

The Central Coast Joint Effort for Hydromodification Control and Low Impact Development

Status Report

October 31, 2011



Objectives of the Joint Effort

Overall, the Central Coast Joint Effort for Hydromodification Control and LID seeks to protect watershed processes like surface runoff, groundwater recharge and sediment transport that are potentially impacted by how stormwater runoff is managed at development projects. The Joint Effort has a greater probability of being effective at achieving this goal by NOT doing the following:

- Taking post-construction stormwater requirements developed elsewhere and applying them uniformly in the Central Coast,
- Requiring municipalities to expend resources to develop hydromodification control criteria independently, or,
- Ending up with criteria for protecting and restoring watershed processes that are not necessarily sensitive to parcel-scale impacts or watershed conditions in a given location, or that only address one aspect of hydrologic alteration.

The Joint Effort includes both *technical* objectives and *administrative* activities. Two phases comprise the technical objectives for the project:

- Phase I: developing an appropriate methodology for selecting numeric criteria that ensure the protection of watershed processes, to the extent possible, at the parcel-scale, and
- Phase II: applying the methodology on a city-by-city, county-by-county basis, to establish numeric criteria in each jurisdiction.

Related administrative activities, like modifying codes and ordinances and training municipal employees to implement new requirements, are also part of the Joint Effort. These activities are happening in parallel with the technical objectives. Phase I is being completed by consultants – the Project Team – under the Water Board’s direction. As Phase I has played out, it has become apparent that the work of the Project Team will go farther than simply producing a methodology, and will actually complete the application of most elements of that methodology. That is, the Project Team will identify the appropriate range of numeric criteria for given local conditions. This is a significant change relative to the original goal of the Project Team, and should significantly reduce costs to municipalities.

Methodology Developed by Project Team

The methodology developed by the Project Team relies on watershed analysis and mapping to identify watershed characteristics and processes. The analysis and mapping of Watershed Management Zones underpin the framework for determining hydromodification requirements and will lead to parcel-scale requirements, including numeric criteria and minimum controls. However, the methodology does not replace site scale analysis needed to properly design and size stormwater controls.

Water Board staff and the Project Team revised the steps to develop the methodology, specifically step 4, as follows:

1. Delineate Watershed Management Zones (WMZs)
2. Confirm relationship of receiving water condition to watershed processes and disturbance in order to form a scientific basis for parcel-scale management strategies
3. Identify parcel-scale management strategies for watershed processes
4. Evaluate the *range* of numeric criteria available for parcel-scale management strategies
5. Delineate impacted areas, i.e., areas where management objectives are shaped by opportunities and constraints posed by existing impacts to watershed processes
6. Assign *proposed* numeric criteria based on WMZ and degree of impact to watershed processes

The Project Team will be able to complete steps 1 – 4 within the existing contract and scope of work. The Water Board intends to use additional funds from the LID account to conduct the final two steps of the

methodology, including the assignment of *proposed* numeric criteria to city and county permit areas. At the conclusion of step 6, both technical phases of the Joint Effort to develop landscape-appropriate hydromodification requirements will be complete. This sequence of steps differs from the previous plan to have municipalities apply the methodology independently, and it averts the need for potentially significant expenditures by municipalities to complete Phase II. This approach meets municipalities' Stormwater Management Plan requirements to derive municipality-specific criteria using Water Board-approved methodology developed through the Joint Effort. It also reserves municipalities' resources, allowing them to focus on essential administrative aspects of successful implementation of the requirements.

At public meetings scheduled for spring and summer 2012, the Water Board will review the policy option presented in the proposed requirements identified through the Joint Effort methodology and determine if they meet the Maximum Extent Practicable (MEP) standard of the Phase II Municipal Stormwater General Permit. The Water Board will also consider policy alternatives allowing municipalities to develop Alternative Compliance options for projects that can demonstrate compliance with the proposed requirements is infeasible.

Documenting the Methodology Project

The Project Team prepares Technical Memoranda documenting the development of the methodology. To date, these include the following reports on the "Development and Implementation of Hydromodification Control Methodology:"

- Literature Review
- Review of Existing Data
- Watershed Characterization Part 1: Precipitation and Landscape
- Watershed Characterization Part 2: Watershed Management Zones and Receiving Water Conditions

The Project Team will complete two more tasks and provide the following reports:

- Linkage Analysis: Landscape Characterization, Receiving Water Conditions, Watershed Processes, and Human Disturbance
- Methodology
- Final Report

All Methodology Project deliverables are reviewed by the Joint Effort Review Team (see below) and are available on the Joint Effort webpage: <http://www.waterboards.ca.gov/centralcoast/> (see 'Joint Effort' under 'Announcements'). The final three reports will be posted when available.

