP states that "adequate" buffers for riparian areas will be</p>	<p>Include a BMP to establish 30-foot buffers for water bodies to protect them from</p>

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			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.	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 annual report. This information should be included in the SWMP, including a description of how the University assesses effectiveness.	Modify BMP # 75 to include a description of the effectiveness assessment that is conducted for this BMP, including assessment of storm water monitoring data 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	Include a description of the monitoring program, including the purpose of the monitoring, as well as a discussion of its

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			an important aspect of a stormwater program, and therefore must be described in the SWMP.	frequency, locations, and constituents monitored. Also commit to reviewing the monitoring program, and modifying it as necessary, in order to ensure the monitoring program includes collection of sufficient water quality data needed to assess the impact of runoff on water quality within the karst system. Potential required monitoring plan modifications would not exceed the addition of one more monitoring site and the addition of one more annual monitoring event to the existing analytical suite, unless directed under a separate order. Subsequent monitoring requirements may be reduced, based on analytical results collected.
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. Also commit to presenting the effectiveness assessments using monitoring data in the University's annual reports.