

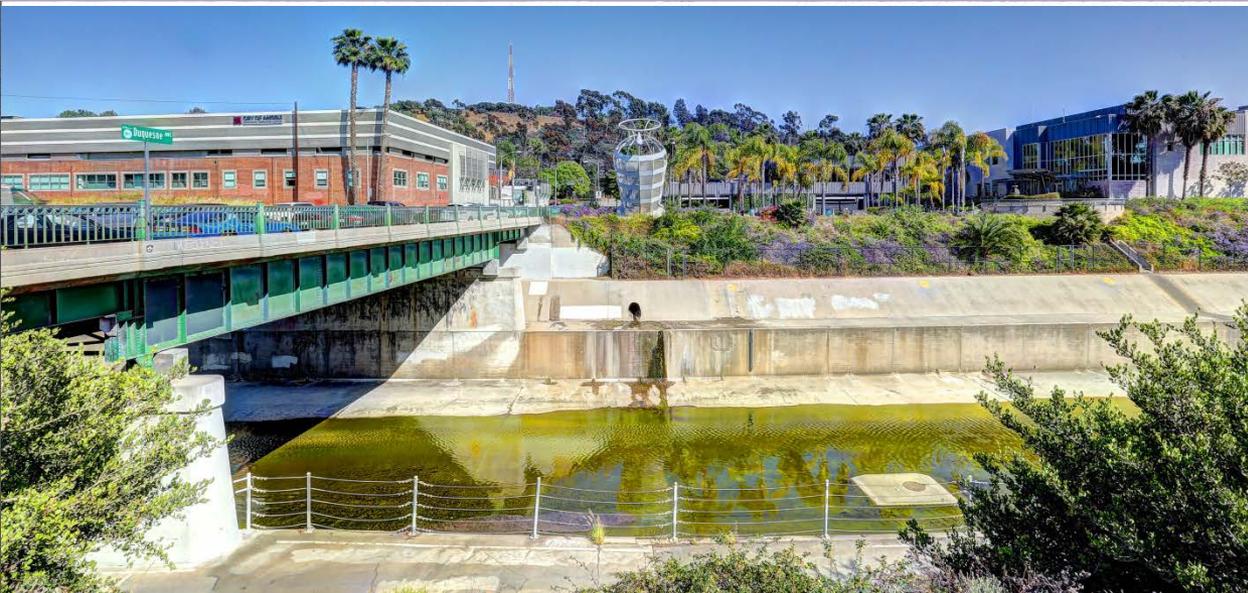
# Ballona Creek Watershed

## Enhanced Watershed

### Management Program

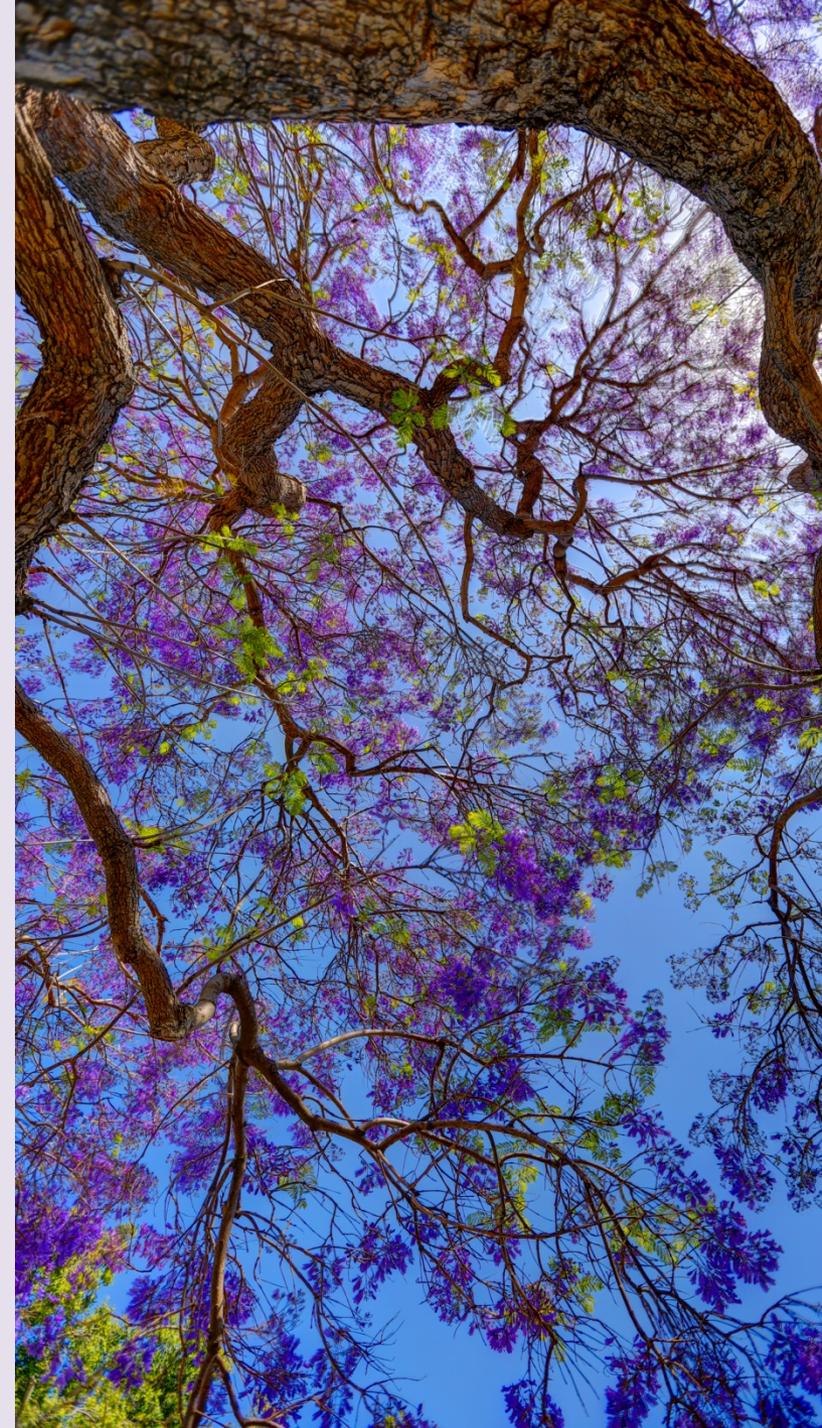
City of Los Angeles  
City of Beverly Hills  
City of Culver City  
City of Santa Monica