The Joint Effort Review Team (JERT)

Once the Joint Effort Methodology Project consultants were hired and their work was underway, Water Board staff convened a focused stakeholder group to provide review and feedback on major project deliverables. This group – the Joint Effort Review Team, or "JERT" – met for the first time December 15, 2010 and has met three times since, corresponding with the completion of draft Methodology Project deliverables. Meetings will continue until March 2012 to complete review of final project deliverables. Water Board staff anticipated the JERT would be discontinued after completion of the consultant's scope of work and any potential role for the JERT after that point will be considered at the final JERT meeting in March 2012.

The JERT's focus is the technical issues associated with various aspects of the Project Team's (consultants) work. It serves as a sounding board for the Project Team when they face specific decisions in their work to develop and start initial implementation of the methodology for deriving hydromodification controls. Project Team members Derek Booth, Chad Helmle and Darla Inglis participate in every meeting.

Participation by JERT members is based on each member's ability to offer insight and expertise on the issues of hydromodification in development projects reviewed and approved by municipal agencies. JERT members represent municipality, Central Coast Water Board, development, and environmental perspectives, and they are acknowledged as leaders among their peers. Water Board staff solicited nominations broadly from stakeholders throughout the region and considered geographic scope in selecting members. The JERT is comprised of the following individuals (members' bios are posted on the Joint Effort webpage):

1. Alyson Tom, County of Santa Cruz
2. Bridget Hoover, Monterey Bay Marine Sanctuary
3. Cathleen Garnand, County of Santa Barbara
4. Dan Cloak, Dan Cloak Consulting
5. Dennis Shallenberger, Earth Systems Pacific
6. Mark Grey, California Building Industry Association
7. Murry Wilson, County of San Luis Obispo
8. Robert Ketley, City of Watsonville
9. Steve Kahn, City of Santa Maria
10. Dominic Roques, Central Coast Water Board

Joint Effort Schedule

The Joint Effort was designed to be completed over a two-year period. The history of events leading up to the commencement of the Joint Effort in October 2010 is presented in Table 1. This table also includes key project milestones the Joint Effort has passed since its commencement. The Joint Effort is currently on schedule and Table 2 presents the steps for completing the project, beginning with this Status Report and concluding with municipalities implementing hydromodification controls in January 2013. Table 3 provides the calendar of key dates associated with the steps to completing the Joint Effort.

Steps to Completing the Joint Effort

Completing the Joint Effort includes actions to be taken over the next 15 months by municipalities, the Water Board, the JERT, and consultants, and includes substantial opportunities for public participation by municipal stormwater stakeholders throughout the region. While ambitious, the history of the project and the considerable accomplishments of participants to date suggest these actions can be completed in accordance with timelines codified in participants' Stormwater Management Plans. These steps also follow an approach that is expected to significantly lower the cost to municipalities, compared to what was originally anticipated, removing a critical financial and procedural hurdle for municipal stormwater managers. Several steps and project elements identified in Tables 2 and 3 are discussed in greater detail here.

Applicability Thresholds

Efforts to establish Applicability Thresholds – thresholds that determine which projects will be subject to hydromodification controls and LID – are progressing. First, Central Coast municipalities have devised tiered approaches to determine which projects are subject to Interim LID requirements. These tiered approaches will be in effect until final numeric criteria for hydromodification control and LID are adopted in the first Quarter of 2013. Second, the Central Coast LIDI is leading a small group of representatives from municipalities in the northern, central and southern parts of the Central Coast Region and Water Board staff to propose Applicability Thresholds that can be used in concert with the final numeric criteria developed through the Joint Effort. This focus group, which provides its members a leadership opportunity in developing regionally consistent and reasonable Applicability Thresholds and project exemptions, has

been meeting since 2010. The group will present its proposed framework to municipal stormwater stakeholders in March 2012.

Joint Effort BMP Compliance Evaluation

Water Board staff will evaluate permittees' compliance with Joint Effort BMPs to ensure permittees are on track and making progress toward adoption and implementation of new parcel-scale requirements for hydromodification control and LID implementation.

Municipalities Prepare for Implementing Requirements

The Joint Effort implementation strategy for hydromodification control and LID includes six BMPs built around Guidance, Education and Outreach, and Interim LID Implementation. Combined with BMPs for adopting Enforceable Mechanisms (code updates), Joint Effort participants are engaged in an active two-year period setting the stage for successful implementation of the requirements developed through the Methodology Project. Municipalities have made substantial progress over the first year, and the Central Coast LIDI has provided assistance in key areas for successful implementation, including:

Code Updates

- Gap Analysis and training on necessary revisions to municipal codes that inhibit or directly conflict with LID and hydromodification controls

