# West Placer Stormwater Quality Design Manual

Public Outreach Meeting

December 9, 2014 5:30-7:30 pm

Source: Sunset Publishing Corporation

cbec eco engineering

DYETT & BHATIA Urban and Regional Planners

CDM Smith

# Meeting Goals and Objectives

- Team Introduction
- Stormwater Quality Regulatory Overview and Background
  - Understanding Stormwater Regulations
  - Defining Low Impact Development (LID)
  - Identifying Manual Purpose and Objectives
- Stormwater Quality Design Manual Components
- Manual Development Process Overview and Schedule
- Summary
  - Next Steps
  - Answer questions

# Multi-Jurisdiction Effort

Steering Committee

Placer County (Jennifer Byous, Mary Keller, Candace Rousselet, Rebecca Taber, Dan Dottai)
City of Lincoln (Jennifer Hanson)
City of Roseville (Chris Kraft)
City of Loomis (Brian Fragiao)
City of Auburn (Lance Lowe, Bernie Schroeder, Becky Siren)

Technical Project Team

cbec eco engineering (Chris Bowles, Melanie Carr)
CDM Smith (Stefan Schuster)
Dyett and Bhatia (Martha Miller)





CITY OF ROSEVILLE CALIFORNIA

# TAC Formation and Public Outreach

- Technical Advisory Committee (TAC) Formation:
  - Objective is to provide technical input to the steering committee and consultants on LID design and site planning as well as species design.

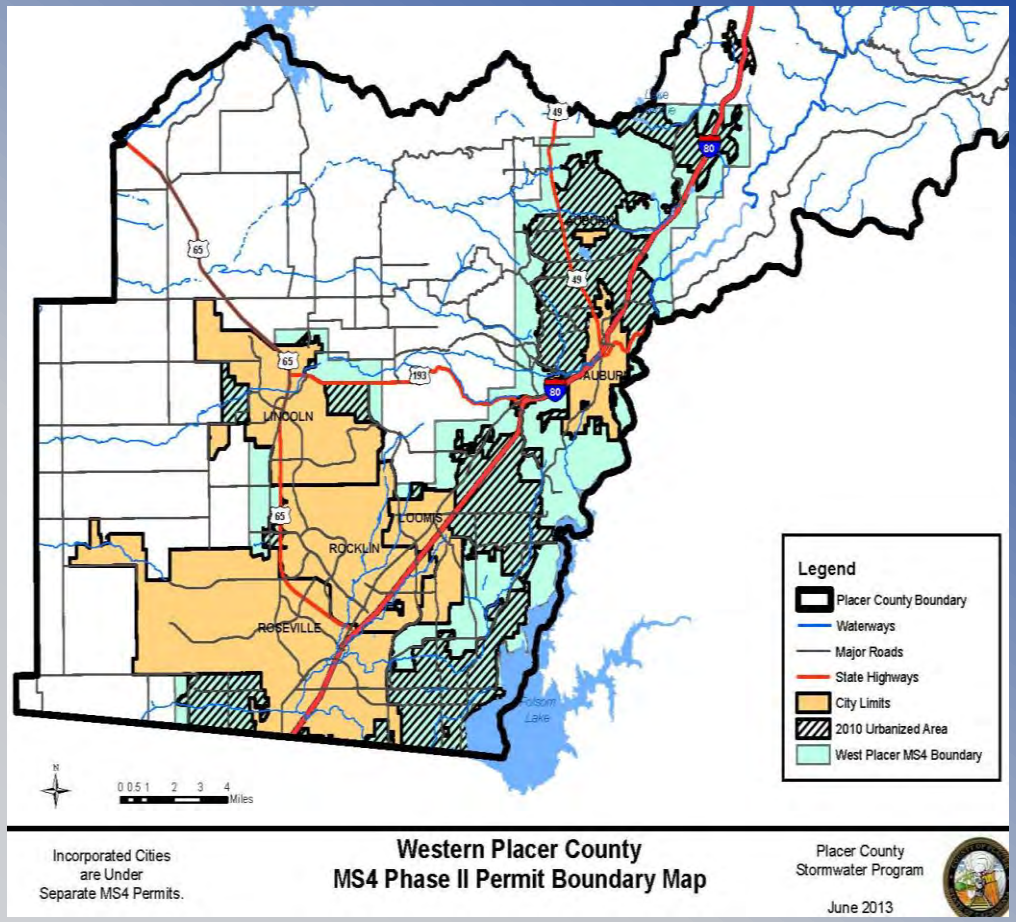
Types of TAC members 6-7 people

- Architect
- Biologist
- Developer
- Engineer
- Floodplain Engineer
- Landscape Architect
- NGO
- Planner

- Public Outreach Objectives:
  - Early information for the public, developers, engineers about our manual and our process.
  - Provide opportunities for input to standards for the manual.
  - Feedback on ease of using the document.