County of Los Angeles  
City of Inglewood  
City of West Hollywood  
Los Angeles County Flood Control  
District



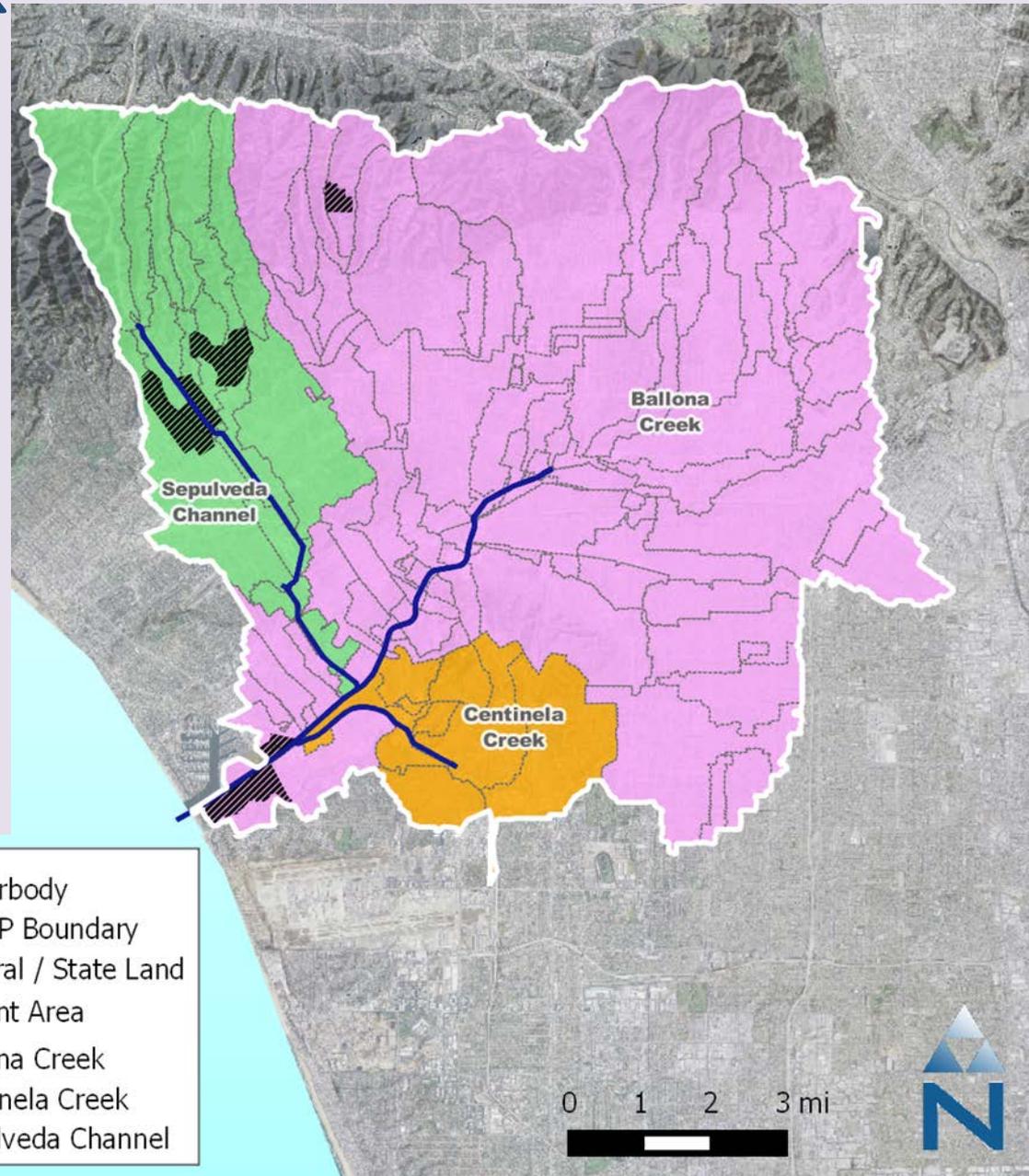
# Presentation Overview

- EWMP Overview
- Early action project, LID Ordinances,  
and Green Street Policies
- Financial Strategy
- Stakeholder Outreach
- Environmental Review
- Briefing of Elected Officials

