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Secretary for
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California Regional Water Quality Control Board

Central Coast Region

Arnold Schwarzenegger
Governor

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March 3, 2009

BY ELECTRONIC AND REGULAR MAIL

Mark Hutchinson
mhutchinson@co.slo.ca.us
County of San Luis Obispo
County Government Center, Room 207
San Luis Obispo, CA 93408

Dear Mr. Hutchinson:

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PHASE II MUNICIPAL SEPARATE STORM SEWER SYSTEM — REVIEW OF SAN LUIS OBISPO COUNTY STORMWATER MANAGEMENT PROGRAM 2008 ANNUAL REPORT, WDID #3 430MS03014

Central Coast Regional Water Quality Control Board (Water Board) staff received the County of San Luis Obispo's (County) Stormwater Management Program (SWMP) annual report for Fiscal Year (FY) 2007/2008. Water Board staff recognizes the County's efforts to comply with the Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit (General Permit). Water Board staff finds that the County's SWMP is a comprehensive program that shows good progress toward compliance with the General Permit.

The purpose of the annual report is to provide a summary of the County's stormwater management activities, an assessment of the SWMP effectiveness and its compliance with General Permit conditions, and a summary of the stormwater management activities the County plans to undertake in the next reporting cycle, including any proposed changes to the SWMP. Water Board staff has developed comments on the County's annual report to improve the SWMP document, SWMP implementation, and annual report content to satisfy General Permit requirements.

Please review this letter closely, as the issues listed below require further action. There are three types of comments: required changes so the County corrects violations of the General Permit, required changes so the SWMP meets the Maximum Extent Practicable standard (MEP), and recommended SWMP and annual report improvements. The County must respond to and make all required changes by the due date specified in each required revision.

Overall Program

A. Establishment of Measurable Goals

Issue: Some Best Management Practices (BMPs) do not include measurable goals, or have goals which are not quantifiable. Failure to describe measurable goals for each BMP is a violation of General Permit Section D.2.

Action Required: The General Permit requires MS4s to include SWMP updates (section F.1.g) in the annual reports. **By the next annual report**, the County must evaluate each BMP to ensure that it has an associated measurable goal. **By the next annual report,** modify or add measurable goals to all BMPs that the County has identified as having insufficient measurable goals. According to the General Permit, measurable goals are definable tasks to measure compliance and completion. The MS4 must clearly differentiate between completion measures and effectiveness measures. For measurable goal guidance, refer to the following Environmental Protection Agency (EPA) website: http://cfpub1.epa.gov/npdes/stormwater/measurablegoals/index.cfm.

B. Assessment of Program Effectiveness

Issue: General Permit Section F.1 requires MS4s to annually assess the appropriateness and effectiveness of their BMPs. The County's BMPs do not include adequate measures to evaluate effectiveness to meet this General Permit requirement. Most often the County's effectiveness measures are a verification of completion or quantification of implementation of the BMP in the description column. The County's effectiveness measures typically do not measure how effectively each BMP is protecting water quality. Each BMP must include measures of completion, as described in the previous required revision, but each BMP must also include measures of effectiveness as it relates to protecting water quality. Completion measures may be more appropriate in a separate column; consider creating two separate columns with titles such as *Measurable Goals and Outcomes* and *Effectiveness Measures*.

The County uses six "outcome levels," identified by the California Stormwater Quality Association (CASQA) to identify the effectiveness of each BMP. Yet the SWMP does not include sufficient effectiveness measures for each BMP to determine outcome levels, in most cases, any higher then Level 2. Failure to describe the effectiveness of each BMP in reducing stormwater pollution to the MEP is a violation of General Permit Section F.1.b.

Action Required: The County shall reevaluate each BMP and revise the SWMP to include a strategy for evaluating program effectiveness. Include the strategy **in the next annual report** as part of a SWMP update. The strategy should include the following elements:

- Identification of a target outcome level appropriate for each BMP, keeping in mind that the purpose of the SWMP as a whole is to achieve Level 6, "Protecting Receiving Water Quality."

- Development of a schedule for increasing the effectiveness of each BMP to its target outcome level over time, with the goal of achieving the target outcome level by the end of year five.
- Development of effectiveness assessment measures for each BMP that will allow the County to determine whether the BMP is achieving its particular (interim and target) outcome level.
- Evaluation of BMPs in successive annual reports according to the effectiveness measures and outcome levels identified through this strategy.
- Evaluation of the appropriateness of BMPs for reducing pollutants in stormwater to the MEP and protecting water quality, and replacing or discontinuing BMPs which are deemed ineffective.
- Evaluation of effectiveness assessment measures and replacing them as necessary.

C. Analysis of Collected Information and Monitoring Data

Issue: Water Board staff uses the County's annual reports to help verify the County is implementing the commitments they have outlined in their SWMP. The County must include documentation in their annual reports to help illustrate General Permit compliance and SWMP implementation. The County has organized their annual report to include results and analysis of collected information in Part (b) of each BMP in the annual report. In the FY2007/2008 annual report, the County references most documentation in attachments. In most cases the County includes a sample of a product resulting from a BMP activity, but the County does not analyze the effectiveness of the presented information or provide a narrative to give meaning to the results. For example, in Part (b) of BMP PE16 in the annual report, the County references Attachment 15 to show photos of public events the County participated in during FY2007/2008. These photos help verify that the County participated in public events, but they don't help Water Board staff determine the effectiveness of the County's displays or the effectiveness of the County's participation at these events in educating the public on water quality issues.

Action Required: **In future annual reports**, provide a brief analysis of the collected information and/or monitoring data to give meaning to the referenced attachments.

D. Total Maximum Daily Loads

Issue: In addition to identifying specific BMPs to address the Morro Bay Pathogen Total Maximum Daily Load (TMDL), the Morro Bay Sediment TMDL, the San Luis Obispo Creek Pathogen TMDL, and the San Luis Obispo Creek Nutrient TMDL, attaining wasteload allocations through the implementation of SWMPs will require planning and assessment efforts by the County. Moreover, TMDL compliance schedules often span decades, necessitating a carefully planned approach to achieving wasteload allocations. As such, we expect the County to develop Wasteload Allocation Attainment Plans for the four TMDLs previously mentioned.

Action Required: The County must include the Wasteload Allocation Attainment Plans **in the FY2009/2010 annual report** as part of a SWMP update. The County

should append the Wasteload Allocation Plans to the SWMP and incorporate, where appropriate, new BMPs and other SWMP modifications identified in the Wasteload Allocation Plans into SWMP updates.

We expect the Wasteload Allocation Attainment Plans to be thorough plans designed to guide the implementation of activities that will achieve TMDL wasteload allocations. In many cases, municipalities and the Water Board have already made progress during the TMDL development process on some of the tasks necessary for development of Wasteload Allocation Attainment Plans. TMDL Project Reports and Resolutions can provide useful information during the development of the Wasteload Allocation Attainment Plans. Review the following for the expected principle components of the Wasteload Allocation Attainment Plans:

1. A detailed description of the County's strategy for BMP selection, assessment, and implementation, to ensure that implemented BMPs will effectively abate pollutant sources, reduce pollutant discharges, and achieve wasteload allocations according to the schedule of each TMDL.
2. Identification of sources of the impairment within the County's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.
3. Prioritization of sources within the jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.
4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.
5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.
6. Develop a more detailed BMP implementation schedule. For each BMP, identify any milestones the County will use for tracking implementation and any measurable goals the County will use to assess implementation efforts. Expected BMP implementation for the future implementation years should be included to the extent possible, with the understanding that future BMP implementation plans may change as new information is obtained.
7. An analysis exhibiting the connection between BMP implementation and wasteload allocation attainment, based on the expected wasteload reductions attributable to the planned BMPs.
8. A more detailed description, including a schedule, of the monitoring program the County plans to implement or use to assess discharge and receiving water quality and BMP effectiveness. At a minimum, the water quality monitoring program should be consistent with any monitoring program information included in the TMDL documentation.
9. A detailed description of how the County will assess BMP and plan effectiveness. The description should incorporate the assessment methods described in the California Stormwater Quality Association's *Municipal Stormwater Program Effectiveness Assessment Guide*.
10. A description of how the County will modify the plan to improve upon BMPs that the effectiveness assessment highlights as ineffective.

11. A detailed description of information the County will include in annual reports.[1]
12. A detailed description of how the County will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Plans.
13. Any other items identified by TMDL Project Reports or Resolutions or currently being implemented to address TMDL provisions.

We plan to work closely with you during development of your Wasteload Allocation Attainment Plans. Upon receipt of the Wasteload Allocation Attainment Plans, we will review the plan, provide comments, and work with you to modify the plans, if necessary. We will review the Wasteload Allocation Attainment Plans for the items above, as well as the overall likelihood of the plans ultimately achieving the TMDLs' wasteload allocations according to the schedule outlined in the TMDLs. This standardized process of development, implementation, assessment, and review of the Wasteload Allocation Attainment Plans will provide the greatest likelihood for attainment of the TMDLs' wasteload allocations.