# Stormwater Quality Regulatory Overview (MS4)

- Clean Water Act in 1987 which includes storm water runoff.
- Central Valley Regional Water Control Board who is responsible for issuing NPDES permits.
- NPDES /MS4- Permits require agencies to implement programs to prevent pollution, improve and protect storm water quality, reduce storm water runoff, and enhance the ecologic vitality.



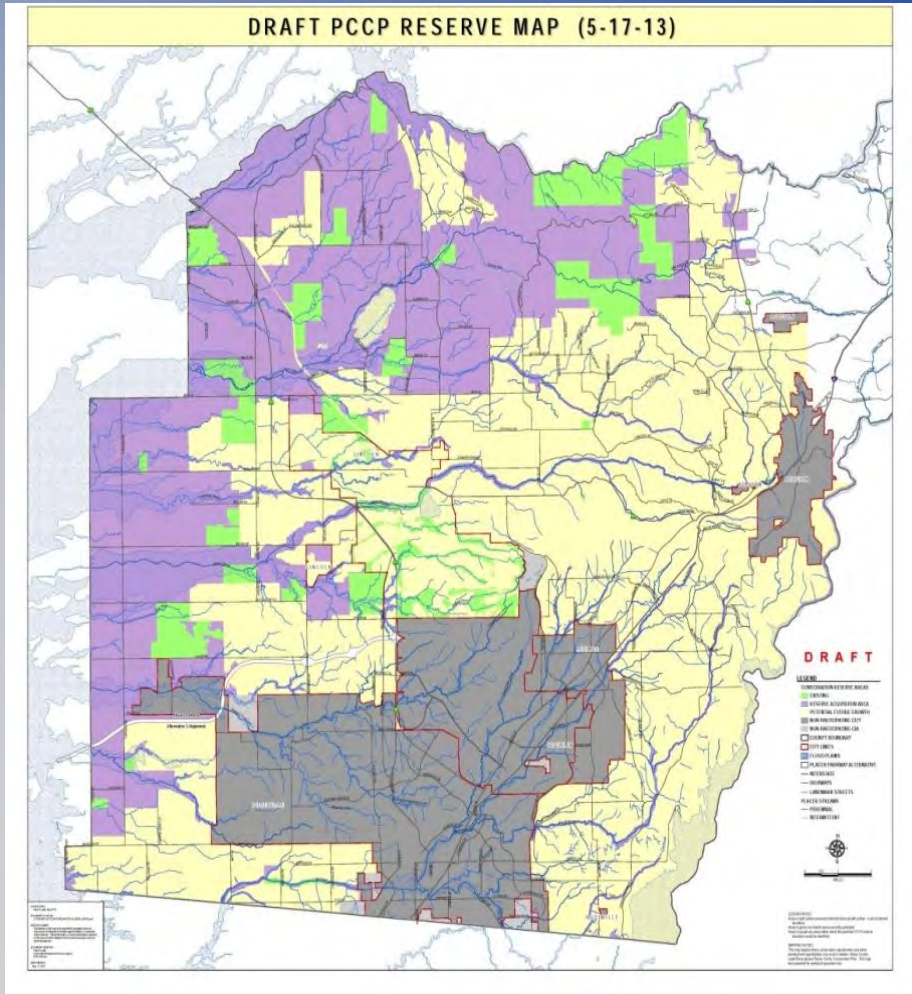
# Key Changes in Stormwater Regulation

- Small-scale and decentralized stormwater management
- Focus is on eliminating pollution at its source
- Approach is mimicking pre-development (natural) hydrology
- Providing stormwater quality treatment on a site-level

- A copy of full MS4- General Permit No. CAS0000004 can be found at www.placer.ca.gov/lowimpactdevelopment