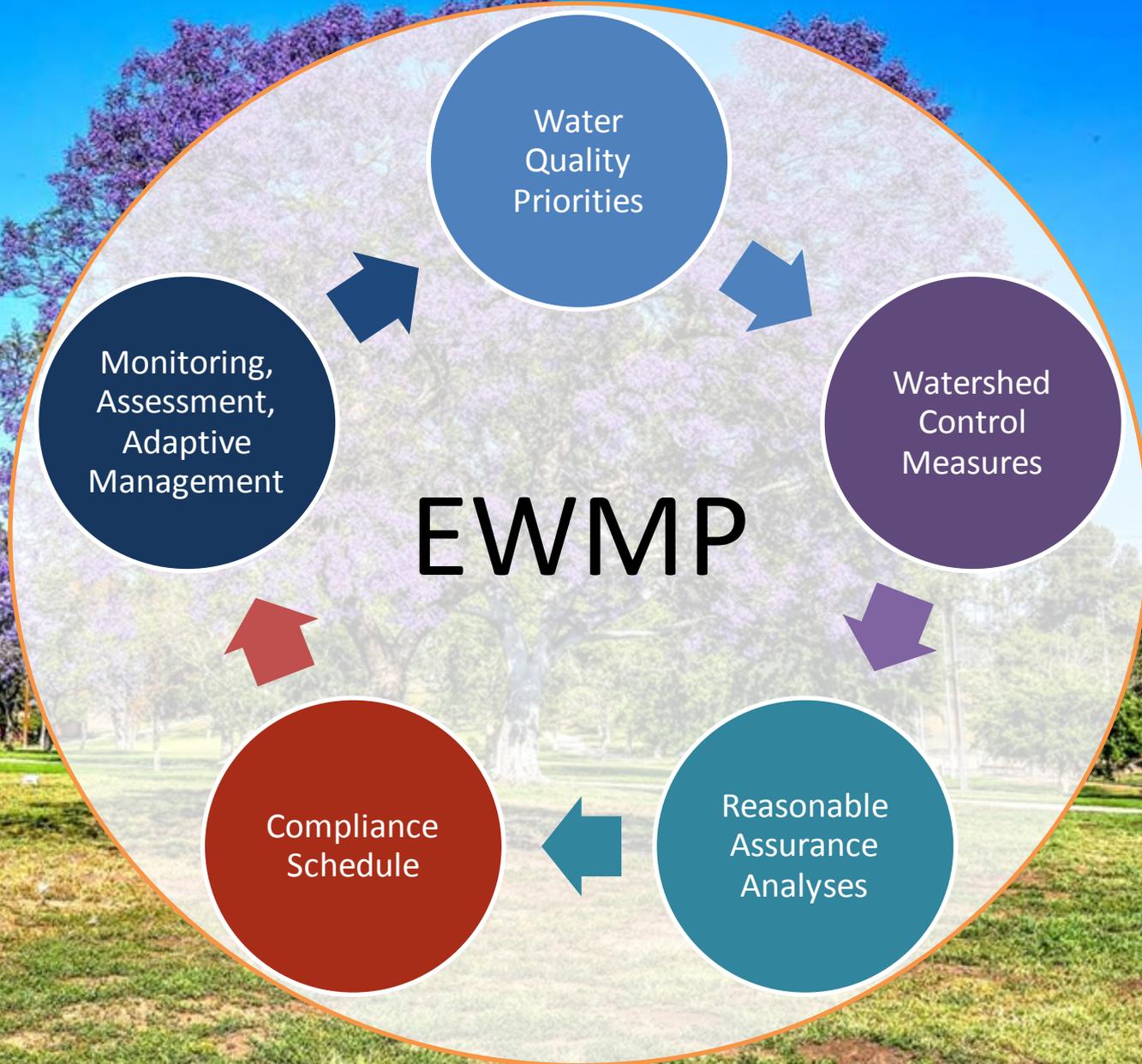


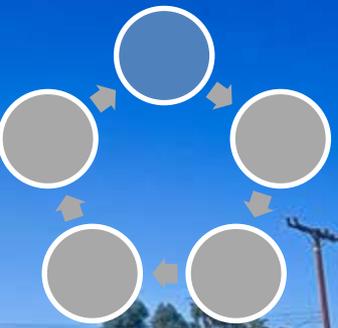
# Ballona Creek Watershed

- 128 sq. miles
- Three Assessment Areas
  - Ballona Creek
  - Centinela Creek
  - Sepulveda Channel
- 115 subwatersheds
- Unique “**recipe for compliance**” for each subwatershed
- Standalone recipe for each jurisdiction



# EWMP Elements





# Water Quality Priorities



Highest

- **Total Maximum Daily Loads (TMDLs)**
  - *Metals, Toxics, Bacteria, Trash, etc.*

High

- **Impaired: on 303 (d) List**
  - *Mercury, Silver and other metals, Shellfish Harvesting Advisory, Organic compounds, etc.*

Medium

- **Other pollutants**

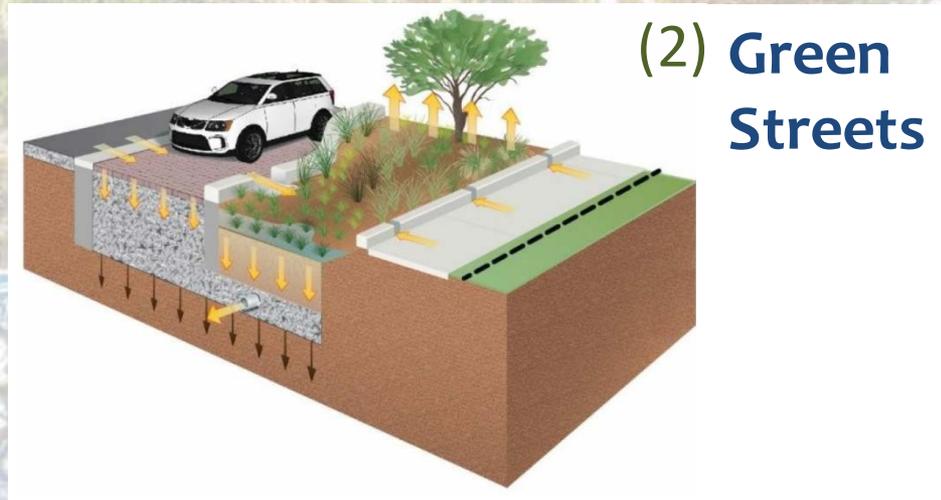
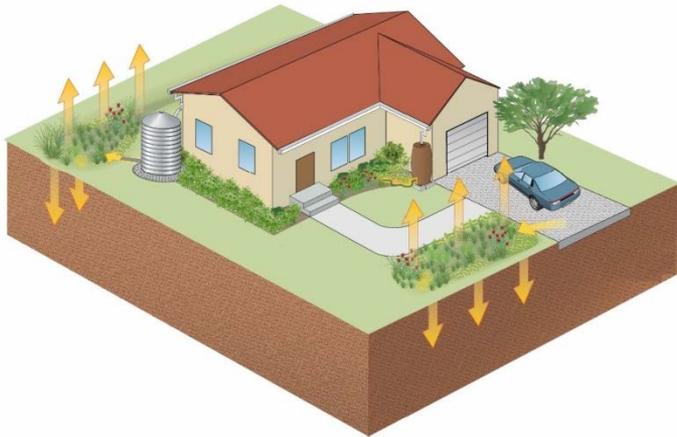
# Watershed Control Measures