E. Stormwater Activities Planned for Next Reporting Cycle

Issue: In Part (c) of each BMP the County does not always provide a sufficient summary of the stormwater activities they have planned for the next reporting cycle. Failure to describe the stormwater activities the County plans to undertake during the next reporting cycle is a violation of General Permit Section F.1.e.

Action Required: **In future annual reports**, provide a more thorough summary of the activities the County plans to complete over the next reporting cycle. Although the implementation schedule is outlined in the SWMP, the County must also explain specific examples of their planned activities in the annual report. This will provide the public and Water Board staff with more information about how the BMPs will help decrease stormwater pollution to the MEP. Part (c) of BMP PE16 demonstrates a good example of outlining future BMP implementation plans.

F. Report Format

1. Attachments

Issue: The organization of the attachments in the annual report is confusing. There are multiple incidents throughout the SWMP where attachments reference other attachments. This makes referencing attachments a confusing process.

Action Required: **In future annual reports,** when numbering attachments, do not make an attachment that references a previous attachment for its contents. For example, Attachments 19 and 24 reference Attachments 14 and 15 for their information. Instead, all of these references could have been included in one

[1] Wasteload Allocation Attainment Plans, annual reports, and related documents are expected to be used by Water Board staff to assess TMDL implementation (e.g., TMDL Triennial Reviews).

attachment labeled, Attachment 14. In the report text, simply reference the original attachment that contains the needed information.

2. Header
Issue: The date printed in the header of numerous pages throughout the report is incorrect.

Action Required: **In future annual reports**, ensure all dates are correct.

3. Page Numbers
Issue: The report pages are not numbered.

Action Required: Include page numbers **in future annual reports**.

MCM #1: Public Education and Outreach

A. Public Opinion Surveys
Issue: There are no substantial conclusions made about the effectiveness of the County's stormwater pollution prevention public education and outreach program based on the results of the telephone survey.

Action Required: **In the next annual report**, explain the conclusions the County has reached based on the results of the telephone survey. Water Board staff concurs with the proposed modification to PE2.

B. Pollution Prevention Printed Materials
Issue: In the explanations of the County's progress for BMPs PE6, PE7, PE8, and PE12, the County does not specify the status of providing pollution prevention printed materials for commercial, industrial, and tourist audiences in any measurable terms.

Action Required: **In the next annual report**, please specify what percentage of the County's distribution goal has been completed thus far in the County's implementation of BMPs PE6, PE7, PE8, and PE12.

C. Educational Programs for School-Age Children
Issue: In BMP PE10C, the County does not specify if they have reached their goal of providing Sammy's Kid's Club materials for all children pre-school through grade six enrolled in public schools within the permit coverage area.

Action Required: **In the next annual report**, specifically address the status of BMP PE10C using measurable goals.

D. Distribution of School District Materials
Issue: Water Board staff has noted the County's comments in BMP PE10B and understands the difficulty of obtaining permission from the School District to distribute these materials.

Action Required: In addition to reporting difficulties, include alternative plans to overcome these difficulties, **in future annual reports**.

E. **Collaboration with Cal Poly**
Issue: The annual report table in the Executive Summary titled, 'Year One Implementation Status at a Glance,' notes that BMP PE11 requires change. It is unclear what changes the County expects to make.

Action Required: **In the next annual report,** describe the expected changes the County plans to make for BMP PE11.

F. **Stormwater Pollution Prevention Website**
Issue: The text of BMP PE13B omits the number of times the website has been viewed since March 2007.

Action Required: Please correct this omission in future annual reports.

G. **Pet Waste Management**
Issue: BMP PE18D states that the County intends to distribute pet waste management brochures at animal shelters, pet stores, veterinarian offices, etc. The annual report describes that the County only distributes these materials at public events. Only distributing pet waste materials at public events does not fulfill the requirements of BMP PE18D.

Action Required: **In the next annual report**, explain why the County has not yet implemented BMP PE18D as it is outlined in the SWMP and explain what changes the County will make to the implementation schedule to ensure the objectives of BMP PE18D are completed.

H. **Sammy the Steelhead**
Issue: BMP PE22A does not include an explanation. A picture alone does not sufficiently explain the status of a BMP. In addition, no general summary is given for this section.

Action Required: **In the next annual report,** include a written description of the status of the measurable goals for BMP PE22A. For consistency, please include a general summary for this BMP.

MCM #2: Public Involvement/Participation
At this time, Water Board staff does not have comments on Minimum Control Measure (MCM) #2 Public Involvement/Participation.

MCM #3: Illicit Discharge Detection and Elimination

A. Signage Prohibiting Illegal Dumping

Issue: BMP IL8 states that enforcement of illegal dumping on roadways is difficult due to staffing and coverage issues. Water Board staff has taken note of these issues. However, the County has not proposed any plans or goals to make BMP IL8B more effective at preventing stormwater pollution. Regardless of these issues, the annual report must adequately describe proposed changes to the SWMP if the current BMPs are not effective.

Action Required: **In the next annual report**, the County shall propose modifications and include an implementation timeline for BMP IL8B to more effectively prevent illegal dumping and stormwater pollution.

B. Promotion of Recycling and Hazardous Waste Programs

Issue: BMP IL9B does not explain how the County will coordinate with the Integrated Waste Management Authority (IWMA) to effectively distribute the information included in Attachment 30. Additionally, the annual report does not detail how the County will coordinate with the IWMA to reduce the use of plastic shopping bags in the County and to reduce the use of non-recyclable food and beverage containers.

Action Required: **In the next annual report**, detail how the County's stormwater program is coordinating with the IWMA to educate the public on proper recycling and household hazardous waste disposal.

MCM #4: Construction Site Stormwater Runoff Control

A. Erosion Control Plan Approval

Issue: The County does not include in the SWMP or annual report the approval criteria used by County Development Services for the Erosion Control Plans or Stormwater Pollution Prevention Plans.

Action Required: If the County has a formal checklist for reviewing Erosion Control Plans and Stormwater Pollution Prevention Plans, or another standard document, please include as an attachment, referenced in BMP CON2A, **in the next annual report.**

B. Public Education and Outreach Program for Construction Site Runoff Controls

Issue: BMP CON4C states that the County will measure and record the number of permittees receiving education and outreach materials to ensure that 100% of the applicable applicants receive educational materials. According to the explanation in CON4A, the County has not completed this goal.

Action Required: **In the next annual report**, the County must include an implementation schedule which outlines completion goals and any necessary changes needed to fulfill the activities outlined in BMP CON4C.

MCM #5: Post-Construction Stormwater Management

A. Hydromodification Control Criteria

SWMPs must include BMPs to control the modification of watercourses caused by changes in land use (i.e. "hydromodification controls") in order to meet the MEP standard. Water Board staff explained its expectations for hydromodification control in two letters (see Attachments 1 and 2) sent to other Phase II communities in the Central Coast Region in 2008. These requirements are summarized briefly below:

- Rainfall surface runoff at pre-development levels,
- Watershed storage of runoff (through infiltration, recharge, baseflow, and interflow) at pre-development levels,
- Watercourse geomorphic regimes (including stream bank stability and sediment supply and transport) within natural ranges,
- Optimal riparian and aquatic habitats,
- Protection of riparian areas, wetlands, and their buffer zones, and
- Long-term watershed protection.

Issue: The SWMP does not include a plan for developing long-term numeric hydromodification control criteria. Water Board staff expects the County to develop and implement numeric hydromodification control criteria.

Action Required: **By the next annual report,** revise the County's SWMP to include a BMP describing how the County will develop long-term hydromodification criteria and control measures, as part of a Hydromodification Management Plan, based on a technical assessment of the impacts of development on the County's watersheds. The BMP must include a schedule for developing long-term hydromodification control criteria, **by the end of Year 5, or by March 22, 2012.** An adequate technical assessment will address the following:

- 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.

The assessment should result in:

- Numeric criteria for runoff rate, duration, and volume control for new development and significant redevelopment projects;
- Numeric criteria for stream stability impacts for new development and significant redevelopment projects;
- Identification of areas within the County where these criteria must be met;
- Specific performance and monitoring criteria for installed hydromodification control infrastructure;
- Riparian buffer zone requirements; and

- Appropriate hydromodification control measures such as low impact development concepts, on-site hydrologic and water quality controls, and in-stream controls.

Identify the key steps in the process that will be used to develop the Hydromodification Management Plan. Examples of steps that should be considered include:

- Development of problem statement and objectives;
- Review of literature and data availability;
- Characterization of watershed and future development patterns;
- Determination of assessment methodology;
- Development of criteria and guidance; and
- Development of an implementation strategy.

B. Interim Hydromodification Control Criteria

Regulated MS4s must adopt interim hydromodification control criteria as a step toward establishing long-term hydromodification criteria. Water Board staff's requirements for interim hydromodification control are explained in the Attachments to this letter.

