

# Central Valley Regional Water Quality Control Board

## Proposed MS4 General Order and Low Impact Development

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# Introduction

- Largest of the 9 Regional Boards
- Sacramento, San Joaquin, and Tulare Lake Basin
- Encompasses 60,000 sq. miles or about 40 percent of the State
- 38 Counties or portions thereof
- 11,350 miles of streams, 580,000 acres of lakes
- Offices in Redding, Rancho Cordova, and Fresno
- 31 Phase I MS4s (7 Permits)
- 126 Phase II MS4s



# Draft MS4 Permit

## Assessment

Discharge & Receiving Water Data  
TMDLs, Monitoring Data, Special Studies,  
etc.



List of Water Quality Constituents

## Prioritization

Prioritize Water Quality Constituents  
Is MS4 Contributing Source? Others?



Rank Priority Water Quality Constituents &  
Conduct Reasonable Assurance Analysis

# Draft MS4 Permit

## Development

Identify Water Quality Improvement Goals, Strategies, and Activities

Identify Water Quality Improvement Approach for each Program Element

Develop Effectiveness Assessment Approach

Develop monitoring study design and implementation schedule for PWQCs



Incorporate into Draft Storm Water Management Plan

# Draft MS4 Permit

## Implementation

Implement Storm Water Management Program



Modifications to Storm Water Management Program and SWMP in Annual Report(s)

## Effectiveness Assessment

Implement Effectiveness Assessment Approach

Track progress of Storm Water Management Program



Submit Short or Long Term EA Report

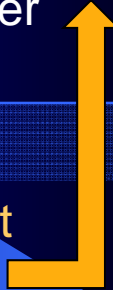
# Draft MS4 Permit

**Adaptive  
Management  
& Modification**

Implement Adaptive Management approach to modify the Storm Water Management Program



Modify Storm Water Management Program when necessary





# Low Impact Development

The LID Center defines LID as “*a comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds.*”

- The Board expects that every development project will be able to implement some form of LID BMPs.



# Hydromodification

“Hydromodification,” as the term is used in the draft Order, refers to *ecologically significant modification of a watershed’s natural hydrograph, characterized by increased volume, velocity, rate, duration, and/or overall energy (collectively, “flow”)*

- Permittee’s Development Standards shall require Priority Development Projects to integrate hydromod strategies as needed.
- LID strategies and treatment controls may simultaneously address the hydromod management requirements





# Permit Requirements

- Requires the Permittee to develop and implement Low Impact Development and Hydromodification Management Plans
- Requires the Permittee to develop/update a Technical Guidance Manual
- Permittee's development standards shall require Priority Development Projects to integrate LID strategies where feasible



# Priority Development Projects

- Single family hillside residences (slopes >25%)
- Ten or more unit homes (condos, apartments, etc)
- Industrial/commercial development with impervious surfaces > 1 acre
- Automotive repair shops, retail gasoline outlets, and restaurants
- Parking lots >5,000 ft<sup>2</sup> or >25 parking spaces
- Redevelopment projects, and
- Projects required to mitigate post-development storm water for new development



# Alternative Compliance to Onsite LID and Hydromod

- At the Permittee's discretion
- Only if Priority Development Project applicant enters into a voluntary agreement with Permittee authorizing this arrangement
- Only under certain conditions
- Requirements emphasize importance of LID and Hydromod