- *Four primary categories of control measures:*

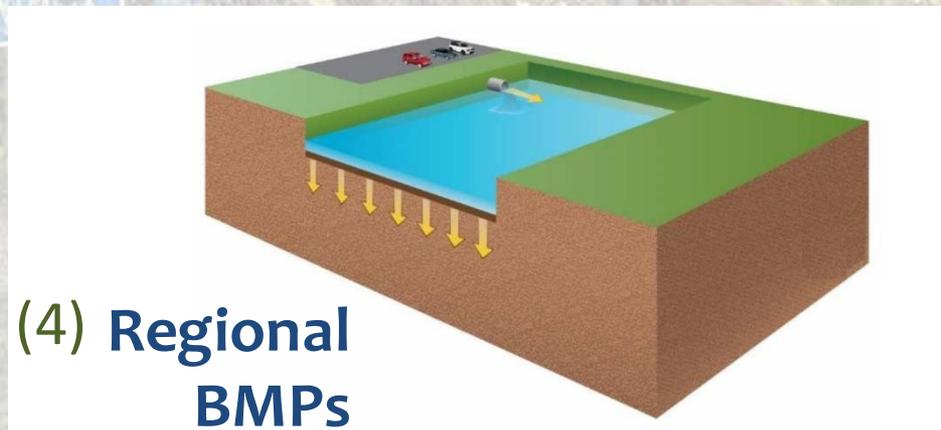
## (1) Institutional BMPs

e.g., Enhanced sweeping

## (3) Low Impact Development



## (2) Green Streets



## (4) Regional BMPs

# Regional BMPs

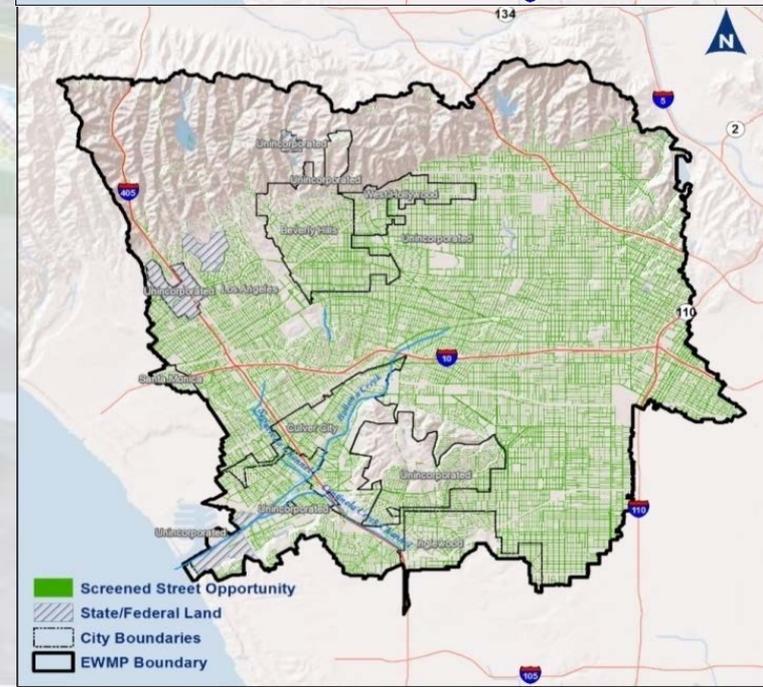
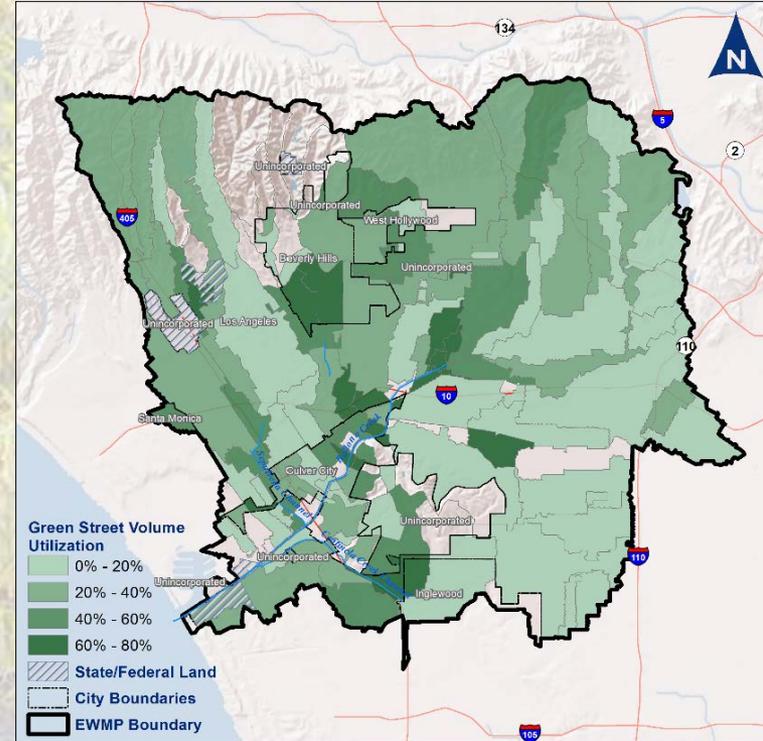
- Regional projects on public land are one of the most cost-effective options
- Over 400 parcels selected out of ~3500 screened
  - 26 very high
  - 42 high
  - 341 medium
- 68 regional projects selected
- Scheduling based on categories of Very High, High and Medium and on Compliance dates





# Green Streets

- Identified percent of streets for retrofit by subwatershed
- Identified right-of-way opportunities throughout watershed based on soils and slope
- Constitutes 17% of strategy