Issue: The SWMP does not include a plan for developing interim hydromodification control criteria.

Action Required: **By the next annual report**, the County must revise its SWMP to include a BMP that commits the County to developing interim hydromodification control criteria. The BMP must include a schedule for developing interim hydromodification control criteria, **by the end of Year 3, or by March 22, 2010**, including a period of no less than three (3) weeks to allow for Water Board staff's review of the proposed criteria. The SWMP should also explain the following: The Water Board Executive Officer will notify the County and other interested persons of the acceptability of the County's proposed interim hydromodification control criteria for new development and significant redevelopment. 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 Water Board staff's determination, prior to Water Board action being final.

Revise the SWMP to detail that any interim hydromodification control criteria (numeric and non-numeric) proposed by the County 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 Central Coast Water Board including, but not limited to, healthier and more sustainable watersheds by 2025. Modify the SWMP to include language stating the County will chose one of the following three options for developing interim hydromodification criteria:

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 watersheds:

- For new and re-development projects, Effective Impervious Area[2] shall be maintained at less than five percent (5%) of total project area.
- 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[3] 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 stream[4] or larger, and ensure that post-project time of concentration is equal or greater than pre-project time of concentration.

OR

"As effective as" means the County may use other approaches (including other variables or numeric criteria, different than Option 1 criteria, appropriate for the County's watersheds) to control hydromodification and protect the biological and physical integrity of the County's watersheds. Other acceptable approaches to develop interim criteria that are as effective as Option 1 include:

Option 2:
Adopt and implement hydromodification criteria developed by another local municipality and approved by the Water Board, such as the criteria the Water Board adopted for the City of Salinas, as interim criteria.

OR

Option 3:
Use the following methodology to develop interim flow control and infiltration criteria:

- 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.

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[2] 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.
[3] Pre-construction condition is defined as undeveloped soil type and vegetation.
[4] A first order stream is defined as a stream with no tributaries.

- Establish numeric criteria for development projects to maximize infiltration on-site, approximate natural infiltration levels to the maximum extent practicable, and effectively implement applicable low-impact development strategies.
- Identify the projects, including project type, size and location, to which the County will apply the interim criteria. The projects to which the County will apply the interim criteria will include all those projects that will cause off-site erosion or other significant adverse impacts to beneficial uses.
- Identify methods to be used by project proponents to demonstrate compliance with the interim discharge rate and duration criteria, including continuous simulation of the entire rainfall record.
- Identify methods to be used by project proponents to demonstrate compliance with the interim infiltration criteria, including analysis of site imperviousness.

Recommendation: To facilitate effective and consistent hydromodification control criteria, we strongly suggest the county coordinate closely with the San Luis Obispo County Partners for Water Quality on development of interim and long-term hydromodification control criteria.

C. Long-Term Watershed Planning

Issue: The SWMP does not include a plan for conducting long-term watershed planning. To establish and maintain meaningful long-term hydromodification control criteria, the County must assess watershed scale issues and conditions, coordinate with other municipalities/governments within the same watershed, and specifically focus on future growth areas.

Action Required: **By the next annual report**, add a BMP to the SWMP to demonstrate the County will proactively work towards long-term watershed planning. The following excerpt, from Attachment 2, outlines Water Board staff's expectations for long-term watershed planning:

"[Water Board staff] expects that [the County] provide long-term watershed protection...meaning that [the County's] SWMP must include a schedule (of BMPs) to integrate all stormwater management control measures into all aspects of land use planning and development (municipal plans, policies, ordinances, codes, conditions of approval, etc.) to attain/protect healthy watersheds. Municipalities must understand the specific water quality and watershed issues in their areas, such as pollutant loading, aquatic habitat degradation, types of land uses and their impacts, trends, and the cumulative effects from multiple municipalities in a watershed. Municipalities must plan comprehensively to define their future growth, including infrastructure and redevelopment, in the context of long-term watershed protection. [Water Board staff recommends] that municipalities located in the same watershed work together and pool resources to define water quality and watershed scale issues, and assess watershed conditions, in a coordinated manner. This type of collaborative approach is being used by almost 3000 farmers in our region, as they also learn how to comply with the Water Board's requirements to define and resolve water quality and watershed scale issues. Farmers in our region established

a non-profit organization that coordinates and streamlines their compliance efforts, helps minimize costs, and helps disseminate information among farmers and between farmers and the Water Board.

[Water Board staff] acknowledges the challenge this presents, and that it will take years for municipalities to learn how to incorporate and implement these changes beyond the project or site-specific scale. It will take time to build the institutional capacity to do the work, and to measure results."

D. **Development Review for Post-Construction Stormwater Management**

1. **Hydromodification Control Criteria for Development Review**

Issue: The County has not developed a plan for institutionalizing hydromodification control criteria into the County's development review process.

Action Required: **By the next annual report**, revise BMP PC3 or add a new BMP to explain that the County 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 by the end of Year 3.

2. **Projects subject to New Design Requirements**

Issue: The SWMP does not identify the stage in the project planning process that will serve as the cut-off point to determine which projects will be subject to the interim hydromodification control criteria.

Action Required: **By the next annual report**, the County must revise the SWMP to identify the stage in the project planning, design, and funding process that the County will use as the cut-off point to determine which projects in the development review 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 County must chose a cut-off point in order to apply the new design requirements to as many projects as feasible.

E. **Site Inspection and Self-Certification Requirements for Long-Term Maintenance**

1. **Hydromodification Control Criteria**

Issue: BMP PC4 currently addresses implementation of hydromodification control criteria for sites greater than one acre in size.

Action Required: **By the next annual report**, modify BMP PC4 to clarify the County will monitor *all* sites meeting its applicability criteria for implementing hydromodification control criteria, not just sites greater than one acre in size.

2. **Post-Construction Inspection Program**

Issue: BMP PC4 does not adequately ensure that the County's post-construction inspection program includes all necessary components.

Action Required: **By the next annual report**, revise BMP PC4 to insure the post-construction inspection program incorporates, in addition to the existing commitments, the following components: specific timeframe after construction termination for the first post-construction site inspection; post-construction inspections for long-term maintenance of post-construction BMPs in coordination with the self-certification program; escalating enforcement procedures for noncompliance with design or operation and maintenance; and tracking system for approved treatment and flow/volume-based BMPs.

MCM #6: Pollution Prevention/Good Housekeeping for Municipal Operations

A. Completion of Measurable Goals

Issue: The County does not specifically address whether or not the measurable goals associated with BMPs MO1, MO4, MO6, MO7, MO9, and MO11 have been met.

Action Required: **In the next annual report**, please be more specific about whether the measurable goals associated with each BMP are met. For example, in the annual report, BMP MO6B states that the County conducted self-inspections of forty-five County facilities. It is unclear if the County inspected 100% of their facilities. Future status reports of BMPs should include a more specific analysis of BMP completion.

B. County Vehicle and Equipment Cleaning Procedures

Issue: The County states in BMP MO9 that maintenance records are not kept for the activities described in BMP MO9. Since records are not kept to track these activities, the County cannot ensure the pollution prevention measures described in BMP MO9 are completed.

Action Required: **In the next annual report**, describe the quality assurance plan the County uses to confirm that County staff are completing the activities on schedule and as described in BMP MO9.

Conclusion

Thank you for submitting the County's SWMP annual report. Water Board staff is available to discuss these comments and work with the County to improve the SWMP.

Some of the issues described in this letter require revisions to the County's SWMP. We require these revisions, pursuant to General Permit Section D, to ensure that the SWMP reduces the discharge of pollutants to the MEP and protects water quality. The next annual report must indicate that the County has made these required revisions. **To assist Water Board staff in the FY2008/2009 annual report review process, please include a track-changes version of the County's SWMP that reflects the modifications requested in this letter.**

Any person affected by this action of the Central Coast Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. To petition the State Water Board, Office of Chief Counsel, at P. O. BOX 100, Sacramento, CA 95812, must receive your petition within 30 days of the date of this letter. We can provide copies of the law and regulations applicable to filing petitions upon request or they are available at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.shtml

If you have any questions, please contact **Tamara Presser at (805) 549-3334** or at **tpresser@waterboards.ca.gov**, or Matt Thompson at (805) 549-3159.

Sincerely,

for Lisa H McCann

Roger Briggs
Executive Officer

Attachment 1: Central Coast Water Board's February 15, 2008 letter
Attachment 2: Central Coast Water Board's July 10, 2008 letter

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Linda S. Adams
Agency Secretary

California Regional Water Quality Control Board

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February 15, 2008

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«GreetingLine»:

Notification to Traditional, Small MS4s on Process for Enrolling under the State's General NPDES Permit for Storm Water Discharges

Introduction

As Executive Officer of the Regional Water Quality Control Board, Central Coast Region (Water Board), I am writing to notify you of the Water Board's revised process for enrolling traditional, small Municipal Separate Storm Sewer Systems (MS4s) under the State's General Permit No. CAS000004 (General Permit). Water Board staff have identified you as an entity that owns or operates an MS4, so you must enroll in the General Permit and develop and implement a Storm Water Management Program (SWMP). This letter describes the SWMP approval process and our expectations regarding the content of your SWMP to comply with the General Permit, and provides you with the schedule Water Board staff intend to follow for review of your SWMP and enrollment of your MS4 under the General Permit. Staff will communicate further with you as your enrollment cycles begin, to establish specific schedules for the five phases leading to enrollment.