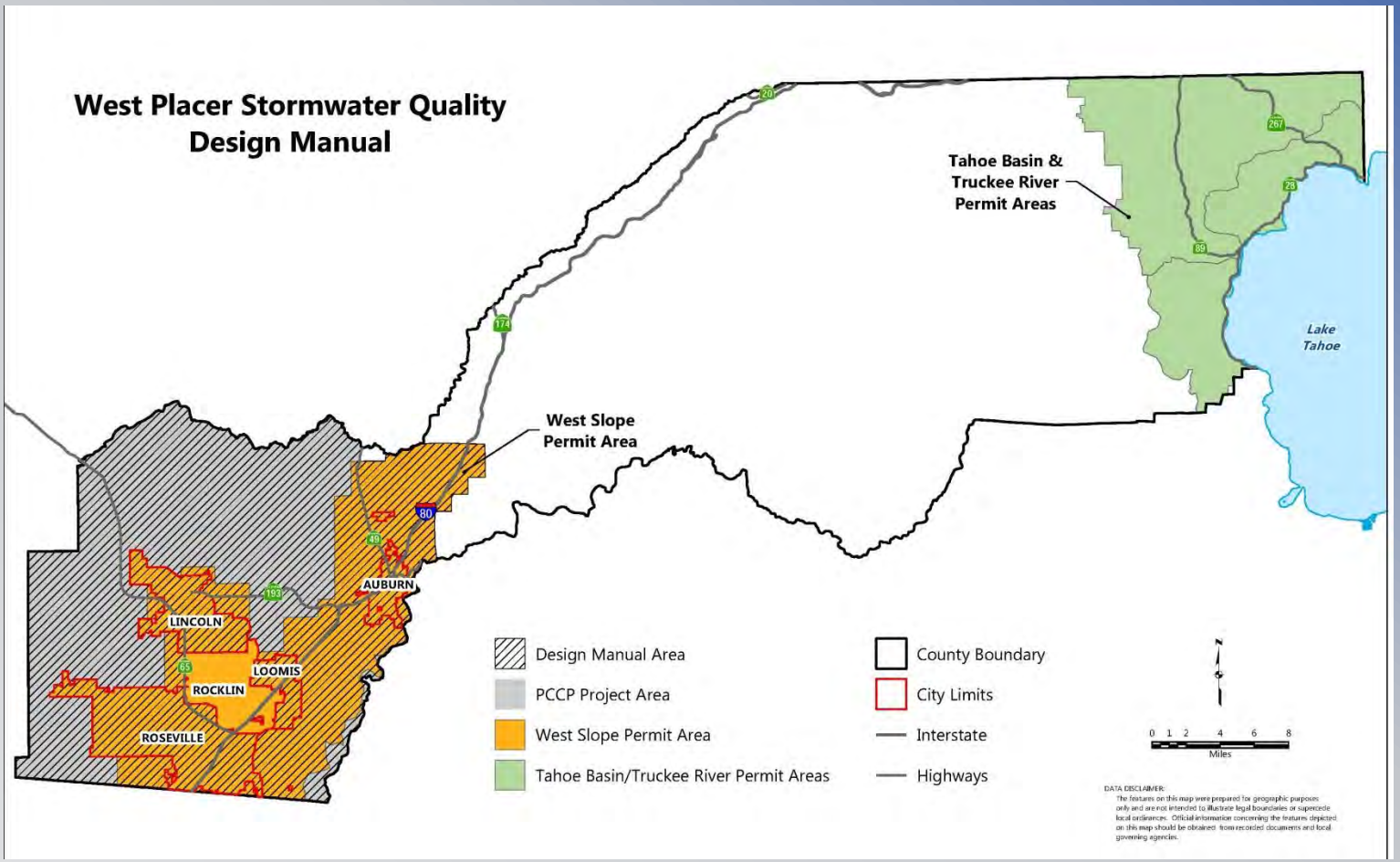
# Stormwater Quality Regulatory Overview (PCCP)

- The Placer County Conservation Plan (PCCP) includes program elements that can be used to comply with CWA. Programmatic 401 Certification (Regional Board) for certain wetland fill.
- The County/City will seek programmatic certification for the Programmatic General Permit for wetland fill activities processed through the PCCP.
- The Regional Board will require project to “enroll” under the General Certification Program and meet the requirements of the PCCP/CARP.



# West Placer Stormwater Quality Design Manual

- West Placer Stormwater Quality Design Manual will provide technical guidance for project proponents to develop designs that require the implementation of permanent storm water BMPs and comply with the MS4 permit and PCCP.
- Project will take effect in West Placer as shown on this figure.
- Standards will take effect July 1, 2015.