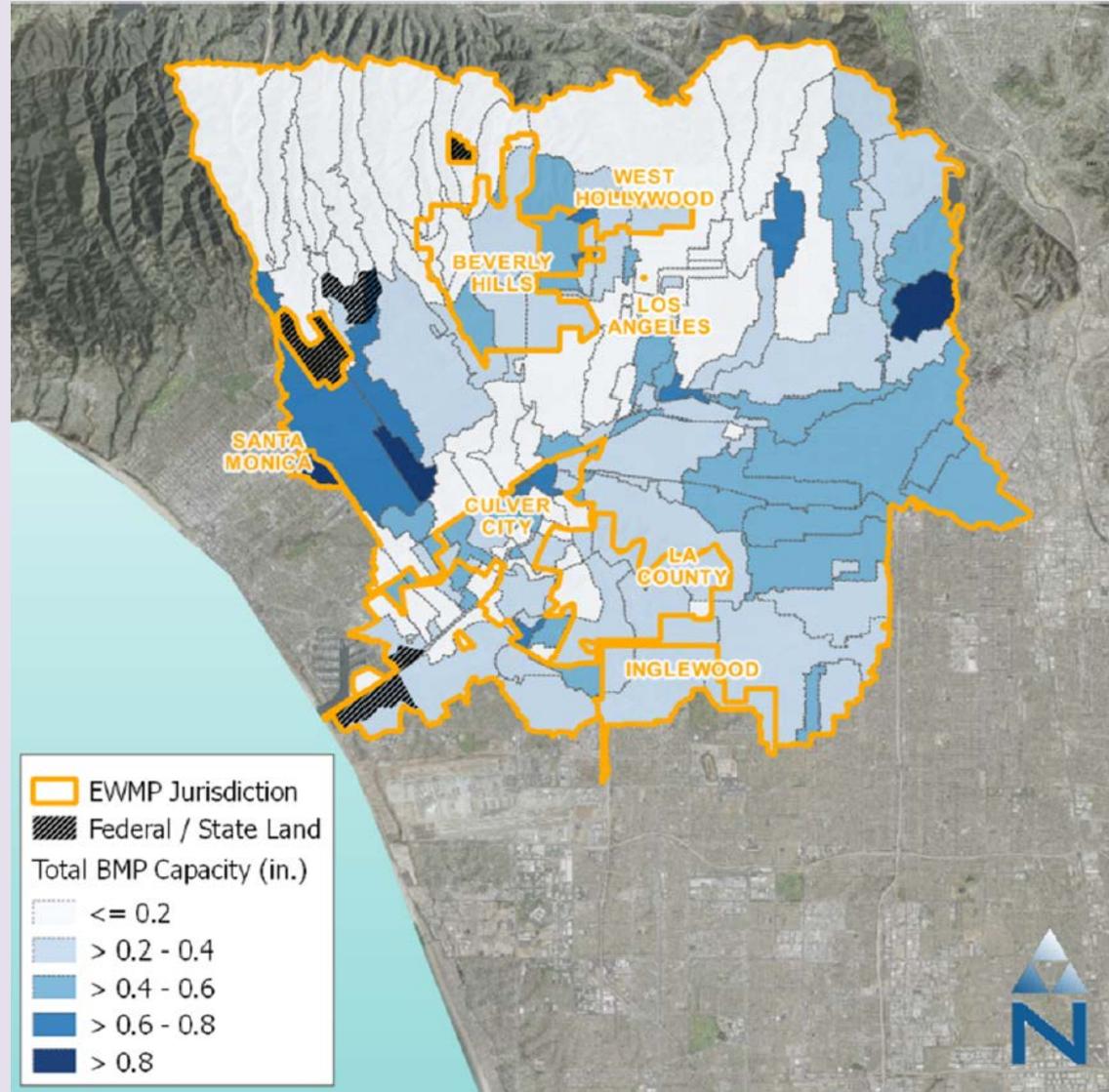
Before

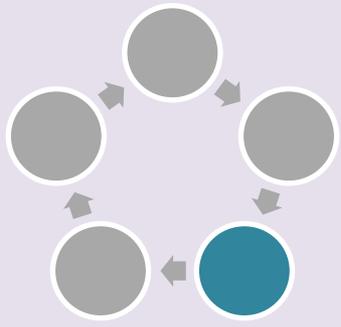
After



# RAA- Mapping Out Stormwater Compliance

- RAA demonstrates compliance
- Utilizes Watershed Management Modeling System (WMMS)
- Consistent with RAA Guidelines
- Map shows control measure “density” by subwatershed