Water Board staff will evaluate your SWMP for compliance with the General Permit requirements, including the Maximum Extent Practicable standard, and as appropriate will approve the SWMP and enroll you in the General Permit. If requested, Water Board staff will schedule a public hearing before the Central Coast Water Board for consideration of an individual SWMP.

The Water Board's revised enrollment process is a fundamental shift from the way we have reviewed and approved SWMPs to date. The revised enrollment process eliminates the multiple SWMP review/edit iterations and negotiations that characterized our previous approach. For SWMPs that do not meet the schedule and content described here for General Permit compliance, staff will draft specific resolutions or individual permits for Water Board consideration that will protect water quality, beneficial uses, and the biological and physical integrity of watersheds.

Enrollment Process and Schedule

Water Board staff grouped the 24 remaining un-enrolled traditional MS4s into eight enrollment cycles (Table 1). Each cycle spans a period of 33 to 38 weeks and concludes, on the projected date, with Water Board approval of individual SWMPs and enrollment of the MS4s under the General Permit.

Each enrollment cycle includes five time-limited phases requiring specific actions by both Water Board staff and the MS4 (Table 2). The precise timing and duration of each phase is subject to

change; Water Board staff will develop specific schedules at the commencement of each enrollment cycle.

Table 1: Enrollment Cycles for Attachment 1 and 2 MS4s

Cycle	MS4 Group	Group Members	Projected Start Date for Enrollment Cycle	Projected Executive Officer SWMP Approval	Projected Board SWMP Approval [1]
1	Santa Maria/Lompoc	Santa Maria Lompoc	Jan. 22, 2008	July 28, 2008	Sept. 5, 2008 San Luis Obispo
2	Coastal Santa Barbara County	Goleta Carpinteria Santa Barbara UC Santa Barbara	Jan. 29, 2008	September 2, 2008	Oct. 17, 2008 Santa Barbara
3	Santa Cruz Mountains and Coast	Santa Cruz County Capitola Soquel Aptos Ben Lomond Boulder Creek Live Oak Felton Coralitos Watsonville City of Santa Cruz Scotts Valley UC Santa Cruz	Mid February 2008	October 20, 2008	Dec. 5, 2008 San Luis Obispo
4	Coastal San Luis Obispo County	Arroyo Grande Grover Beach Pismo Beach Oceano Morro Bay Baywood – Los Osos	Mid April 2008	January 2009	2009 – 1st Quarter San Luis Obispo
5	Upper Salinas	King City Templeton Atascadero	Early June 2008	February 2009	2009 – 1st Quarter Salinas
6	City of San Luis Obispo	City of San Luis Obispo	Early September 2008	April 2009	2009 – 2nd Quarter San Luis Obispo
7	Upper Pajaro	Gilroy San Martin Santa Clara	Early November 2008	August 2009	2009 – 3rd Quarter Watsonville
8	Santa Ynez	Buellton Solvang Vandenberg AFB	Mid November 2008	August 2009	2009 – 3rd Quarter San Luis Obispo

1. Board approval only required if a hearing is requested by stakeholder

Table 2: Phases of MS4 Enrollment Cycle

	Duration (weeks)
Phase I: Water Board Staff Assessment of Water Quality Challenges	
Water Board staff: Assess available water quality information Accept input from stakeholders on water quality conditions Prepare and transmit to MS4 staff a statement of current knowledge of water quality challenges that must be addressed by SWMP	3 – 4
Phase II: Water Board Staff SWMP Review	
Water Board staff: Review SWMP and "red-lines" text Send red-lined SWMP and letter explaining requirements to MS4	3 – 4
Phase III: MS4 SWMP Redraft	
MS4 staff re-draft SWMP and post for Public Review	6
Phase IV: Water Board Staff Final Review and Posting of SWMP	
Water Board staff review SWMP	2 – 4
Water Board staff post SWMP and table of required revisions for Public Review	8
Water Board staff respond to public comment and EO approves SWMP	3 – 4
Phase V: Water Board Action (if hearing requested)	
Water Board staff prepare Staff Report with recommendation and resolution for SWMP approval	2
Water Board Staff: Post Staff Report with Board Agenda for Public Review Respond to additional public comment Prepares Presentation for Hearing Conduct internal review up to Board Meeting	6
Total	**33 to 38**

Communication

Clear and open communication between Water Board staff, MS4 staff, and stakeholders is vital to the success of this enrollment process. Also, the Phase II General Permit requires public participation as a component of developing and implementing successful stormwater management programs for MS4s. To comply with the General Permit, you must verify that you have achieved broad and timely distribution of announcements of scoping meetings, draft stormwater program documents, and local agency actions on stormwater program activities when you submit your SWMP for Water Board staff review.

Water Board staff are committed to ensuring that the enrollment process proceeds with open communication. Staff will employ a list-serve (email notification) for notifying all interested parties of important milestones in each enrollment cycle. Water Board staff will also maintain an MS4 enrollment tracking webpage where staff will post relevant documents and indicate the status of each MS4 in the enrollment process. Additionally, an individual Water Board staff person will be assigned to each enrollment cycle. We request that you also identify an individual to serve as point of contact representing your MS4 with whom we will communicate during the enrollment process. You must identify your point of contact when Water Board staff contact you to initiate your enrollment cycle.

Central Coast Water Board Expected SWMP Content

The federal Clean Water Act (CWA) provides that National Pollutant Discharge Elimination System (NPDES) permits for MS4s must require municipalities to reduce pollutants in their stormwater discharges to the Maximum Extent Practicable (MEP) (CWA §402(p)(3)(B)). The California Water Boards have established the meaning and application of this standard through several adopted stormwater permits (the MEP standard is the same for Phase I and Phase II municipalities)[1]. The Water Board implements the General Permit to be consistent with its Water Quality Control Plan (Basin Plan) to ensure protection of water quality, beneficial uses, and the biological and physical integrity of watersheds according to the issues in the Regions.

Your SWMP must include an array of Best Management Practices (BMPs), including the six Minimum Control Measures listed in the General Permit, to achieve the following conditions:

I. Maximize infiltration of clean stormwater, and minimize runoff volume and rate
II. Protect riparian areas, wetlands, and their buffer zones
III. Minimize pollutant loading; and
IV. Provide long-term watershed protection

I. Maximize Infiltration of clean stormwater, and minimize runoff volume and rate.
Water Board staff expect your SWMP to present a schedule for development and adoption of control standards for hydromodification. For SWMP adoption, staff will recommend to the Water Board the following interim requirements, which would apply until such time that you develop acceptable control standards for hydromodification:

- For new and re-development projects, Effective Impervious Area[2] shall be maintained at less than five percent (5%) of total project area.
- 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[3] 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 stream[4] or larger, and ensure that post-project time of concentration is equal or greater than pre-project time of concentration.

These interim requirements must be implemented for all applicable projects subject to your discretionary approvals within six (6) months of your enrollment in the Phase II permit. Your schedule for development and adoption of your own control standards for hydromodification must include:

- Numeric criteria for controlling stormwater runoff volume and rates from new and redevelopment.

[1] Several stormwater permits adopted by different Regional Boards have been legally challenged. All have been upheld by the State Water Resources Control Board and the courts. The Water Boards have broad authority to regulate stormwater and land use activities that result in discharges to waters of the State. Urbanization is one the most important land use activities affecting water quality, beneficial uses, and the physical and biological integrity of watersheds in the Central Coast Region.

[2] 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.

[3] Pre-construction condition is defined as undeveloped soil type and vegetation.

[4] A first order stream is defined as a stream with no tributaries.

- Numeric criteria for stream stability required to protect downstream beneficial uses and prevent physical changes to downstream stream channels that would adversely affect the physical structure, biologic condition, and water quality of streams.
- Specific applicability criteria, land disturbance acreage thresholds, and exemptions.
- Performance criteria for control BMPs and an inspection program to ensure proper long term functioning over.
- Education requirements for appropriate municipal staff on hydromodification and Low Impact Development.

You must include an effective strategy to control hydromodification, or Water Board staff will recommend to the Water Board requirements in the resolution approving your SWMP and enrolling you in the Phase II permit.

II. Protect riparian areas, wetlands, and their buffer zones:
Your SWMP must include BMPs and/or other control measures to establish and maintain a minimum 30-foot buffer zone for riparian areas and wetlands[5]. The buffer zone is a protective area that is undisturbed to the maximum extent practicable. Your SWMP must include consideration and prioritization of local conditions, such as habitat degradation, water quality, and land management practices, and apply more substantial buffer zones where necessary to protect riparian areas and wetlands.