LID Technical Guidance

- *Steps for Successful LID Design* guidance and training for municipalities on LID project design
- Central Coast Plant Guidance for Bioretention
- LID Parking Lot Guidance
- LID Project Demonstrations (e.g., 21st Street Complete Green Street)
- Project consultation and partnering, including assistance with grant writing

Resources and guidance associated with these areas of implementation are available on-line at the Central Coast LIDI website: http://www.centralcoastlidi.org/Central_Coast_LIDI/LID_Technical_Guidance.html

The Central Coast LIDI will continue to offer assistance to participants over the second year of the Joint Effort. Areas of focus will include: targeted assistance with code updates; continued guidance and training for bioretention design; guidance on Stormwater Control Plans and how municipalities can use them in the project review and approval process; policy alternatives for Alternative Compliance; and continued project consultation and partnering, including grant writing.

How the Joint Effort Relates to the next Phase II Permit

The State Water Resources Control Board is in the process of renewing the General Permit for Phase II Municipal Separate Storm Sewer System (MS4) Discharges. Many Joint Effort participants have sought clarification on how the next Phase II Permit will interface with the current permit requirements for Central Coast MS4s participating in the Joint Effort. It is understandable that perfect alignment between these regulatory strategies is challenging because the Joint Effort has established time lines that the next Phase II Permit cannot automatically embed in its post-construction requirements. The State Board received public comment on the Draft Phase II Permit, including many from Central Coast municipalities and stormwater stakeholders, and is in the process of responding to the issues raised in those comments. While it is premature to explain in precise regulatory language how the Joint Effort relates to the Phase II Permit provisions for hydromodification control, Central Coast Water Board staff is working closely with State Board staff to ensure that implementation of hydromodification requirements developed from the Joint Effort will provide a path to compliance with the Phase II Permit for Central Coast municipalities.

Table 1: Key Milestones and History of the Central Coast Joint Effort for Hydromodification Control and LID

2008 – 2009	Water Board enrolled Central Coast MS4s under General Permit for Phase II Municipal Stormwater Discharges, which included hydromodification requirements to: <ul style="list-style-type: none"> • Maximize infiltration of clean stormwater, and minimize runoff volume and rate • Protect riparian areas, wetlands, and their buffer zones • Minimize pollutant loading; and • Provide long-term watershed protection
April 20, 2009	Water Board received letter from the Central Coast Low Impact Development Initiative (LIDI) recommending a two-year, collaborative effort for the development of hydromodification control criteria
June 19, 2009	Water Board concurred with LIDI recommendation and committed to developing a framework and securing funding for a Joint Effort
August 4, 2009	Water Board notified municipalities of option to pursue Joint Effort for developing hydromodification control. Letter included: <ul style="list-style-type: none"> • Process for developing the Joint Effort • \$600,000 authorized from State Clean-up and Abatement Account • Tentative schedule for Joint Effort (then, August 2009 – November 2011)
August – September 2009	Water Board conducted stakeholder workshops (“charettes”) to provide information on the Joint Effort and to develop recommendations for Project Milestones to ensure the effort’s success
October 20, 2009	Water Board notified municipalities of opportunity to participate in the Joint Effort, including: <ul style="list-style-type: none"> • Terms of participation • Steps and schedule for amending SWMPs • New BMPs for SWMPs developed from Project Milestones
October 23, 2009	Water Board Meeting, Executive Officer’s Report: Joint Effort Update
Fall 2009	Municipalities declared participation in Joint Effort by submitting signed form letter
January, 2010	Water Board staff began assisting municipalities with SWMP amendments to pursue the Joint Effort
February – August 2010	Water Board staff appeared before local government decision-makers to urge participation in Joint Effort. Joint Effort achieved 100% participation from Central Coast municipal stormwater permittees
September 2, 2010	Water Board hired contractors for Joint Effort Methodology Project
September 28, 2010	Water Board notified municipalities regarding commencement of the Joint Effort
October 1, 2010	Joint Effort Commenced with BMPs scheduled for implementation from October 1, 2010 through December 31, 2012
December 9, 2010	Water Board Meeting, Agenda Item: LIDI Annual Report, including Joint Effort Update
December 15, 2010	Joint Effort Review Team 1 st Meeting
January 19, 2011	Joint Effort Review Team 2 nd Meeting
February 9, 2011	Water Board distributed to stormwater stakeholders “Joint Effort and LID Update” by Lyris email
March 30, 2011	Joint Effort Review Team 3 rd Meeting
September 1, 2011	Joint Effort Review Team 4 th Meeting

Table 2: Steps to Completing the Central Coast Joint Effort for Hydromodification Control and LID

