

# **Stormwater Treatment Requirements for New Developments**

## ***Regulations, Requirements, and Trends***

Dan Cloak, P.E.  
Principal  
*Dan Cloak Environmental Consulting*

## **Topics**

- Review current permit criteria
- Trends in NPDES criteria for:
  - Stormwater Treatment
  - Low Impact Development
  - Hydromodification management
  - Harvesting and reuse

## LID for NPDES Compliance

- Site design criteria
  - maximize infiltration (where appropriate)
  - provide retention or detention
  - slow runoff
  - minimize impervious land coverage
- Stormwater treatment criteria
  - Sizing requirements
  - “Maximum extent practicable” treatment
- Flow-control (hydrograph modification management) criteria

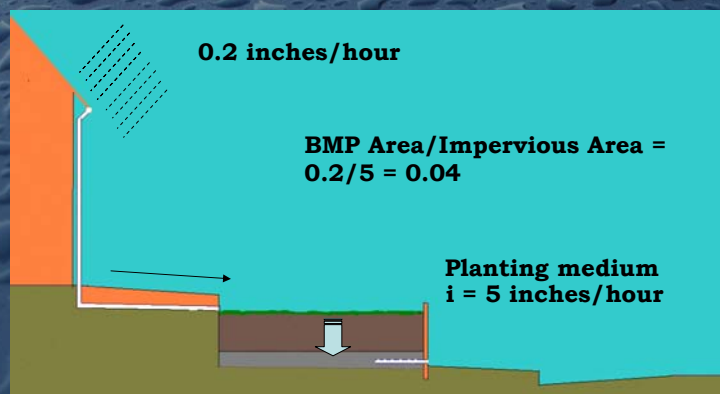
## SUSMP LID Requirements

- Provision D.1.d.(8)(a): “The purpose of the updated Model SUSMP shall be to establish minimum standards to maximize the use of LID practices and principles...”
  - Site Design Requirements
  - Source Control Requirements
  - Treatment Control Requirements
    - Siting, design, and maintenance criteria
    - “Criteria to aid in determining where implementation of each LID BMP is applicable and feasible”

## SUSMP Treatment Requirements

- Provision D.1.d.(7)
- Removal of obsolete and ineffective BMPs
- Addition of LID BMPs
- Update BMP pollutant treatment efficiencies
- Minimum hydraulic sizes

## Sizing criterion for treatment

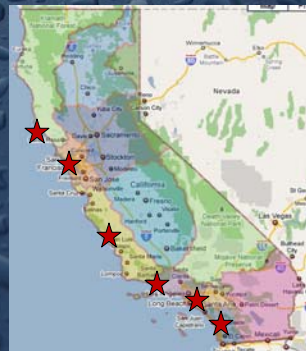


## SUSMPs & Hydromodification

- D.1.d.(10): “As part of its local SUSMP, each copermitttee shall develop and apply criteria...so that runoff discharge rates, durations, and velocities are controlled to maintain or reduce downstream erosion conditions...”
- To be superseded by HMP

## Recent NPDES Activity

- San Diego
- Ventura
- Orange County
- SF Bay Area
- Central Coast
- Sonoma
- Statewide
  - Construction General Permit
  - Phase II Municipal Permit
- National
  - Notice of Proposed Rule Making



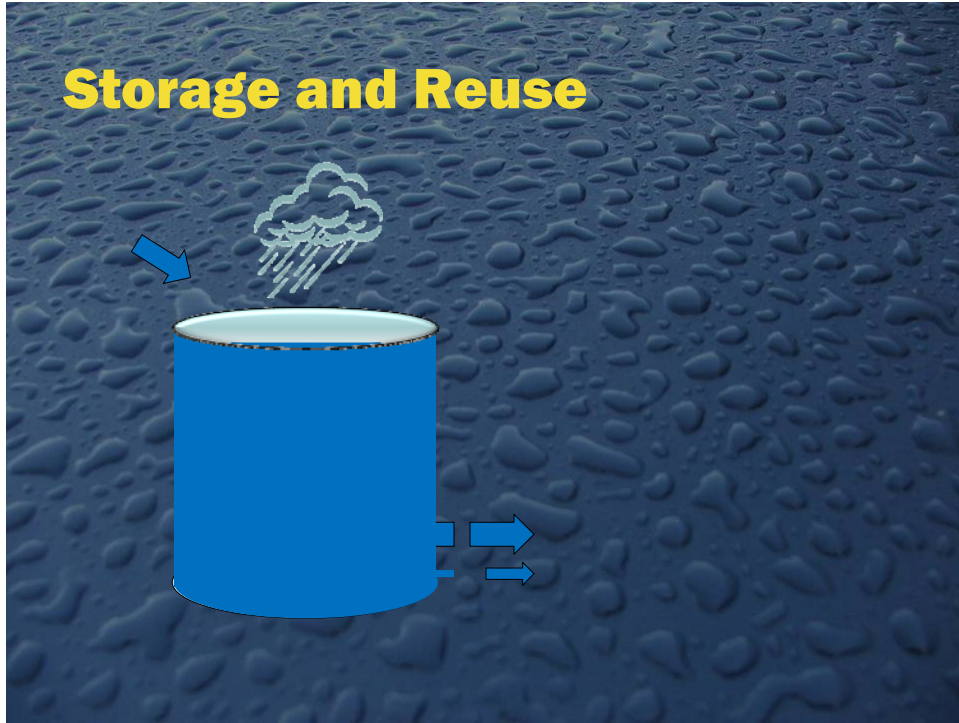
## Trends in LID Requirements

- Consistent statewide
  - LID required for treatment
  - Facilities designed to 85<sup>th</sup> percentile storm or equivalent
- Subject to debate
  - Harvesting & reuse vs. bioretention
  - Specifications for LID facilities
  - Alternative/off-site compliance
  - Exceptions

## Hydromodification Trends

- Consistent statewide
  - Lower flow threshold of 0.1Q<sub>2</sub>
  - Overlap with LID requirements
- Subject to debate
  - Controls on individual developments to achieve watershed-scale objectives
  - Applicability and exceptions

## Storage and Reuse



## Bioretention and Reuse