# Waste Water Treatment Plant



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# Metal Recycling



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# RCRA/TSCA Waste



# Old Treatment System



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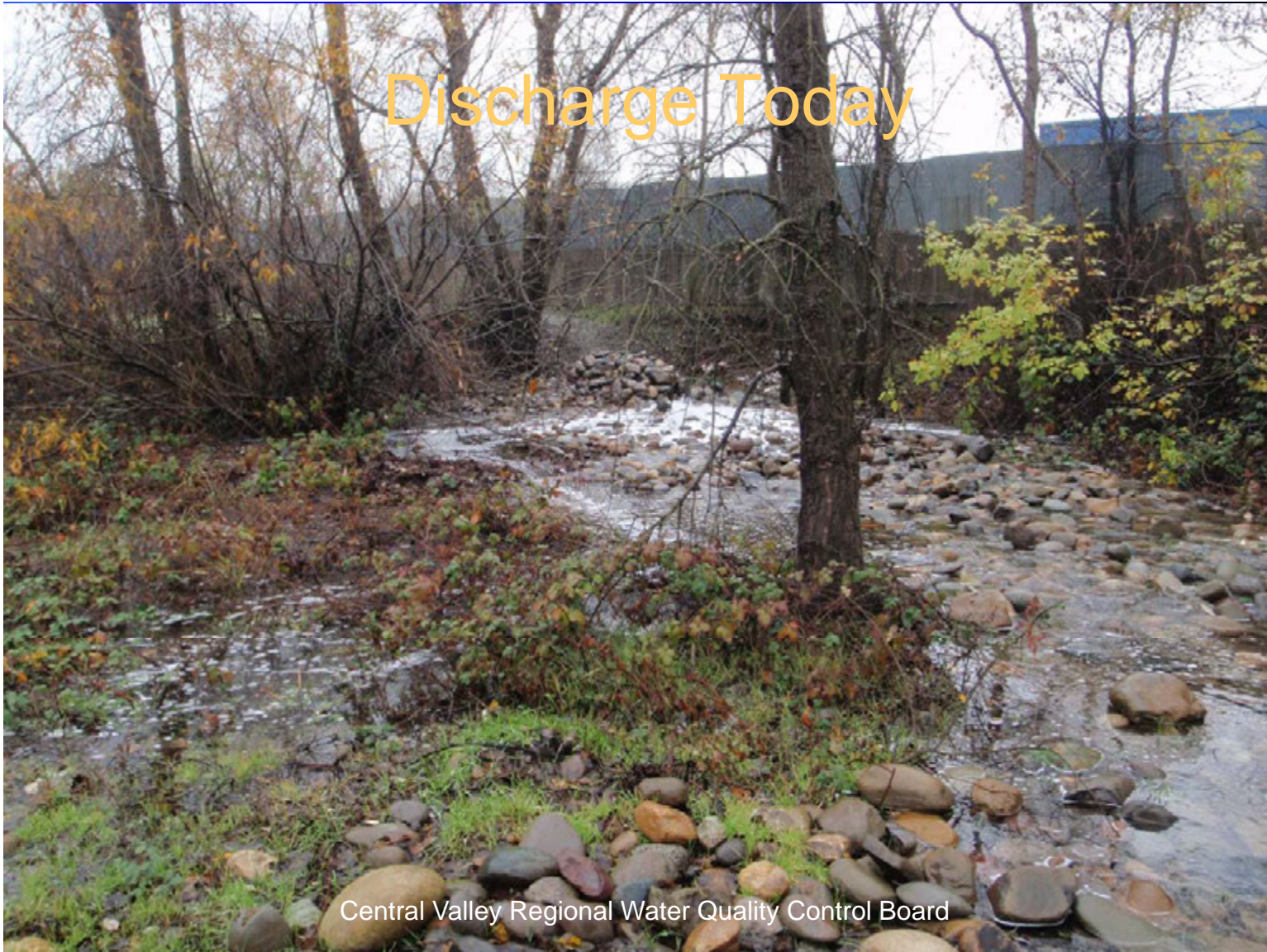
# New Treatment System



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# Discharge Today



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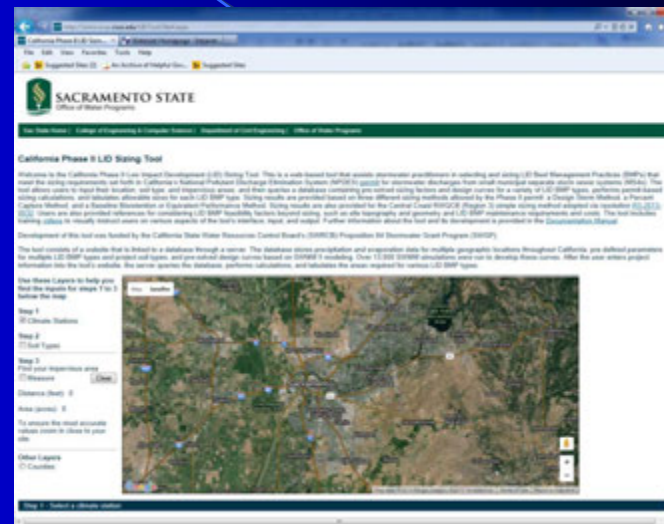




# Phase II LID Sizing Tool

Phase II LID Sizing Tool. The tool is currently being expanded to include approximately 90 rain gauges across the state.