You must include an effective strategy to adopt and implement protection of riparian areas, wetlands, and their buffer zones, or Water Board staff will recommend to the Water Board requirements in the resolution approving your SWMP and enrolling you in the Phase II permit.

III. Minimize pollutant loading
Your SWMP must include BMPs and/or other control measures to minimize pollutant loading, including volume- and/or flow-based treatment criteria. Your SWMP must include consideration and prioritization of local conditions, such as existing pollutant loading, water quality, 303(d) listed impaired waters, pollutants of concern, habitat degradation, and land management practices, and apply more stringent control measures where necessary to minimize pollutant loading.

You must include an effective strategy to reduce pollutant loading, or Water Board staff will recommend to the Water Board requirements in the resolution approving your SWMP and enrolling you in the Phase II permit.

IV. Provide long-term watershed protection
You must include in your SWMP a strategy to develop watershed based hydromodification management plans. These plans should incorporate Low Impact Development strategies with the goal of Post Construction Storm Water Management to achieve an Effective Impervious Area of no more than three to ten percent (3 – 10%) of watershed area within your jurisdiction, depending on local conditions.

The requirements listed above are often characterized as hydromodification controls, or Low Impact Development. These terms are related and their meanings overlap. These requirements are necessary to ensure protection of water quality, beneficial uses, and the biological and physical integrity of watersheds and aquatic habitat. You can reference information on hydromodification controls and Low Impact Development principles on the Central Coast Water Board's website:

[5] The Central Coast Water Quality Control Plan (Basin Plan) requires protection of riparian and wetland habitat and their buffer zones (Basin Plan, Section V.G. 4).

http://www.waterboards.ca.gov/centralcoast/stormwater/low%20impact%20devel/lid_index.htm.

Evaluation of Program Effectiveness and Progress toward Water Quality Goals

Because MEP is a dynamic performance standard which evolves over time as stormwater management knowledge increases, MS4 managers must continually assess and modify their programs to incorporate improvements in control measures and BMPs to achieve MEP. Therefore, your SWMP should contain a detailed plan for evaluating its effectiveness and progress toward complying with the General Permit. Your SWMP must also explain how you will communicate evaluation results with stakeholders. Your evaluation plan should include quantifiable measures for evaluating the effectiveness of the program and be based on the following objectives:

- Assess compliance with requirements of the General Permit , including:
  - Inspection Programs
  - Construction Site Controls
  - Elimination of unlawful discharges
  - New development and redevelopment requirements
- Verify that BMPs are being implemented (e.g., all new applicable developments meet hydromodification control requirements described above and as further described in your SWMP);
- Assess the chemical, physical, and biological impacts on beneficial uses caused by pollutants of concern in stormwater discharges;
- Characterize watersheds and stormwater discharges;
- Identify sources of pollutants; and
- Evaluate long-term trends in receiving water quality.

Conclusion

Please become familiar with the schedule for the enrollment cycle for your MS4, and the steps in the enrollment process. When Water Board staff contact you to initiate your enrollment cycle, please provide us with contact information for the individual that will be representing your MS4.

Please begin updating or preparing your SWMP to include the following as explained in this letter:

- Hydromodification controls for new and redevelopment;
- Protection of riparian and wetland habitat and their buffer zones;
- Minimization of pollutant loading;
- Provision of long-term watershed protection; and
- Evaluation of program effectiveness.

Your SWMP must be specific and must include: well-defined BMPs and other actions that you will implement, schedules, measurable goals, and measures to determine the effectiveness of your program. If your SWMP is not comprehensive or lacks specificity, I will not approve it, and Water Board staff will draft a resolution or an individual permit for consideration by the Water Board at a hearing.

I am clarifying the Water Board's revised enrollment process and SWMP content and requirements to speed up approval of SWMPs for MS4s in the Central Coast Region that will protect water quality, beneficial uses, and the biological and physical integrity of watersheds. I am also committing staff time to regulate MS4s and provide technical and financial assistance to municipalities for stormwater management programs.

The Proposition 84 Storm Water Grant Program funds may be used to provide matching grants to local public agencies for the reduction and prevention of stormwater pollution of rivers, lakes, and streams. A total of approximately $82 million will be available for matching grants. A scoping meeting to answer questions and to solicit input will be held at our office in San Luis Obispo on Monday, March 3, 2008, from 1:00 – 4:00 PM. For more information on the Proposition 84 Storm Water Grant Program and workshops, visit the State Water Board's website at: http://www.waterboards.ca.gov/funding/prop84.html.

I anticipate you will have questions about this letter and the expected content of your SWMP. Please contact us. Our lead staff for this enrollment process is **Dominic Roques**, droques@waterboards.ca.gov or at **(805) 542-4780.**

Sincerely,

Roger W. Briggs
Executive Officer

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Linda S. Adams
Agency Secretary

California Regional Water Quality Control Board

Central Coast Region

Arnold Schwarzenegger
Governor

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July 10, 2008

FOLLOW UP TO NOTIFICATION TO TRADITIONAL, SMALL MS4s REGARDING PROCESS FOR ENROLLING UNDER THE STATE'S GENERAL NPDES PERMIT FOR STORMWATER DISCHARGES

On February 15, 2008, I sent a letter to you with my expectations regarding the content of Storm Water Management Plans (SWMPs), and an explanation of our process for enrolling traditional, small Municipal Separate Storm Sewer Systems (MS4s) under the State's General Storm Water Permit. This letter responds to feedback we received regarding my February 15 letter and is a follow up to the meetings we have had with several municipalities.

This letter presents:

- An example approach for including quantifiable measures of healthy watersheds in stormwater management programs
- Additional time for developing interim hydromodification criteria
- Reiteration of our authority to provide expectations for SWMP content
- The current status of the enrollment process
- The availability of technical and financial assistance

My February 15 letter emphasized that SWMPs must include BMPs to achieve the following conditions, which are necessary to ensure protection of water quality, beneficial uses, and the biological and physical integrity of watersheds and aquatic habitat:

I. Maximize infiltration of clean stormwater, and minimize runoff volume and rate
II. Protect riparian areas, wetlands, and their buffer zones
III. Minimize pollutant loading; and
IV. Provide long-term watershed protection

My February 15 letter specifically required your SWMP to include an "Evaluation of Program Effectiveness and Progress toward Water Quality Goals." This means that your SWMP must identify quantifiable measures to determine whether your stormwater program achieves the conditions (I.-IV.) above and any other water quality goals your SWMP is designed to achieve (e.g., pollution reduction). In my February 15 letter I included interim requirements for hydromodification control that could serve as quantifiable measures and that I considered adequate for recommending SWMP approval to our Board.

Several responses to my February 15 letter requested that I consider different interim requirements for hydromodification control that could serve as quantifiable measures for recommending SWMP approval to our Board. This information is discussed in the next section on quantifiable measures, below. We also received requests for additional time to align SWMPs with my expectations. This issue is discussed below under **Additional Time for Developing Interim Criteria for Hydromodification.** Finally, some responses questioned our legal authority to base SWMP approvals on the expectations I presented in the Feb. 15 letter and claimed that they are not necessary for compliance with the State General Permit. This issue is discussed below under **Legal Authority to Provide Expectations for SWMP Content**.

The list of goals above (listed as I. through IV.) includes our expectation that you "provide long-term watershed protection." This means that your SWMP must include a schedule (of BMPs) to integrate all stormwater management control measures into all aspects of land use planning and development (municipal plans, policies, ordinances, codes, conditions of approval, etc.) to attain/protect healthy watersheds. Municipalities must understand the specific water quality and watershed issues in their areas, such as pollutant loading, aquatic habitat degradation, types of land uses and their impacts, trends, and the cumulative effects from multiple municipalities in a watershed. Municipalities must plan comprehensively to define their future growth, including infrastructure and redevelopment, in the context of long-term watershed protection. I recommend that municipalities located in the same watershed work together and pool resources to define water quality and watershed scale issues, and assess watershed conditions, in a coordinated manner. This type of collaborative approach is being used by almost 3000 farmers in our region, as they also learn how to comply with the Water Board's requirements to define and resolve water quality and watershed scale issues. Farmers in our region established a non-profit organization that coordinates and streamlines their compliance efforts, helps minimize costs, and helps disseminate information among farmers and between farmers and the Water Board.

We acknowledge the challenge this presents, and that it will take years for municipalities to learn how to incorporate and implement these changes beyond the project or site-specific scale. It will take time to build the institutional capacity to do the work, and to measure results. Please see the section at the end of this letter on the availability of financial and technical assistance.

