

**Four EWMPs led by City of Los Angeles:
Upper Los Angeles River, Ballona Creek, Santa Monica Bay, and
Dominguez Channel**

**HUUB COX, Ph.D, PE
Assistant Division Manager
Watershed Protection Division, Bureau of Sanitation, City of Los Angeles**

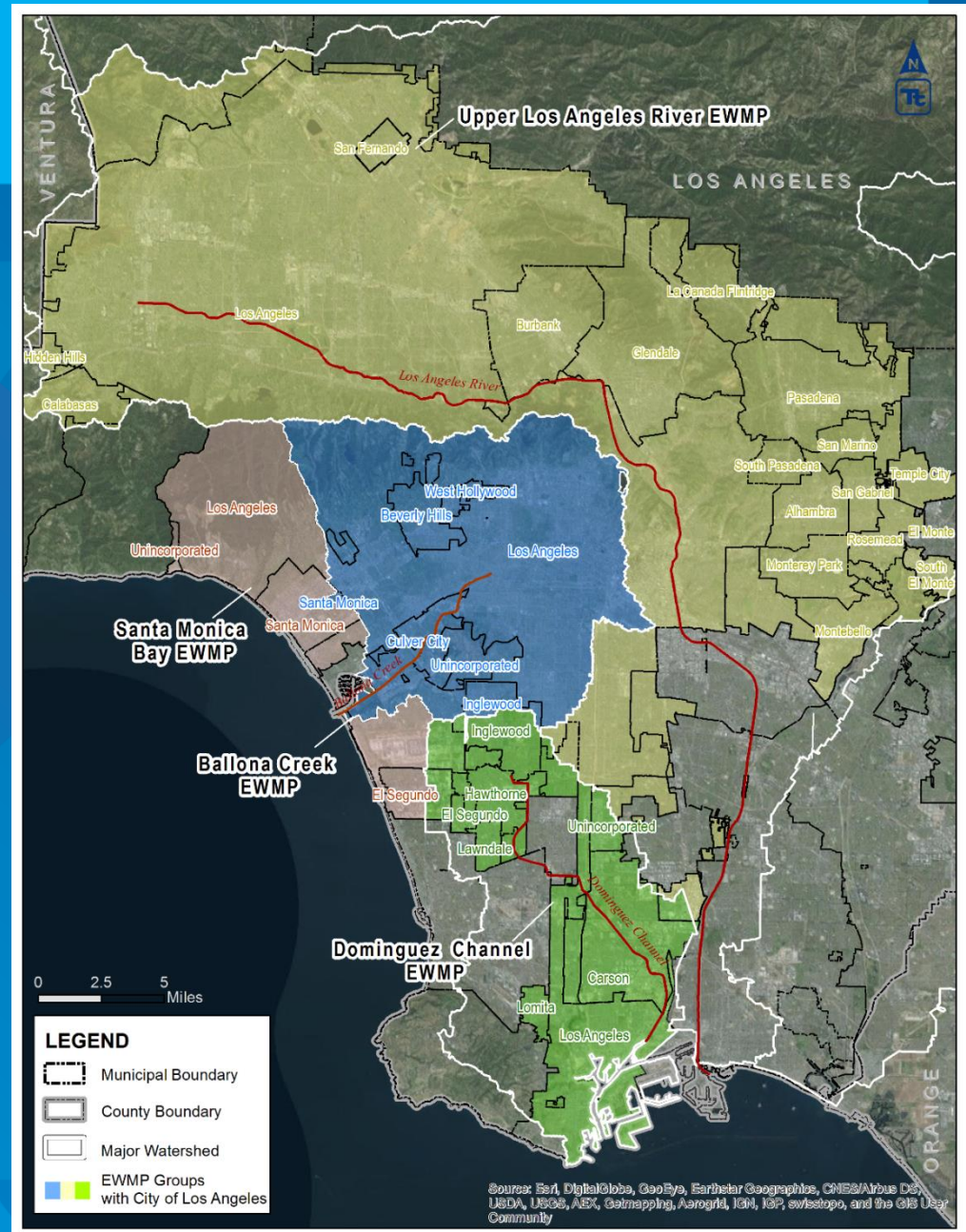


Presentation Overview

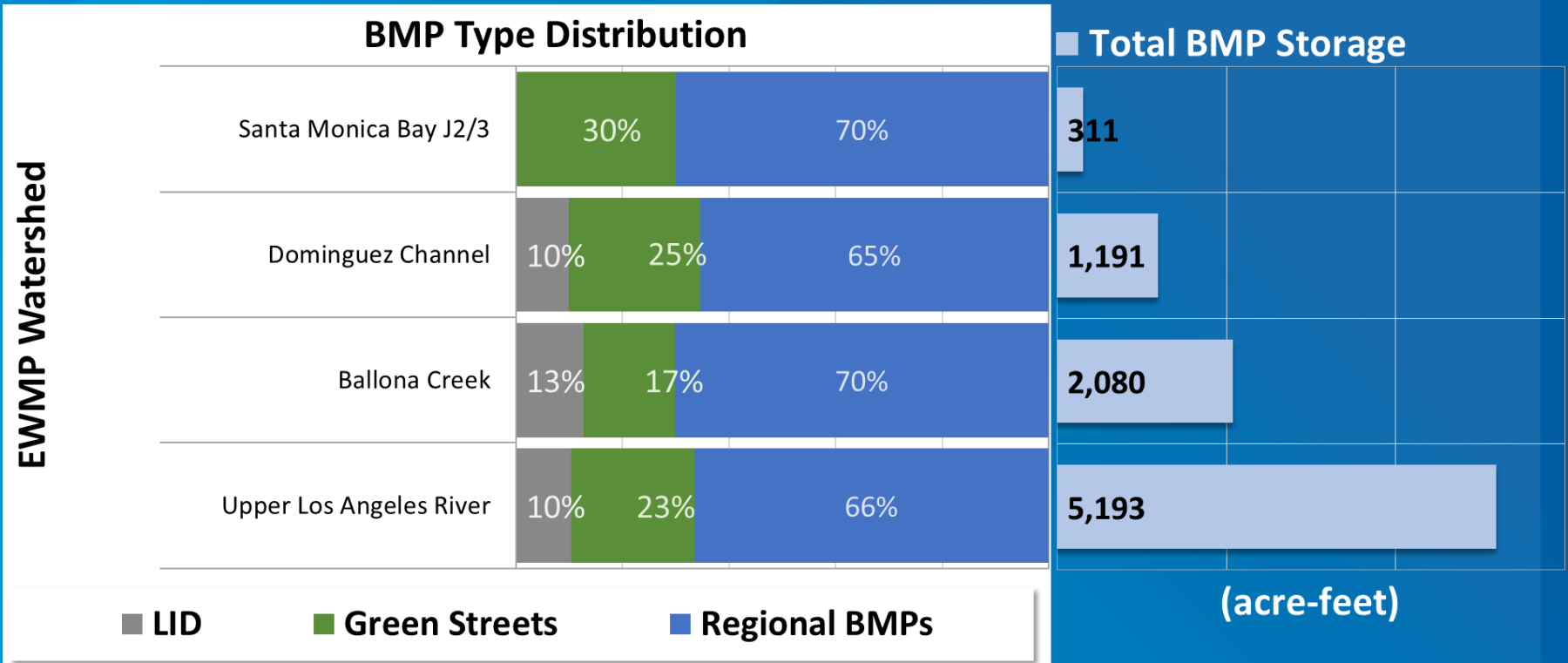
- **Overview of City-led EWMPs**
- **Key Topics for EWMP Updates:**
 - **Regional BMP Planning**
 - **Financial Strategy**

City-led EWMPs

- Upper LA River: **18 agencies**
- Ballona Creek: **8 agencies**
- Santa Monica Bay: **5 agencies**
- Dominguez Channel: **9 agencies**
(including recent additions: Carson and Lawndale)