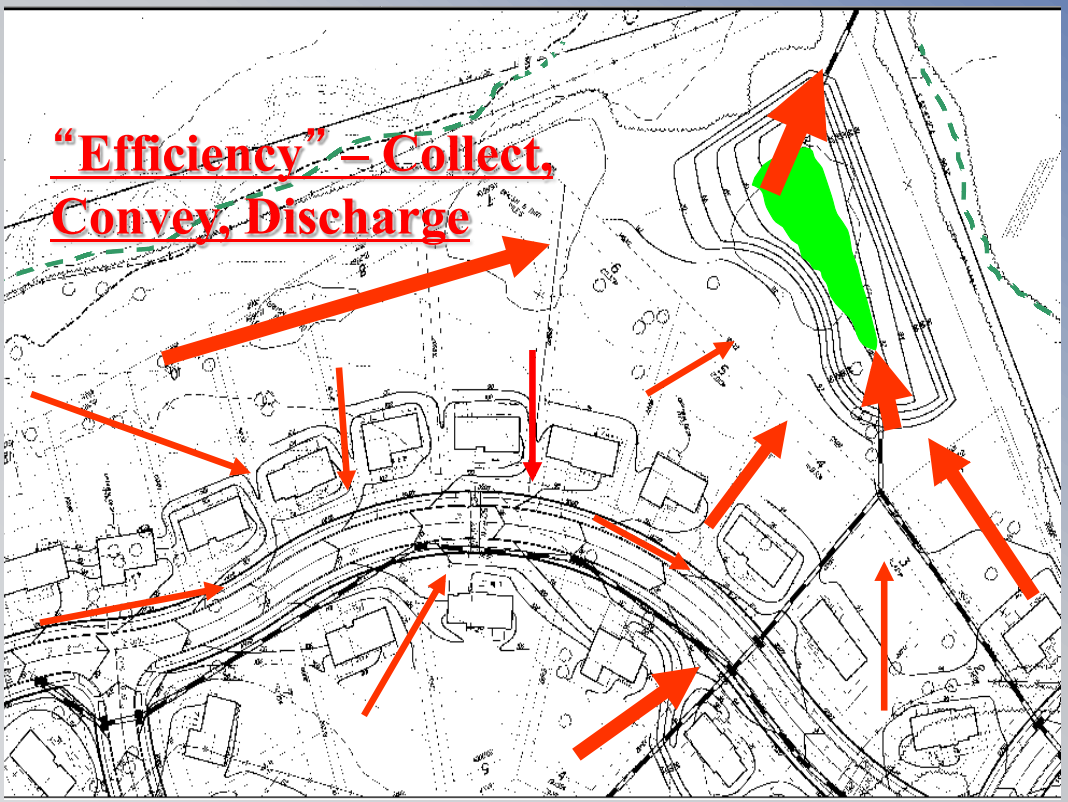


# Key Stormwater Pollutants

- One of the key drivers to the new permit is water quality treatment of:
  - Suspended solids/sediments
  - Nutrients (nitrogen, phosphorus)
  - Metals
  - Oils & grease
  - Bacteria
  - Pesticides & herbicides
  - Increased temperature

# Conventional Stormwater (Old) Approach

- Collect, convey, detain large volumes of stormwater



# Low Impact Development (New) Approach

- What is LID?
  - Small-scale, mimics nature
  - Capturing, treating, infiltrating stormwater
  - Disconnected flowpaths, “Slow the Flow”

# Examples of LID Projects

- Curb Cuts, Auburn, CA

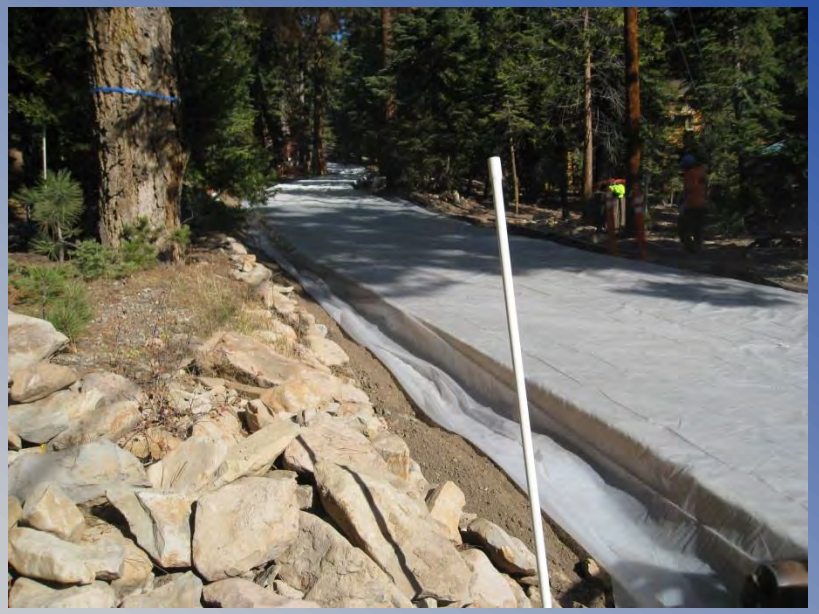
# Examples of LID Projects

Rood Center, Nevada County

- Swale (bioretention)
- Pervious Pavement

# Examples of LID Projects

- Lake Tahoe Area
  - Pervious Concrete
  - Swale (bioretention)