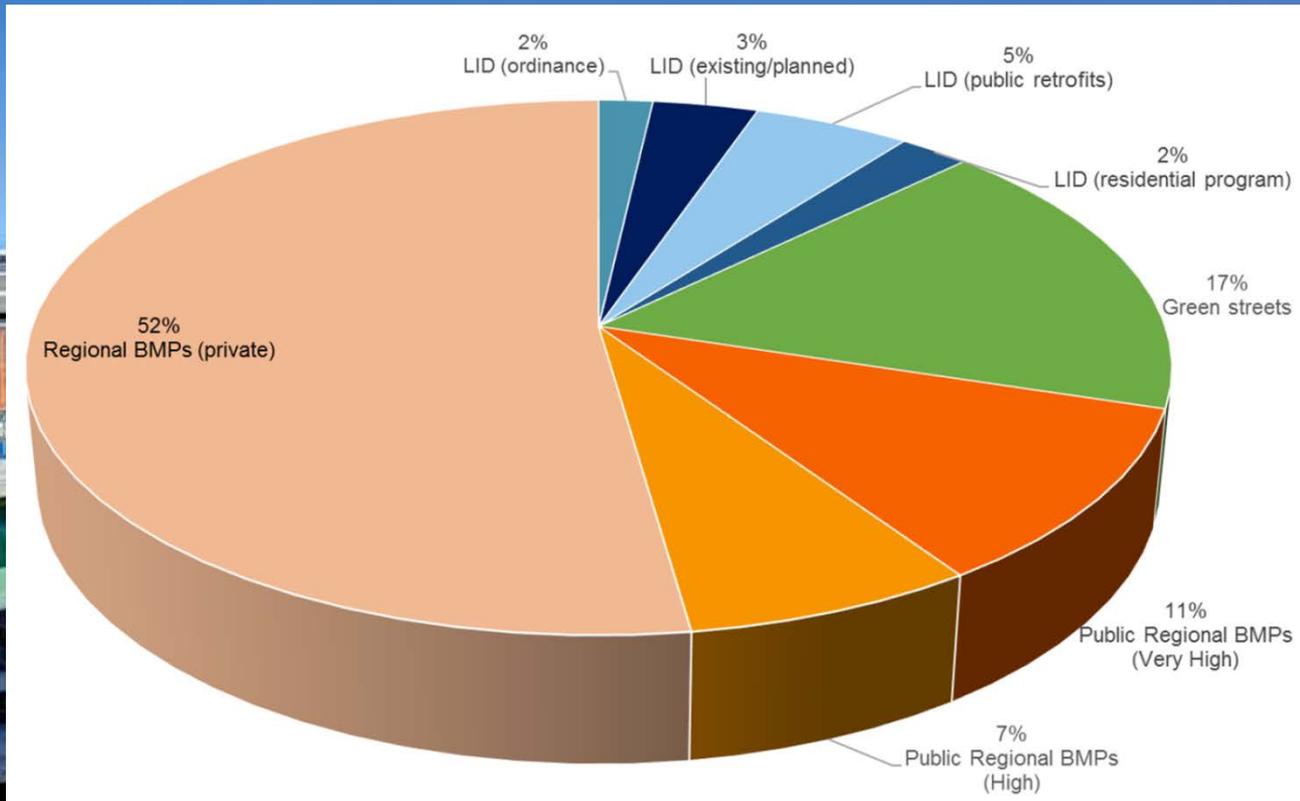
# RAA- Recipe for Compliance



Subwatershed ID	<b>COMPLIANCE TARGETS: MEASURABLE AND ENFORCEABLE BMP GOAL</b>		<b>EWMP IMPLEMENTATION PLAN: APPROACH TO ACHIEVE COMPLIANCE TARGETS, SUBJECT TO ADAPTIVE MANAGEMENT</b> (BMP capacity expressed in units of acre-feet)												
	For Metals by 2021	For Bacteria by 2021	For Metals Attainment by 2021											For Bacteria Attainment by 2021	
	24-hour Volume Managed (acre-ft)	Additional 24-hour Volume to be Managed (acre-ft)	% Load Reduction Critical Condition	Low-Impact Development				Streets	Regional BMPs					Total BMP Capacity (acre-ft)	Regional BMPs (private)
			Ordinance	Planned LID	Public LID	Residential LID	Green Streets	Very High (public, owned)	High (public, owned)	Medium (public, non-owned)	Private				
102322	0.12	0.87	8%	0.03	0.06	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.2	0.87	1.1
102422	16.50	0.00	95%	0.22	0.60	0.23	0.37	3.81	0.00	0.11	0.00	7.19	12.5	0.00	12.5
102522	12.59	0.00	86%	0.06	---	0.06	0.01	0.01	0.00	0.37	0.00	2.51	3.0	0.00	3.0
102622	5.22	0.00	94%	0.04	---	0.00	---	0.00	0.00	0.01	0.00	4.08	4.1	0.00	4.1
102722	8.19	0.00	90%	0.09	---	0.70	---	0.58	0.00	0.00	0.00	4.96	6.3	0.00	6.3
102822	0.02	0.68	6%	0.05	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.68	0.7
<b>Total</b>	<b>42.6</b>	<b>1.5</b>	<b>86%</b>	<b>0.5</b>	<b>0.7</b>	<b>1.0</b>	<b>0.5</b>	<b>4.4</b>	<b>0.0</b>	<b>0.5</b>	<b>0.0</b>	<b>18.7</b>	<b>26.3</b>	<b>1.5</b>	<b>27.8</b>



# Relative BMP Capacities



# Stormwater Storage



## Rose Bowl Stadium

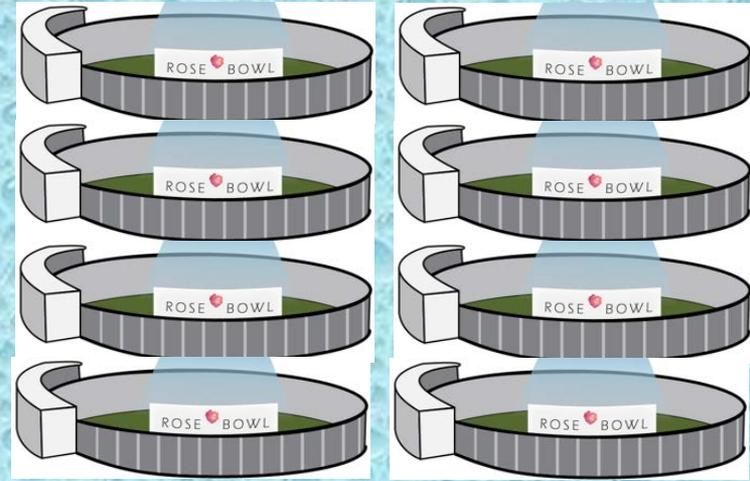
Seating Capacity:

92,542  
fans

Volume:

259  
acre-feet

Ballona Creek  
EWMP

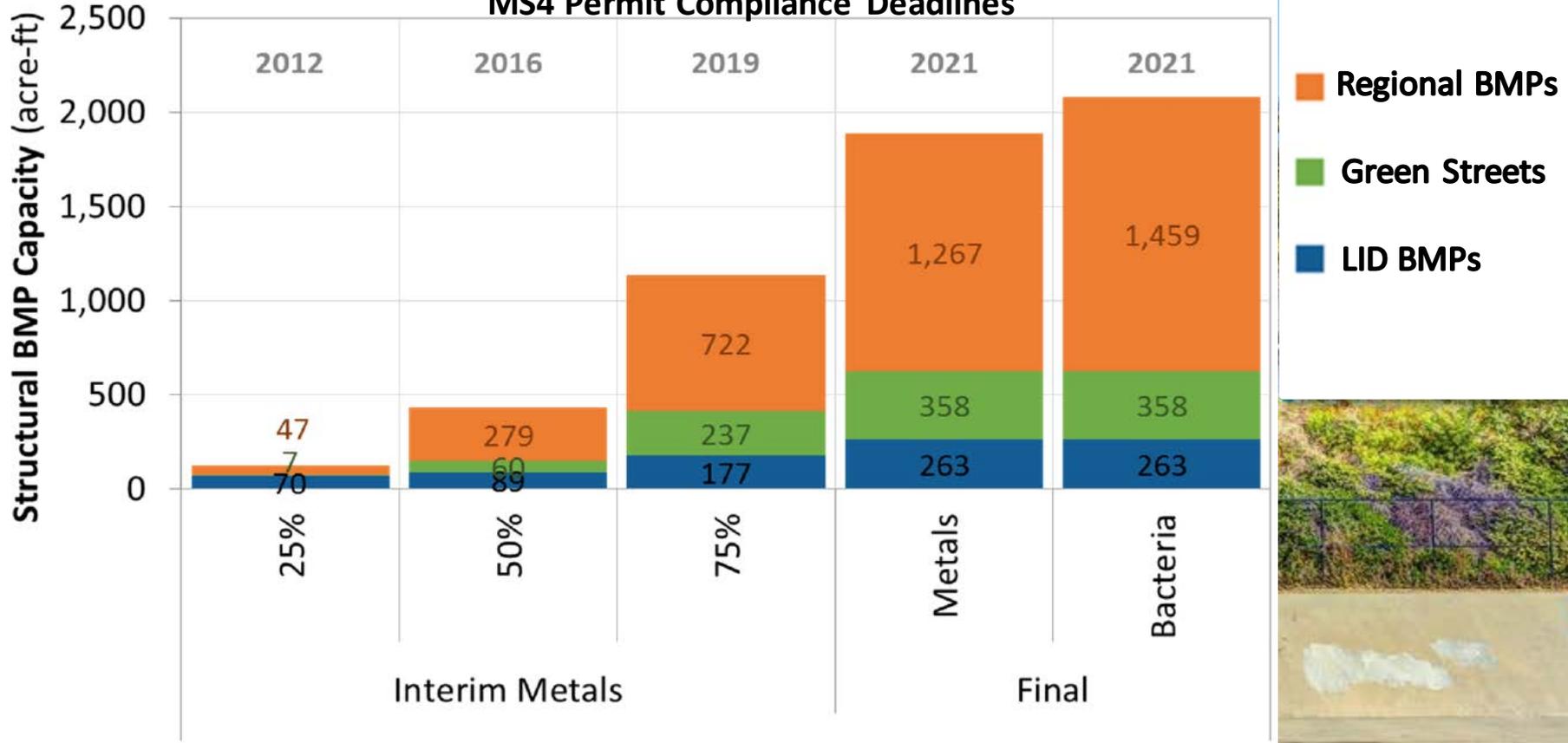


The volume of 8 stadiums!

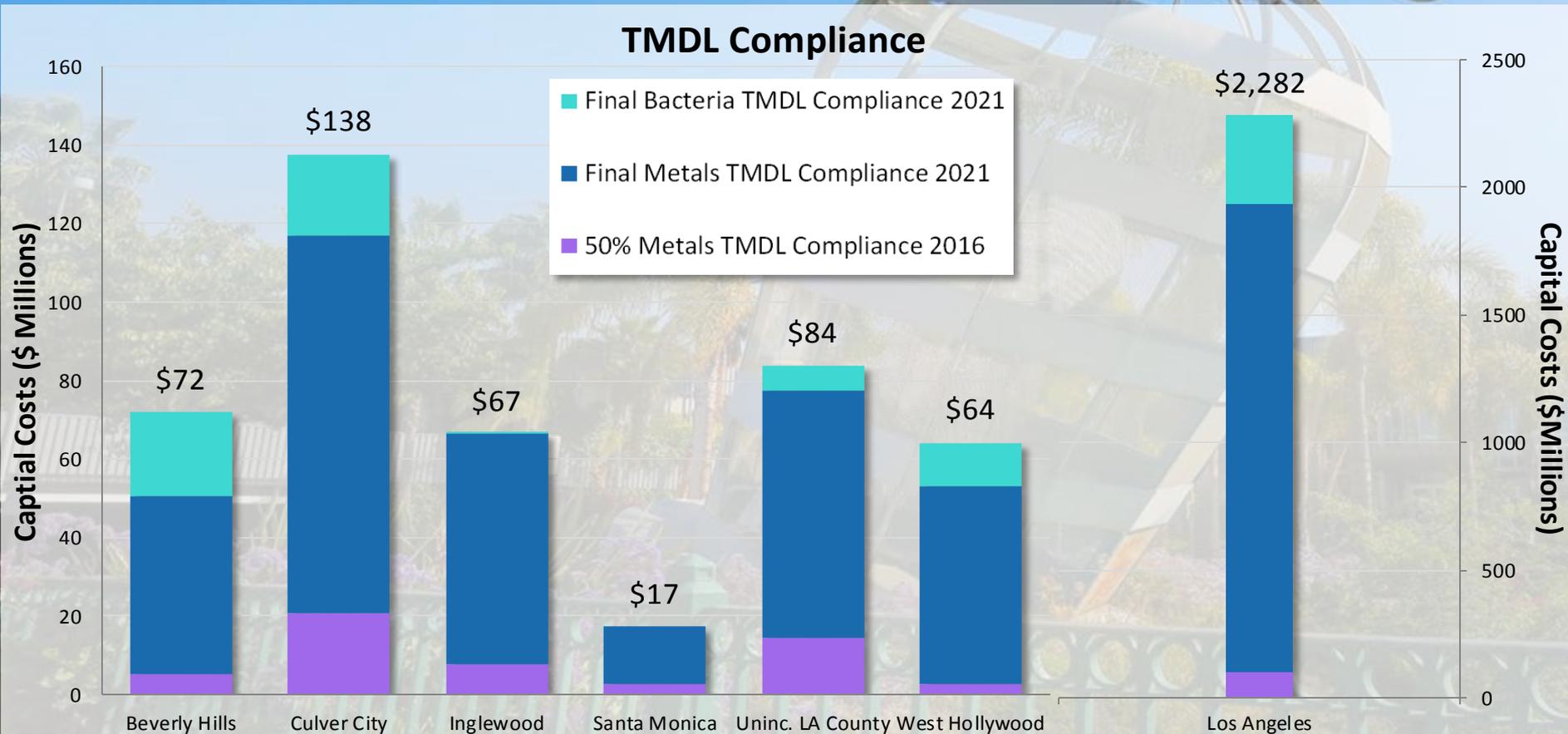
Equivalent to 6 billion gallons

# Scheduling for Compliance

MS4 Permit Compliance Deadlines



# Implementation Costs by Jurisdiction



# Financial Strategy

- Grants: Prop 1 Water Bond, IRWMP, etc.
- Fees: AB 2403, Sales Tax, Source-specific fees
- Legislative: Amend Prop 218, source control measures
- General Funds
- Partnership with public agencies outside of municipal control (i.e. school districts, Metro, US Post Office, etc.)
- Other options: P3, JPAs, stormwater credit trading,