An Example Approach for Including Quantifiable Measures of Healthy Watersheds in Stormwater Management Programs

The attached information may help you develop quantifiable measures of healthy watersheds, including numeric criteria for hydromodification control and watershed protection controls. The information is not comprehensive, but provides examples to demonstrate how a control measure should be linked to, a) a desired condition (or goal), b) the parameter(s) that define the condition, and c) quantifiable measures that serve to evaluate performance of the control measure. We will use this type of approach to evaluate the control measures and quantifiable measures (including interim criteria for hydromodification controls) in your SWMPs.

We recognize that different Phase II communities are at different junctures in developing or implementing their SWMPs and selecting quantifiable measures. Thus, the attached information may assist you in different ways; for example, it may assist your selection of interim hydromodification criteria, or, it may help you improve your SWMP's measures of long-term performance.

Additional Time for Developing Interim Criteria for Hydromodification

My February 15 letter stated that we expect you to implement our interim requirements for hydromodification control for all projects subject to your agency's discretionary approvals within six (6) months of your enrollment in the Phase II General Permit, i.e., when your SWMP is approved by the Executive Officer or adopted by the Water Board. In response to the feedback we received, we are providing flexibility in three ways: 1) I am providing you an additional six (6) months, (to make it a full year), before you apply interim criteria for hydromodification control, 2) I am willing to consider other hydromodification control criteria that you develop, if they are reasonably equivalent to those I specified in my February 15 letter, and 3) I am willing to consider the applicability of hydromodification control criteria based on local conditions.

Water Board staff's expectation is that within one year of enrollment under the General Permit, you 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. Your SWMP must include a commitment and a schedule to develop any alternative interim criteria, should you choose to develop them. If you fail to develop alternative criteria acceptable to the Water Board, you will be subject to our interim criteria as stated in the February 15 letter.

We are available to discuss hydromodification control measures (BMPs), acceptable numeric criteria for those controls, and the criteria for their application (applicability criteria). If you intend to develop your own interim criteria for hydromodification control, please include your schedule for developing the criteria in your SWMP and allow for a period of no less than three (3) weeks for Water Board staff to review the proposed criteria. Water Board staff will also consider economic factors in reviewing hydromodification control criteria and applicability criteria.

To ensure our allowance of additional time does not come at a cost to watershed health, we propose that by our original six-month date, you inform property developers that, in the absence of established detailed criteria (interim or otherwise) for hydromodification control, you only approve and permit projects that incorporate substantive hydromodification evaluation and controls (that is, the developers can propose their own approach to meet the intent until detailed criteria are established).

Legal Authority to Provide Expectations for SWMP Content

As noted in my February 15 letter, the federal Clean Water Act (CWA) provides that National Pollutant Discharge Elimination System (NPDES) permits for MS4s must require municipalities to reduce pollutants in their stormwater discharges to the Maximum Extent Practicable (MEP) (CWA §402(p)(3)(B)). The California Water Boards have established the meaning and application of this standard through several adopted stormwater permits (the MEP standard is the same for Phase I and Phase II municipalities)[1]. The Water Board implements the General Permit to be consistent with its Water Quality Control Plan (Basin Plan) to ensure protection of water quality, beneficial uses, and the biological and physical integrity of watersheds according to the issues in the Regions. The General Permit contemplates that low impact development will be a component of

[1] Several stormwater permits adopted by different Regional Boards have been legally challenged. All have been upheld by the State Water Resources Control Board and the courts. The Water Boards have broad authority to regulate stormwater and land use activities that result in discharges to waters of the State. Urbanization is one the most important land use activities affecting water quality, beneficial uses, and the physical and biological integrity of watersheds in the Central Coast Region.

SWMPs. See Fact Sheet to General Order at page 6. The General Permit also requires the SWMP to contain measurable goals, including, for example, percent reduction in pollution load. The General Permit has been in effect for nearly five years and the Central Coast Water Board expects that Phase II communities will have benefited from their own experience and other communities in developing a robust SWMP. The General Permit expects Phase II communities to learn from Phase I communities in implementing MEP. The February 15 letter did not require that each community include the specific recommendations, but rather stated that the Executive Officer would not approve a SWMP that does not include adequate low impact development BMPs and measurable goals. Our approach, including our February 15, 2008 letter, is consistent with the General Permit.

Current Status of Enrollment Process

Since initiation of the new enrollment strategy, several enrollment cycles have begun. Table 1 presents the status of the cycles. Please check our website for more specific scheduling information and notices for public comment periods.
http://www.swrcb.ca.gov/rwqcb3/stormwater/index.htm

Availability of Technical and Financial Assistance

Several grant programs are currently available to provide matching grants to local public agencies to protect watersheds, reduce and prevent stormwater pollution, and implement LID planning and design principles and practices. These programs include California Proposition 84 Storm Water funds, California Proposition 1E Flood Prevention and Stormwater Management, and the US EPA West Coast Estuaries Initiative. I encourage you to pursue these grant opportunities. For more information specifically on the Proposition 84 Storm Water Grant Program and workshops, visit the State Water Board's website at:
http://www.waterboards.ca.gov/water_issues/programs/grants_loans/prop84/index.shtml

You may also contact our grant manager, Angela Schroeter, at 805-542-4644, or at ASchroeter@waterboards.ca.gov, regarding these grant opportunities.

The Water Board is also providing partial funding for a Central Coast Low Impact Development Center. The Center will assist municipalities, engineers, and developers to implement Low Impact Development on the Central Coast. We anticipate technical assistance will be available from the Central Coast LID Center office starting fall 2008. In the meantime, we encourage you to contact the LID Center of Maryland (http://www.lowimpactdevelopment.org/), as they have extensive experience in helping municipalities implement LID throughout the Unites States, including California. We also encourage you to contact other professionals who are qualified to implement LID and watershed protection, such as the Center for Watershed Protection (www.cwp.org and www.stormwatercenter.net), and The Center for Water and Land Use (http://extension.ucdavis.edu/unit/center_for_water_and_land_use/about.asp) to use their many technical and educational resources (many of which are free). These services will help you create the institutional capacity to integrate all stormwater management control measures into all aspects of land use planning and development (municipal plans, policies, ordinances, municipal codes, conditions of approval, etc.) to protect healthy watersheds.

Table 1: Status of Enrollment Cycles for Attachment 1 and 2 MS4s

Cycle	MS4 Group	Group Members	Projected Start Date for Enrollment Cycle	Projected Executive Officer SWMP Approval	Projected Board SWMP Approval[2]	Staff Phone (805 Area Code)
1	Santa Maria	Santa Maria	Underway	August 11, 2008	Sept. 5, 2008 San Luis Obispo	Dominic Roques 542-4780
2	Coastal Santa Barbara County	Goleta Carpinteria Santa Barbara UC Santa Barbara Lompoc *(originally in Cycle 1)*	Underway	September 2, 2008	Oct. 17, 2008 Santa Barbara	Brandon Sanderson 549-3868
3	Santa Cruz Mountains and Coast	Santa Cruz County Watsonville City of Santa Cruz Scotts Valley UC Santa Cruz	Underway	February, 2009	March 6, 2009 San Luis Obispo	Phil Hammer 549-3882
4	Coastal San Luis Obispo County	Arroyo Grande Grover Beach Pismo Beach Oceano CSD Morro Bay Los Osos CSD	Underway	January 2009	2009 – 1st Quarter San Luis Obispo	Tamara Presser 549-3334
5	Upper Salinas	King City Templeton Atascadero	June 2008	February 2009	2009 – 1st Quarter Salinas	David Innis 549-3150
6	City of San Luis Obispo	City of San Luis Obispo	Underway	April 2009	2009 – 2nd Quarter San Luis Obispo	Tamara Presser 549-3334
7	Upper Pajaro	Gilroy San Martin Santa Clara	Early November 2008	August 2009	2009 – 3rd Quarter Watsonville	Dominic Roques 542-4780
8	Santa Ynez	Buellton Solvang Vandenberg AFB	Mid November 2008	August 2009	2009 – 3rd Quarter San Luis Obispo	Dominic Roques 542-4780

Agencies, municipalities, and consultants are all on a learning curve with respect to stormwater management, LID implementation, and watershed protection. Water Board staff are not design or planning experts, and as with all of our requirements, we cannot legally tell those we regulate how to comply. Municipalities must build their capacity to be able to comply with the Board's requirements. This includes hiring qualified personnel to develop and implement SWMPS, and providing the most up to date, relevant education on an ongoing basis. When relying on consultants, it is critical that you carefully consider the qualifications and experience of the professionals you retain. Many consulting firms are on the same learning curve as agencies and municipalities.

If you have any questions regarding this letter, please contact **Dominic Roques**, at

[2] Board approval only required if a hearing is requested by stakeholder

droques@waterboards.ca.gov or at (805) 542-4780. If you have any questions regarding the status of a particular enrollment cycle, please contact the staff person indicated in Table 1.

Thank you for your commitment to developing a SWMP that will support healthy watersheds in the Central Coast Region.