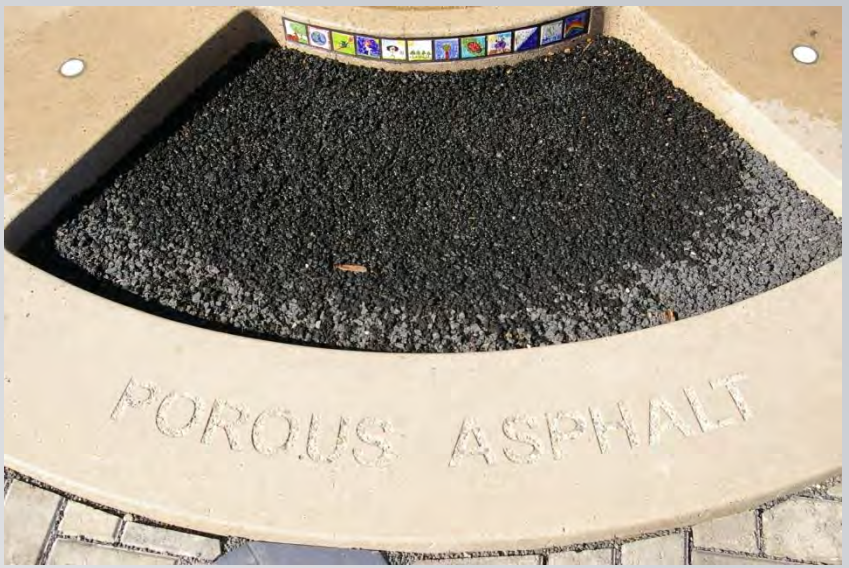


# Examples of LID Projects

- Elk Grove, CA
  - Rain Barrel
  - Rain Garden

# Examples of LID Projects

- Elk Grove, CA
- Pervious Pavement


# Examples of LID Projects

- Rain Garden (Bioretention), West Sacramento Community Center

# Examples of LID Projects

- Interceptor Tree, West Sacramento Community Center

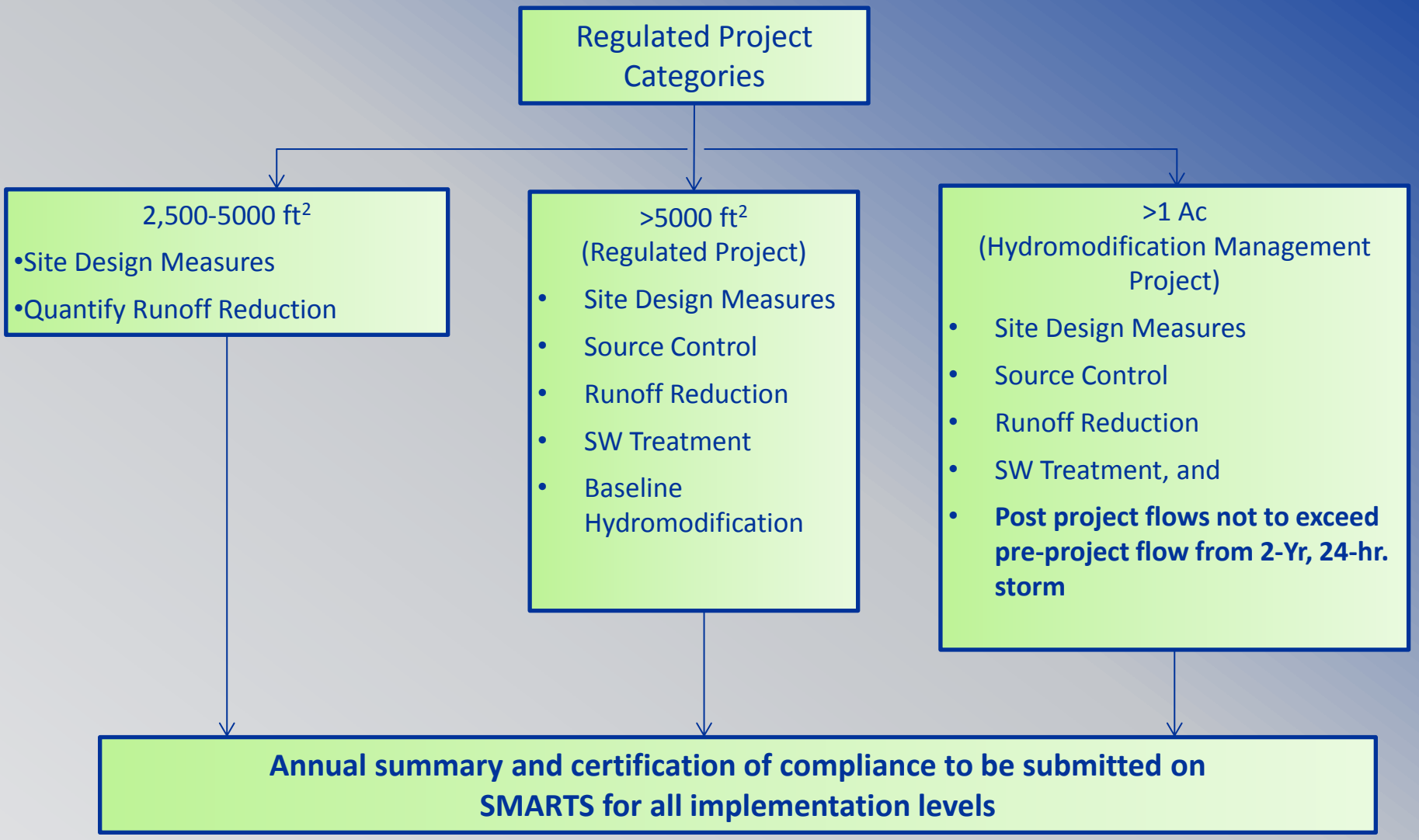
# Examples of LID Projects

- Green Roof, San Francisco (California Academy of Sciences)

# Overview of Phase II MS4 Permit Requirements

- Regulated Project Categories
- Site Design Measures
- Source Control Measures
- Low Impact Development (LID) Design
- Hydromodification Measures
- Operation and Maintenance of Storm Water Control Measures

# Phase II MS4 Regulated Project Categories



# Site Design Measures

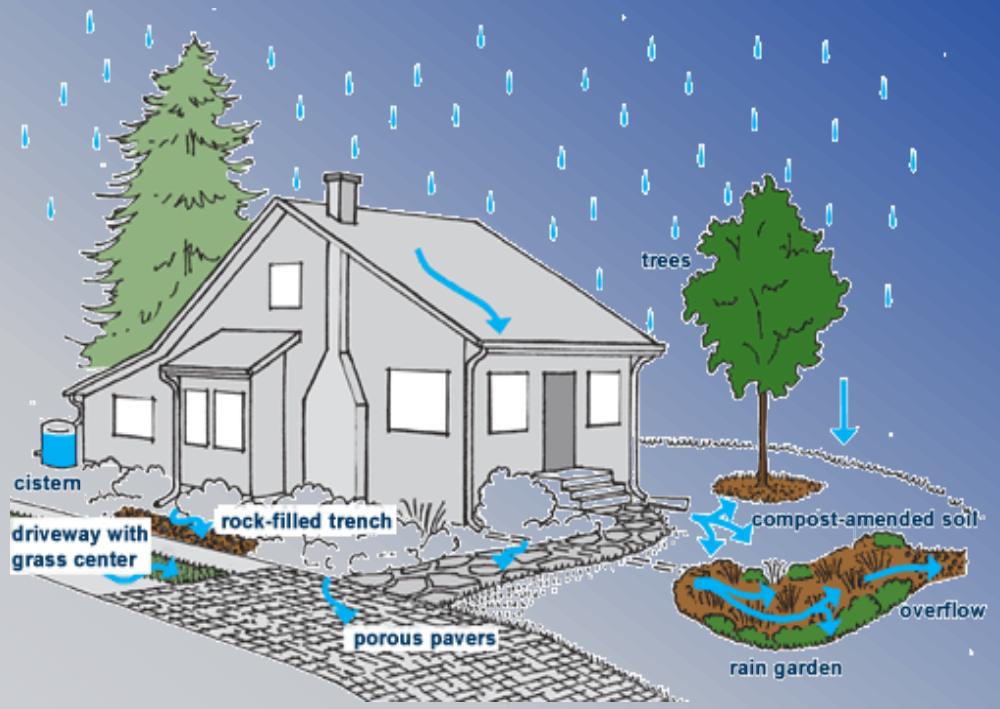
- Stream Setbacks and Buffers
- Soil Quality Improvement and Maintenance
- Tree Planting and Preservation
- Rooftop and Impervious Area Disconnection
- Porous Pavement
- Green Roofs
- Vegetated Swales
- Rain Barrels and Cisterns

# Source Control Measures

- (a) Accidental spills or leaks
- (b) Interior floor drains
- (c) Parking/storage areas and maintenance
- (d) Indoor and structural pest control
- (e) Landscape/outdoor pesticide use
- (f) Pools, spas, ponds, decorative fountains, and other water features
- (g) Restaurants, grocery stores, and other food service operations
- (h) Refuse areas
- (i) Industrial processes
- (j) Outdoor storage of equipment or materials
- (k) Vehicle and equipment cleaning
- (l) Vehicle and equipment repair and maintenance