<http://www.owp.csus.edu/LIDTool/Start.aspx>



# Citrus Heights City Hall

- Replace 1 acre of asphalt with pervious materials
- 900 linear feet of bioswales
- Two (2) rain gardens
- Fifty (50) native and drought tolerant trees,
- Guidance for monitoring mercury/methyl mercury in LID applications to assist municipalities in meeting Delta Methyl Mercury TMDL requirements

Photo: Citrus Heights Chamber of Commerce

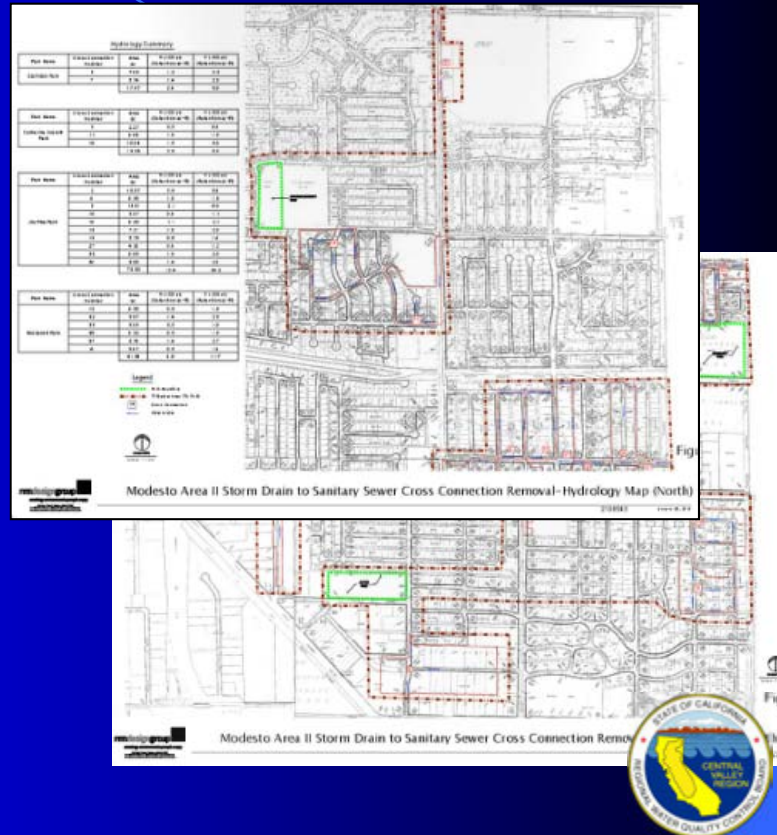
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# City of Modesto

- \$3 Million Grant
- LID techniques
- Provide Water Quality Treatment
- Infiltrate Storm Water
- Aquifer Recharge
- Reduce flows to WWTP
- Reduce SSO
- Improve Water Quality in Dry Creek and Lower Tuolumne (both 303d listed)





# City of Elk Grove - Rain Garden

- 2013 League of California Cities Helen Putnam Award for "Excellence for Planning and Environmental"
- 2013 American Society of Civil Engineers Region 9 "Sustainability Project of the Year"
- 2012 California Stormwater Quality Association "Outstanding Sustainable Stormwater Project Award"
- 2012 American Society of Civil Engineers "Sustainability Project of the Year"
- 2012 Sacramento Environmental Commission "Award of Leadership"
- 2012 California Parks and Recreation Society (CPRS) "Award of Excellence"
- 2012 California Parks and Recreation Society (CPRS) District 2, Sacramento Region "Award of Excellence for Facility Design and Park Planning"
- Laguna Creek Watershed Council "Green Seal Award"
- 2012 Sacramento Magazine's "Best New Park"

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# Thank you

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