Sincerely,

Roger W. Briggs
Executive Officer

Cc:
Hillary Hauser, Heal The Ocean
Steve Shimek, The Otter Project
Kira Redmond, Santa Barbara ChannelKeeper
Christine Sotelo, SWRCB
Chris Crompton, California Stormwater Quality Association
Jerry Bunin, Homebuilders Association of the Central Coast

Attachment: An Example Approach for Including Quantifiable Measures of Healthy Watersheds for Stormwater Management Programs

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An Example Approach for Including Quantifiable Measures of Healthy Watersheds in Stormwater Management Programs

The Water Board implements the General Permit for Phase II Stormwater Dischargers to be consistent with the Central Coast Water Quality Control Plan to ensure protection of water quality, beneficial uses, and the biological and physical integrity of watersheds in the Central Coast Region. The Water Board's Executive Officer requires Storm Water Management Plans (SWMPs) to include BMPs that achieve the following, which are necessary to ensure protection of water quality, beneficial uses, and the biological and physical integrity of watersheds and aquatic habitat:

I. Maximize infiltration of clean stormwater, and minimize runoff volume and rate
II. Protect riparian areas, wetlands, and their buffer zones
III. Minimize pollutant loading; and
IV. Provide long-term watershed protection

Together these objectives support healthy watersheds and SWMPs must identify quantifiable measures to determine whether stormwater programs achieve these objectives. Water Board staff must have quantifiable measures by which to evaluate compliance with the General Permit.

Using the Example Approach

The attached table may assist you in developing quantifiable measures of healthy watersheds, including hydromodification control criteria. It identifies the *desired conditions* of healthy watersheds affected by stormwater, including hydrologic and geomorphic conditions and the habitat conditions they drive. The table also identifies *control measures* that function to protect, support, or restore desired conditions. The table then identifies *parameters* and *proxy parameters* that describe these desired conditions. And finally, the table includes examples of *quantifiable measures* associated with particular parameters.

Water Board staff expects SWMPs to rely on a variety of control measures to achieve the desired condition of healthy watersheds. Each control measure should be linked to a desired condition, the parameter(s) that define that condition and quantifiable measures that serve as performance goals for the control measure. The following example illustrates how the framework can be used:

> Example:
> Optimal riparian habitat is a desired condition of healthy watersheds. One parameter that describes optimal riparian habitat is the width of the riparian area. A specific dimension – a width of 100 feet – can be established as a quantifiable measure of the width parameter. The result, a control measure or Best Management Practice, requiring the establishment of riparian setbacks of 100 feet, supports the goal of maintaining a healthy watershed. As this example illustrates, some control measures and quantifiable measures can be applied beyond the site scale up to the watershed scale.

Desired Conditions of Healthy Watersheds

Desired conditions of healthy watersheds are defined here as the physical attributes and processes that are characteristic of watersheds possessing the essential water quality condition of physical and biological integrity. These conditions include observable and measurable outcomes in the landscape and watershed that are aligned with the Central Coast Water Board's vision of healthy watersheds and are consistent with our Basin Plan. Our vision is the

attainment of healthy watersheds throughout the Central Coast Region by 2025. To that end, we have defined the following desired conditions of healthy watersheds:

A. Rainfall surface runoff at pre-development levels,
B. Watershed storage of runoff, through infiltration, recharge, baseflow, and interflow, at pre-development levels,
C. Watercourse geomorphic regimes within natural ranges (stream banks are stable within natural range; sediment supply and transport within natural ranges), and
D. Optimal riparian and aquatic habitats (including: stream flow, in-channel, water column, and biotic conditions).

Direct Parameters

Parameters are accurate and precise descriptions and elements of desired conditions. The parameters listed in the attached table are examples of those conventionally used to describe, characterize and/or evaluate the conditions. Direct parameters allow direct examination, description, or assessment of a desired condition.

Proxy Parameters for Applying Quantifiable Measures

Proxy parameters, while still descriptors of the desired condition, lend themselves to quantifiable measurement more readily than direct parameters. Proxy parameters are often used where there are impediments to directly measuring the elements or attributes of a desired condition.

Quantifiable Measures

Quantifiable measures include numeric criteria and metrics applied to a particular parameter. For example, specific hydrograph criteria are quantifiable measures used to ensure post-development runoff volumes are equivalent to pre-development runoff volumes. For some conditions and their parameters it is challenging to develop quantifiable measures, or criteria. For example, broad consensus is lacking on the appropriate criteria for Large Woody Debris (LWD) in streams, an important component of in-channel aquatic habitat in fish-bearing streams. For the LWD parameter, research continues on the appropriate amount of LWD necessary to maintain its roles in providing habitat and structural complexity to stream channels. In such cases, managers can select provisional targets as interim criteria for a parameter and employ adaptive management to improve on the criteria over time.

Hydromodification Control Criteria: Quantifiable Measures (i.e., numeric criteria) for hydromodification are an important component of stormwater management programs. Hydromodification refers to the effects of urbanization on runoff and stream flows that in turn may cause erosion and/or sedimentation in stream channels. Throughout the State, hydromodification is a major cause of most current and future water quality issues associated with urban runoff and is also a major cause of flooding. Projected population growth, and pressure to develop new landscapes, compounds this problem. Hydromodification control aims to prevent erosion in stream channels that receive runoff from new and redevelopment areas. Hydromodification control is clearly important to maintaining or achieving the desired condition of healthy watersheds and Water Board staff will continue to require hydromodification control for new and redevelopment. Healthy watershed conditions associated with surface runoff (A, above), watershed storage (B), and geomorphic regimes (C) are typically the subjects of hydromodification management planning and assessment. Such planning and assessment can provide a basis for establishing regionally specific hydromodification control. Examples of quantifiable measures for hydromodification are identified in the table with a check mark in the column "HMC" (Hydromodification Criteria).

Watershed Protection Criteria: Quantifiable Measures (i.e., numeric criteria) for watershed protection are also an important component of stormwater management programs. Watershed protection means integration and incorporation of stormwater management control measures that support healthy watersheds into all aspects of land use planning and development. Watershed protection aims to preserve and protect riparian areas, wetlands and aquatic habitats (D, above) while a variety of land uses, including urban development, continue in the watersheds. Examples of quantifiable measures for watershed protection are included in the table as well (Richards-Baker Flashiness Index, continuous flow duration curves, stream setback criteria, Effective Impervious Area thresholds, and Basin Plan Water Quality Objectives).

Control Measures

Control measures include best management practices (BMPs) that contribute to sustaining the desired conditions of healthy watersheds. For example, control measures requiring Low Impact Development, discussed below, applied to new development, can directly maintain pre-development runoff rates on many sites. Some control measures are more indirect in their effect on desired conditions. For example, hydrograph management can contribute to maintaining sediment supply within a natural range – desired condition C – by maintaining the frequency and timing of flows that transport sediment. However, maintaining frequency and timing of flows cannot compensate for a lack of sediment caused by an upstream dam for example. Additionally, control measures requiring riparian setbacks protect riparian and aquatic habitats.

Low Impact Development (LID):

LID is a land planning and design strategy with the goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic site design. Hydrologic functions of storage, infiltration and ground water recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro-scale stormwater retention and detention areas, reduction of impervious surfaces, capture and reuse of runoff, and the lengthening of runoff flow paths and flow time. Other related strategies include the preservation/protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, valuable (mature) trees, flood plains, woodlands, and highly permeable soils. LID is a preferred site scale control measure because it integrates measures that address all of the desired conditions of a healthy watershed. In fact, the term "Integrated Management Practices" (IMPs) is often used in lieu of the term LID.

Watershed Scale Control Measures:

Subwatershed or watershed planning can be undertaken through general planning, specific area planning, and district planning. Such planning results in municipal plans, policies, ordinances, codes, etc., that improve or protect desired conditions of healthy watersheds (A-D above). Staff at the Central Coast Water Board expect Storm Water Management Programs to include strategies for conducting watershed-based planning that yield control measures beyond the site-specific or individual project scale. Such planning should be conducted to determine how best to integrate site-specific scale stormwater management control measures into all aspects of land use planning and development. For example, a riparian setback can be applied to individual development proposals on a case-by-case basis as a generally protective site level control. However, watershed-scale planning may indicate that development should be restricted within a setback distance for designated reaches of a stream, as a sub-watershed or watershed scale control, to protect identified sensitive habitat, take advantage of a high value stream

recharge zones, or prevent potential downstream hydrologic impacts. To that end, several of the parameter/quantifiable measure combinations identified in the attached table are useful both in evaluating watershed scale controls, and the effect of site controls at the watershed scale (e.g., Richards-Baker Flashiness Index, Continuous flow duration curves, stream setback criteria, Effective Impervious Area thresholds, and Basin Plan Water Quality Objectives).