# LID Design

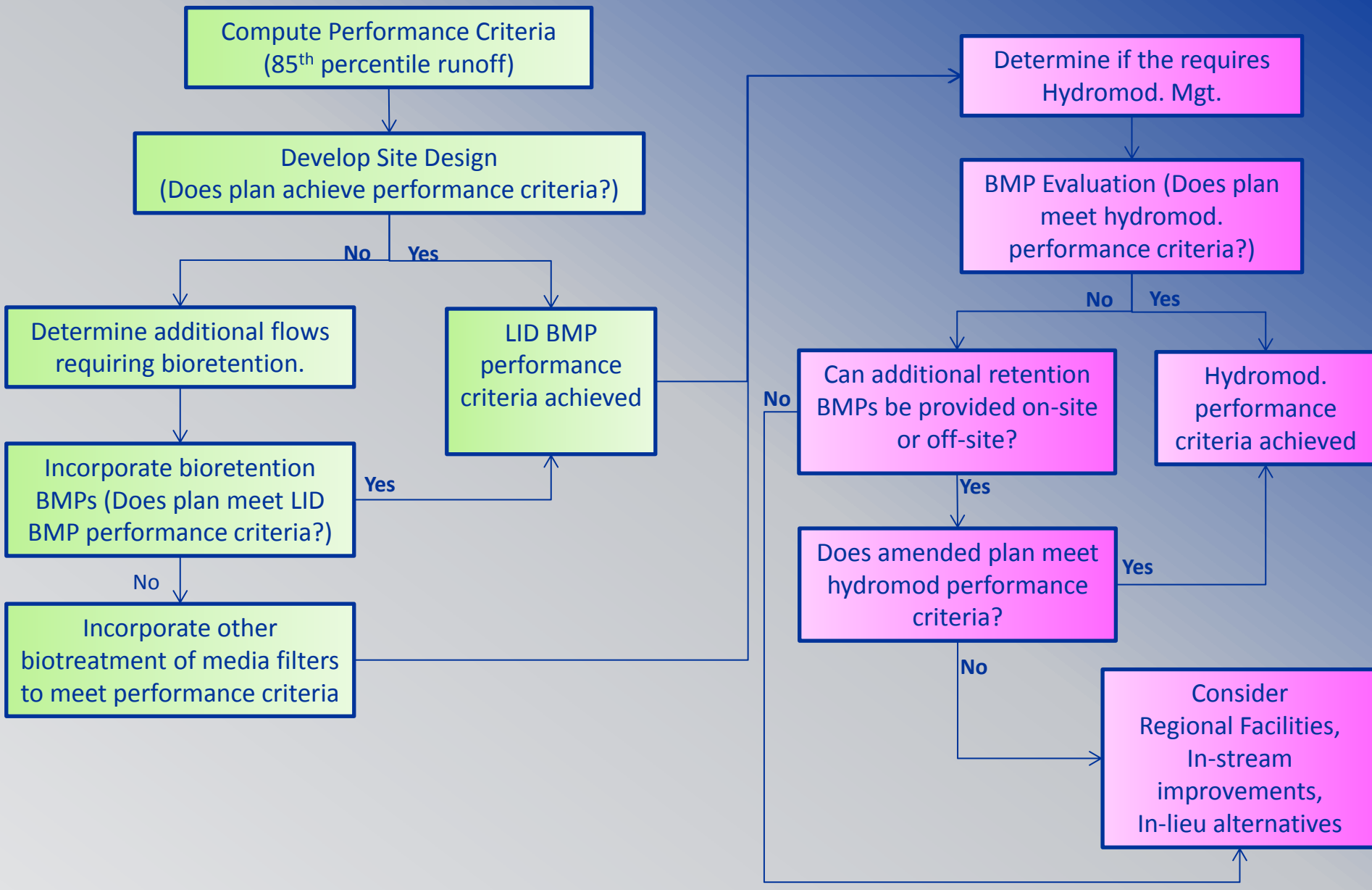
- (a) Site Assessment
- (b) Drainage Management Areas
- (c) Numeric Sizing Criteria for Storm Water Retention and Treatment
- (d) Site Design Measures
- (e) Source Controls
- (f) Storm Water Treatment Measures