Key Milestones ¹	Objective/Desired Outcome
1. Water Board mails Joint Effort Status Report to Permittees, October 31, 2011	Provide Joint Effort Participants with: <ul style="list-style-type: none"> • Update and status of Joint Effort • Schedule for remaining actions • Reductions to original estimates of cost to Permittees • Relationship to Phase II General Permit renewal
2. Joint Effort Review Team (JERT) Meeting	<ul style="list-style-type: none"> • Discuss Methodology Project Task 4 – Linkage Analysis • Discuss Oct. 31 Status Report and any follow-up role for JERT members
3. Water Board Outreach to Permittees following up on October 31 Status Report	<ul style="list-style-type: none"> • Repeat and expand on themes of Status Report • Identify obstacles/challenges for stakeholders
4. Executive Officer’s Report for December 1, 2011 Water Board Meeting	<ul style="list-style-type: none"> • Maintain Board member awareness and understanding of Joint Effort • Inform Board of status of Joint Effort, upcoming stakeholder workshops, and future Joint Effort Board meeting agenda items;
5. Joint Effort Review Team Meeting	<ul style="list-style-type: none"> • Review Methodology Project Task 5 – Methodology • Discuss Stakeholder Workshop objectives and structure
6. Water Board holds 2 (north & south) Workshops with stakeholders on Joint Effort Status and Schedule	<ul style="list-style-type: none"> • Project Team describes development of methodology • WB Staff presents final steps to adopting and implementing requirements for hydromodification control and LID
7. Selection of Numeric Criteria: Proposed	Identify proposed numeric criteria using the Final Report from the Methodology Project, along with results of an analysis of existing impacts to watershed processes
8. Selection of Applicability Thresholds (AT): Proposed	Identify proposed AT based on: recommendations of LIDI’s AT focus group; participants’ experiences with AT for Interim LID; and input from stakeholder workshops
9. Joint Effort Review Team Meeting	<ul style="list-style-type: none"> • Discuss proposed Numeric Criteria and Applicability Thresholds • Discuss potential continuing role for JERT
10. Water Board Meeting, March 15, 2012	<ul style="list-style-type: none"> • Increase Board’s awareness and understanding of Joint Effort • Describe process for pending decisions on Numeric Criteria and Applicability Thresholds
11. Water Board holds 2 (north & south) Workshops on Proposed Numeric Criteria and AT	Water Board staff receives input from stakeholders on proposed Numeric Criteria and Applicability Thresholds
12. Joint Effort BMP Compliance Evaluation	Ensure participants are making progress toward adoption and implementation
13. Selection of Numeric Criteria: Final Recommended	Following April Stakeholder Workshops, Water Board staff recommends final requirements for hydromodification control and LID for approval by Water Board
14. Selection of AT: Final Recommended	Following April Stakeholder Workshops, Water Board staff recommends final AT for approval by Water Board

¹ Numbers correspond to Table 3: Central Coast Joint Effort - Schedule for Development and Implementation of Hydromodification Control Criteria and LID

Key Milestones¹	Objective/Desired Outcome
15. Water Board Meeting, July 12, 2012	Water Board approves final requirements for Hydromodification Control and LID and framework for Alternative Compliance
16. Permittees undertake adoption of local regulations	Adoption of local regulations for Hydromodification Control and LID
17. Permittees implement local regulations	Permittees commence implementation of local regulations

Table 3: Central Coast Joint Effort - Schedule for the Development and Implementation of Hydromodification Control Criteria and LID

	Q5			Q6			Q7			Q8			Q9			
	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
Water Board issues Joint Effort Status Report	1															
Joint Effort Review Team (JERT) Meeting		2														
Water Board Outreach to Munis		3														
Water Board Mtg: Exec. Officer's Update on Joint Effort			4													
JERT Meeting				5												
Water Board led Workshops (2): Project Status and Schedule				6												
Numeric Criteria Development (Conducted by Methodology Project Team per Contract Tasks)																
Task 4: Linkage Analysis																
Task 5: Methodology																
Identification of Current Watershed/Receiving Water Status ¹																
Final Report																
Selection of Numeric Criteria - Proposed						7										
Selection of Applicability Thresholds - Proposed ²						8										
JERT Meeting						9										
Water Board Meeting						10										
Water Board led Workshops (2): Proposed Numeric Criteria & Applicability Thresholds							11									
Water Board Conducts JE BMP Compliance Evaluation							12									
Selection of Numeric Criteria - Final Recommended									13							
Selection of Applicability Thresholds - Final Recommended									14							
Water Board Meeting										15						
Muni prepares for implementing requirements		Technical Assistance from LIDI on Code Updates														
Anticipated Local Regulatory Adoption Process											16					
Munis Implement Hydromodification Control Requirements																17

¹ Methodology for this step and beta test to be part of Task 5; subsequent application of methodology at regional scale to be conducted by contractors to Water Board.

² Proposed Applicability Thresholds, including exemptions, based on existing efforts and proposal from focus group of Muni Representatives and Water Board staff.