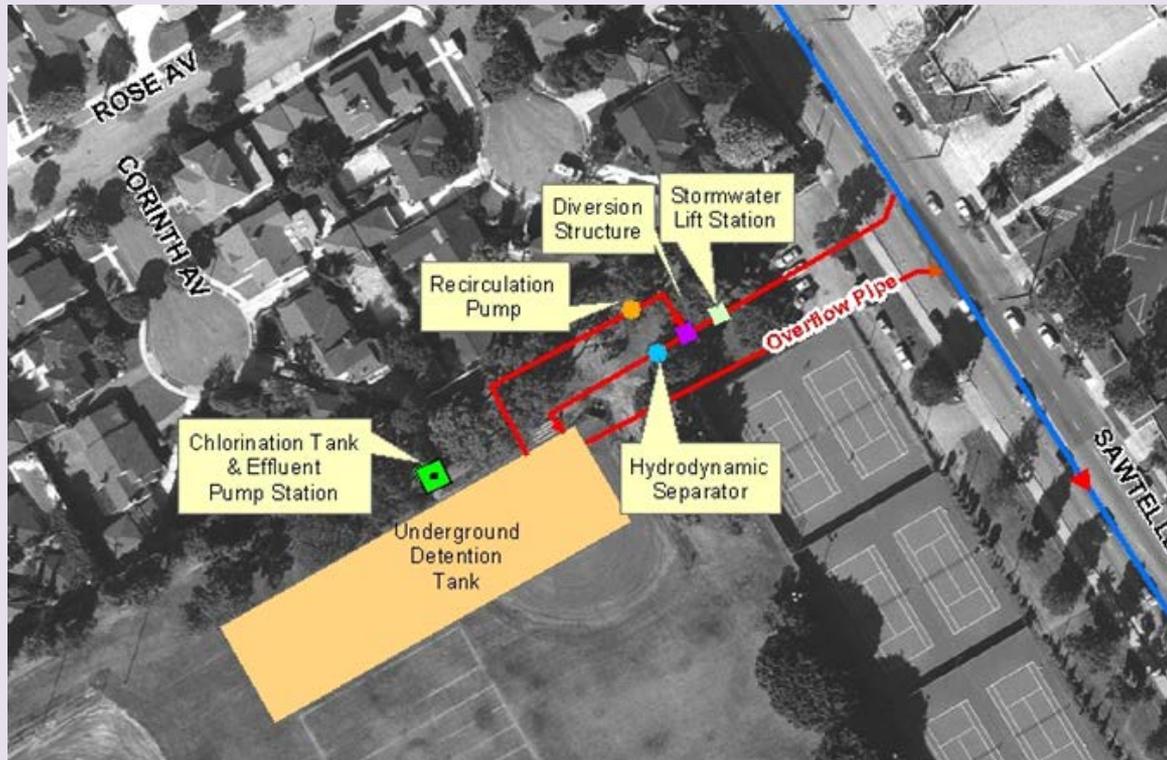
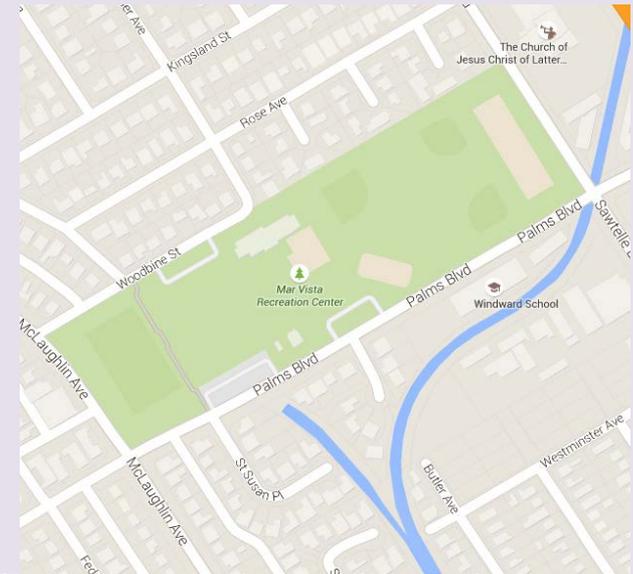
# Low Impact Development and Green Street Policy

Agency	LID Adoption Date	Green Street Policy Adoption Date
County	January 2009	July 2011
Los Angeles	October 2011	July 2011
Culver City	November 2014	November 2014
Beverly Hills	April 2013	June 2015
Inglewood	June 2015	(pending)
West Hollywood	June 2015	August 2013
Santa Monica	July 2010	July 2010

# Early Action Project

## Mar Vista Recreation Center Stormwater BMPs Phase 2

- Currently in design
- Completion by end of 2016



# Stakeholder Outreach

- **Three large workshops at LA Zoo:**
  - April 10, 2015,
  - March 19, 2015
  - November 20, 2014,
- **Additional individual meetings**



# Briefing and Support of Elected Officials

- BC City Managers Meeting held May 17, 2015
- EWMP Funding meeting held May 28, 2015



Agency	Board/Council EWMP Submittal Approval Date
County	May 26, 2015
Culver City	June 8, 2015
West Hollywood	June 15, 2015
Beverly Hills	June 16, 2015
Los Angeles	June 16, 2015
Inglewood	June 23, 2015

# Questions?

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## Contact

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