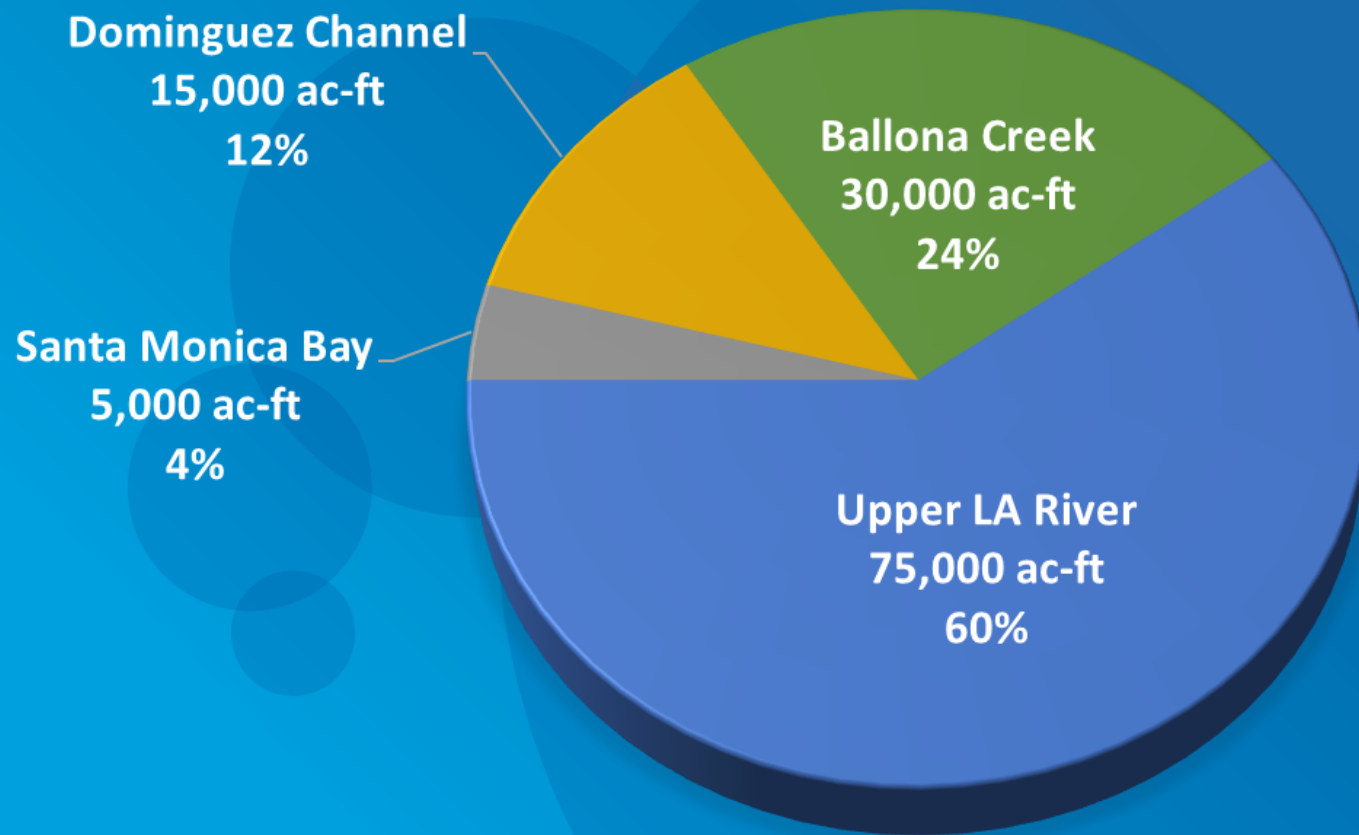


EWMP Implementation Strategies



34 Rose Bowls of Storage

Annual Average Stormwater Capture



Amount consumed by 1.1 million people

EWMP Revisions

- **A total of approx 200 comments received on four EWMPs**
- **Typically requests for more information or clarification**
- **Separate presentation will cover RAA comments**
- **Key Topics for EWMP revisions common to four EWMPs:**
 - **Regional BMP Planning**
 - **Financial Strategy**

Regional BMP Planning

- **Signature Regional Projects are cornerstone of EWMP**
- **Many additional details on projects were provided**
 - Targeted storm size
 - Drainage areas for contributing jurisdictions
 - Near-term milestones for project planning / design
- **Additional evaluation of potential funding sources**

Additional Details on Signature Regional BMPs

Table 4-1 Summary of Signature Projects

Regional Project	Responsible EWMP Group Members in Design Drainage Area ¹	BMP Type	Design Drainage Area ³	Available BMP Volume	Recommended BMP Volume	Approximate Rainfall Event Depth Captured Based on Recommended Volume ²	Retains the 85th Percentile, 24-Hour Storm Event?	Total Capital Cost Estimate
			(acres)	(AF)	(AF)	(inch)		
Rancho Park Golf Course and Cheviot Hills Recreation Center	Los Angeles, (Beverly Hills, County of Los Angeles)	Surface and Subsurface Retention & Infiltration	359	403	11.6	1.2	Yes	\$4,374,000
La Cienega Park	Beverly Hills, Los Angeles, (West Hollywood)	Subsurface Retention & Infiltration	578	51.3	24	1.0	Yes	\$32,176,000
Culver Boulevard Median	Culver City, Los Angeles	Subsurface Retention & Infiltration	829	33.7	29.2	0.6	No ⁴	\$16,550,000
Edward Vincent Junior Park	Inglewood, Los Angeles, County of Los Angeles	Biofiltration and Wetlands	983	63	45.7	1.0	Yes	\$44,891,000
Lafayette Park	Los Angeles	Subsurface Retention & Infiltration	637	25	18	0.5	No	\$27,681,000
Poinsettia Park	Los Angeles, West Hollywood	Subsurface Retention & Infiltration	1,379	15.5	10.1	0.2	No	\$13,523,000
Queen Anne Recreation Center	Los Angeles	Subsurface Retention & Infiltration	3,067	42	11.6	0.1	No	\$33,165,000
Plummer Park	Los Angeles, West Hollywood	Subsurface Retention & Infiltration	283	7.2	7.2	0.7	No	\$12,508,000
Ladera Park	County of Los Angeles	Subsurface Retention & Infiltration	110	7.0	5.3	1.0	Yes	\$7,008,000
Westside Water Quality Improvement Project, Phase 2	Santa Monica, Los Angeles	Subsurface Retention & Harvest for Irrigation and Indoor Flushing	2,736	TBD	TBD	0.8+ (Anticipated)	TBD	TBD