# Hydromodification Management/ O&M

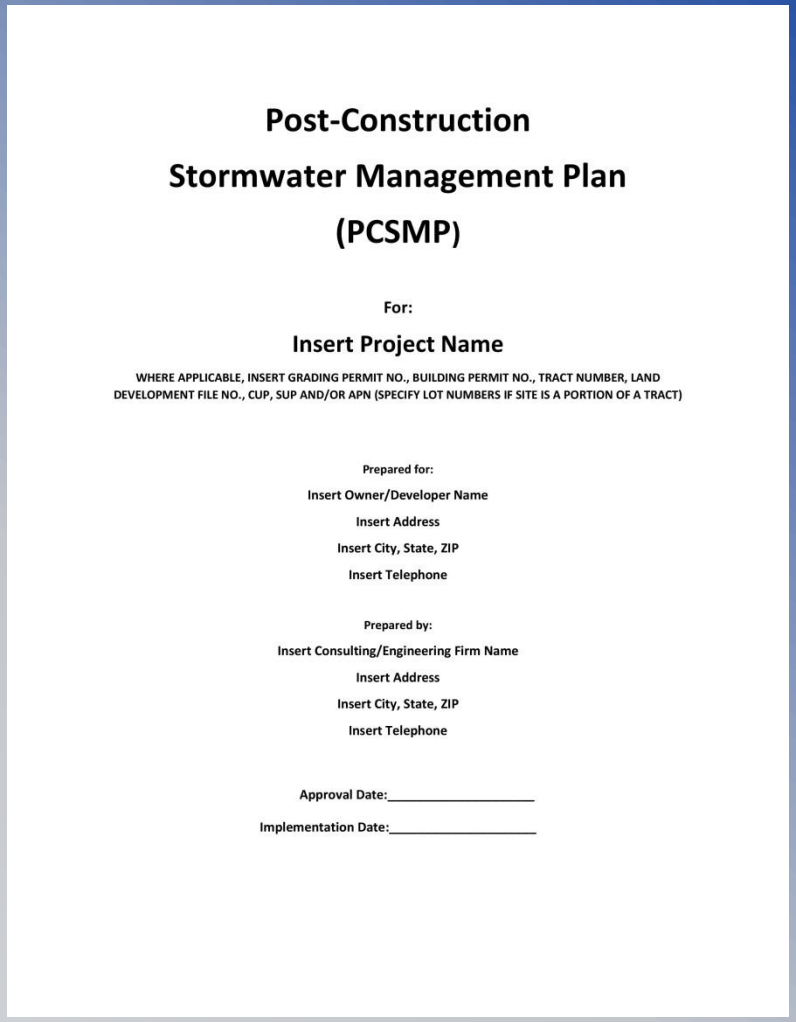
- Post-project runoff shall not exceed estimated pre-project flow rate for the 2-year, 24-hour storm
- Operations and Maintenance required

# Framework for LID/ HMP Implementation



# LID Plan Templates

- Regulated Projects (>5,000 $ft^2$ impervious)
- Planning and permit documentation tool
- Mechanism for efficient review of applications
- Contents:
  - Introduction
  - Process Overview
  - Pollutants of Concern
  - Site Topography, Hydrology and Drainage Characteristics
  - Soils and Geologic Conditions
  - Groundwater Considerations
  - Existing Development and Utilities
  - Other Environmental Concerns
  - Ordinance/ Code Compliance
  - Information Resources
  - SWQP Plan Submittal Requirements



**Post-Construction**

**Stormwater Management Plan**

**(PCSMP)**

**For:**

**Insert Project Name**

WHERE APPLICABLE, INSERT GRADING PERMIT NO., BUILDING PERMIT NO., TRACT NUMBER, LAND DEVELOPMENT FILE NO., CUP, SUP AND/OR APN (SPECIFY LOT NUMBERS IF SITE IS A PORTION OF A TRACT)

**Prepared for:**

Insert Owner/Developer Name

Insert Address

Insert City, State, ZIP

Insert Telephone

**Prepared by:**

Insert Consulting/Engineering Firm Name

Insert Address

Insert City, State, ZIP

Insert Telephone

Approval Date:_____

Implementation Date:_____

# Getting Involved in Manual Development

- www.placer.ca.gov/lowimpactdevelpment
  - Information about Manual will be posted on website
  - Comments can be submitted via the website
- Talk to local staff
- Manual Draft ready in late spring 2015
- Compliance date of July 1, 2015

# Summary

- Multi-Jurisdiction effort
- Starting July 1, 2015, local jurisdictions are required to develop a SW Quality Design Manual and implement LID and hydromod program, and also address PCCP and CARP requirements
- LID/hydromod measures reduce potential of development to increase peak flows and rapid flow through the watershed using small scale landscape-based features, which provide water quality enhancement
- Next Steps


Questions?