The attached table includes a small selection from the abundance of site-specific scale control measures available to achieve healthy watershed conditions. However, the blanket application of site-specific scale requirements invariably yields unintended consequences. Applicability criteria, which define what types of projects and under what circumstances controls and quantifiable measures apply, are a necessary component of effective implementation. The challenge in developing applicability criteria is to require control measures sufficient to achieve the desired effect on watershed conditions, while avoiding unintended outcomes. For example, hydrologic performance should not outweigh other important environmental goals such as infill, redevelopment priorities, and regional growth patterns that can also affect watershed health. An example from a report recently commissioned by the California Ocean Protection Council illustrates a limitation of site scale control measures:

> *LID requirements are often written to apply to individual projects, which results in uneven application:* LID is often defined as a site-level approach, and as such, many LID regulations set one uniform performance standard across all "projects" that are part of a "common development plan." Developers of large greenfields projects have leeway in arranging lots and open space to meet the performance standard. For example, if a new development must be limited to no more than 10 percent impervious cover, individual home sites need not meet this requirement as long as the overall development plan has less than 10 percent cover. However, for redevelopment, most projects are individual sites with little or no space or flexibility for BMP design. This creates a situation where a large greenfield project allows flexibility as a common development plan, but redevelopment must meet the entire performance standard within the site boundaries. [1]

To achieve the appropriate balance of environmental and societal goals, stormwater managers should consider and select control measures (BMPs) and applicability criteria at a watershed scale. The effect of exemptions from hydromodification control requirements for individual projects for example, must be examined from a broad enough perspective to determine whether the desired conditions of healthy watershed are achieved. There is a growing belief that subwatershed planning is the best structure for matching control measures to runoff stressors (ibid).

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[1] *State and Local Policies Encouraging or Requiring LID in California, Attachment 1, p. A-12, Prepared by Tetra Tech Inc. for the California Ocean Protection Council, January 2008.*

Table: Framework to Support Development of Quantifiable Measures of Healthy Watersheds for Stormwater Management Programs

Control Measure	Direct Parameter	Proxy Parameter for Applying Quantifiable Measure	Example Quantifiable Measure	HMC[2]	Cite[3]
DESIRED CONDITION A: SURFACE RUNOFF AT PRE-DEVELOPMENT LEVELS					1, 5, 22, 26, 30
Hydrograph Mgmt LID BMPs	Volume Rate Duration Timing	Continuous Flow Duration Curves	The post-project-project discharge rates and durations shall not deviate above the pre-project rates and durations by more than 10% over more than 10% of the length of the flow duration curve, for flow rates from 20% of the pre-project 5-yr runoff event to the pre-project 10-yr runoff event.	✓	12, 16
		Event-Based Hydrograph Matching	For storms up to the 2-yr, 24-hr recurrence interval, the volume of runoff that leaves a site must not exceed the volume that would occur from the site under fully forested condition, given the soils present	✓	6, 14, 31
		Drainage Density	Preserve predevelopment drainage density for all drainage areas serving a first order stream or larger	✓	11
		Time of Concentration	Ensure that post-project time of concentration is equal or greater than pre-project time of concentration	✓	11
		Effective Impervious Area (EIA)	EIA less than or equal to 5% of total project area	✓	5, 9, 16, 21, 27, 28,
		Richards-Baker Flashiness Index	Not Available		1
DESIRED CONDITION B: NATURAL WATERSHED STORAGE					
Hydrograph Mgmt LID BMPs	Infiltration Groundwater flow & recharge	Time of Concentration Drainage Density Flow duration curves Groundwater elevations	SAA[4] SAA SAA Not Available		
	Interflow Baseflow	Event-based hydrograph matching	SAA		
		EIA	SAA		
DESIRED CONDITION C: GEOMORPHIC REGIME WITHIN NATURAL RANGE					
Stream Bank Stability[5] within Natural Range					
Riparian Buffers Stream Setbacks In-stream Grade-Control	Entrenchment Width-Depth Ratio Bank Failure	Stream Setback Width	100-feet setback on streams of first order and above		2, 18

[2] Hydromodification Control (HMC).
[3] Citations (see end of Table) include source of example Quantifiable Measure and/or select supporting literature and documents.
[4] SAA = Same As Above. Quantifiable Measure example is same as the above Quantifiable Measure for the specified parameter.
[5] Stream bank stability: a condition in which the sediment sizes and loads, water discharges, and channel shapes and slopes are in balance.

		Channel Enlargement Ratio	Channel enlargement ratio must either stay below 1.0 or not increase from the pre-development enlargement ratio.		15
		Riparian Buffer (width, density)	Forest buffers shall be a minimum of 100 feet wide, with the requirement to expand the buffer depending on: 1) stream order[6], 2) percent slope, 3) 100-year floodplain, 4) wetlands or critical areas.		7, 10
			Streamside zone[7] shall extend a minimum of 25 feet from top of bank and shall be maintained as a mature forest; Middle zone shall extend a minimum of 50 feet, plus additional buffer width if necessary, and shall be a managed forest with some allowable clearing; Outer zone shall extend a minimum of 25 feet and shall encourage forestation (Note: Refer to citation for allowed uses within each zone.)		2, 7
		Drainage Density	SAA		
		Time of Concentration	SAA		
Sediment Supply within Natural Range					
Erosion and Sediment Control Riparian Buffers Stream Setbacks In-stream Grade-Control Structures Hydrograph Mgmt LID BMPs	Loads Frequency Sediment Size	Settling Time	Adequate detention volume shall be available to permit 90% Total Suspended Solids (TSS) removal of runoff leaving the site for a 2-yr, 24-hr storm event.		9, 24
		Suspended Sediment Concentration	Not Available		
		Annual Sediment Yield	Post development annual sediment yield[8] shall closely mimic pre-development annual sediment yield.		29
		Riparian Buffer (width, density)	SAA		
		Stream Setback Width	SAA		
		Drainage Density	SAA		
		Time of Concentration	SAA		
Sediment Transport within Natural Range					

[6] Stream order is a method of classifying streams in an order of hierarchy starting with first-order streams, which are comprised of headwater streams with no upstream tributaries. Second-order streams are formed below the intersection of two first-order tributaries; third-order streams are formed below the intersection of two second-order streams, and so on.

[7] Streamside Zone (Zone 1): Extends from stream edge of the active channel to top of bank. The streamside zone function is to protect the physical and ecological integrity of the stream ecosystem. Middles Zone (Zone 2): Extends from streamside zone to outer zone. The middle zone functions are to protect key stream components and to provide distance between the upland development and streamside zone. Outer Zone (Zone 3): Extends from middle zone to nearest permanent structure. The outer zone functions are to prevent encroachment into the buffer zone and to filter urban runoff.

[8] Sediment yield (annual): Product of annual gross erosion (tons/unit area) and sediment delivery ratio (less than 1).

Hydrograph Mgmt LID BMPs	Rate Scour Fill Armoring	Flow duration curves EIA Drainage Density Time of Concentration Event-based hydrograph matching	SAA SAA SAA SAA SAA		
DESIRED CONDITION D: HABITAT OPTIMAL					30, 18, 5
Riparian and Wetland Habitat Optimal					
Setback Requirements: Streams, Wetlands		Setback Dimension	Minimum Buffer on each side of stream = 98 feet to 1,640 feet+		10
Riparian Buffers	Buffer Dimension & Density	Riparian Buffer (width, density)	SAA		
		Alluvial Groundwater Elevation	Not Available		20
	Bank Erosion/Failure	Bank Erosion Potential Index	Not Available		3
LID BMPs Hydrograph Mgmt					
Aquatic Habitat Optimal					
Clean Water					
LID BMP (filtration) Filters Active Treatment	Water Column Physical and Chemical Parameters		Basin Plan Water Quality Standards		4
			For projects that install stormwater treatment systems which function primarily as infiltration devices, the Permittee shall require that: (a) Appropriate pollution prevention and source control measures are implemented to protect groundwater at the project site, including the inclusion of a minimum of 2 ft of fine grain soil in the infiltration flow path of the infiltration system; (b) Adequate maintenance is provided to maximize pollutant removal capabilities		13
			Treatment systems whose primary mode of action depends on flow capacity shall be sized to treat: (a) 10% of the 50-yr peak flowrate; (b) The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or (c) The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.		13
		Pollutant Loading	Annual pollutant loading in site runoff, calculated for all Pollutants of Concern (POCs) specified by the municipality for the site, shall not increase from pre-development conditions to post-development conditions.		25, 5
Detention with Settling		Detention Time	Draw down time no less than 24 hours		N/A
			Turbidity shall not exceed levels that will adversely impact fish.		17
Stream Flow: Velocity, depth, timing					

Hydrograph Mgmt		Event-Based Hydrograph Matching	Flow requirements for fish same as above		31
In-Channel Conditions					
	Stream Substrates	Particle Size Distribution: percent coarse fine sediment less than 0.6 mm in spawning gravels	Less than or equal to 30% by wet volume		8
	Pools and Riffles	Residual Pool Volume	Less than or equal to 0.21 (mean) and 0.45 (max)		8
Biota					
Hydrograph Mgmt LID BMPs	Index of Biotic Integrity		Southern California IBI		23, 21

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