Example from Ballona Creek Watershed

Example Project Moving Forward: Upper LA River (City of LA)

Avalon Green Alley Network—LID Demonstration Project



Uses existing public alley right-of-ways in a high-density, highly disadvantaged neighborhood to combine stormwater capture and infiltration practices with aesthetic beautification

Example Project Moving Forward: Upper LA River (LA County)

Roosevelt Park BMP Project

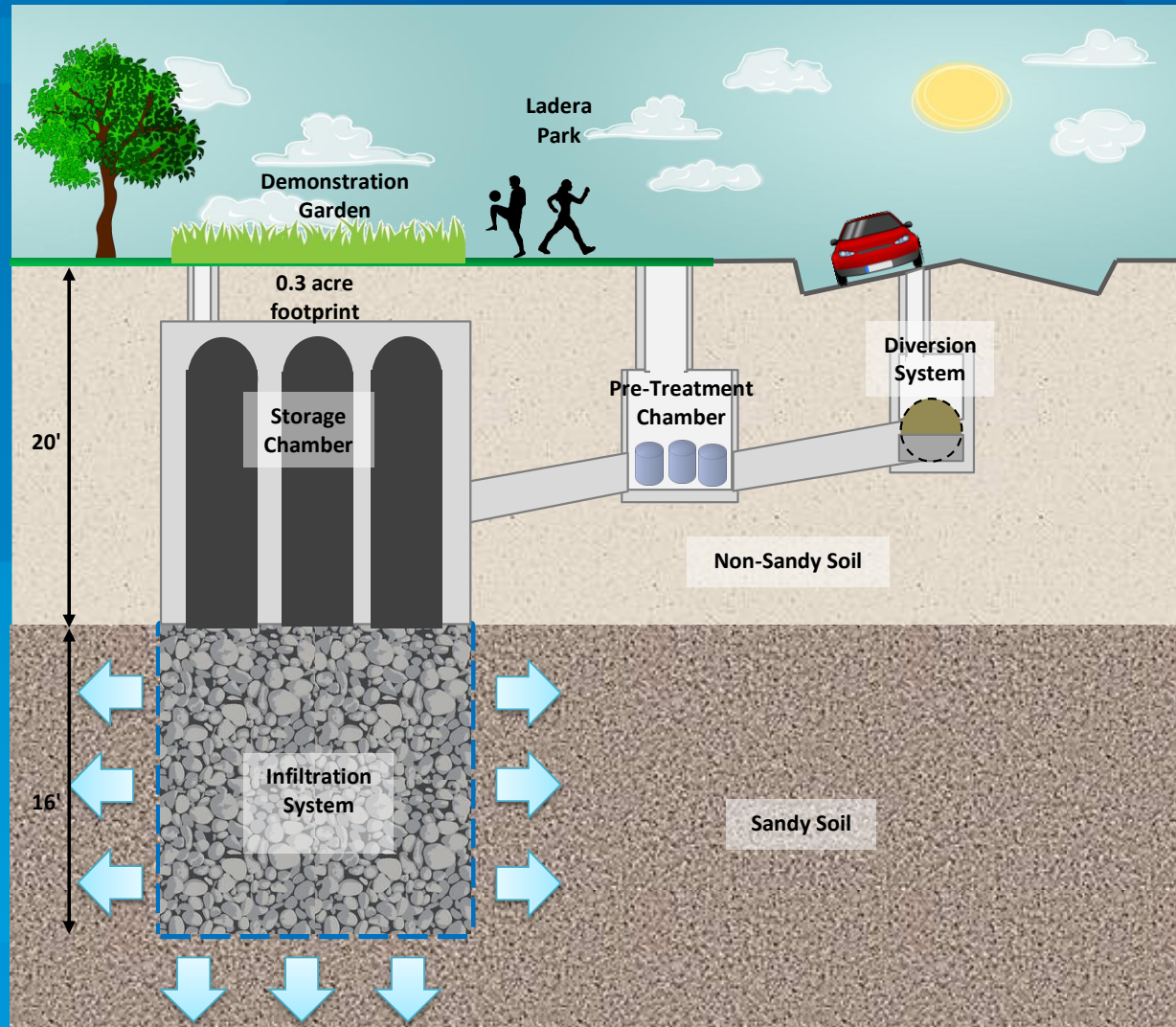
ROOSEVELT PARK BMP PROJECT
CONCEPTUAL LANDSCAPE PLANS



Retrofits existing parkland to combine stormwater infiltration practices with fostered public engagement through recreation, education, and outreach benefits

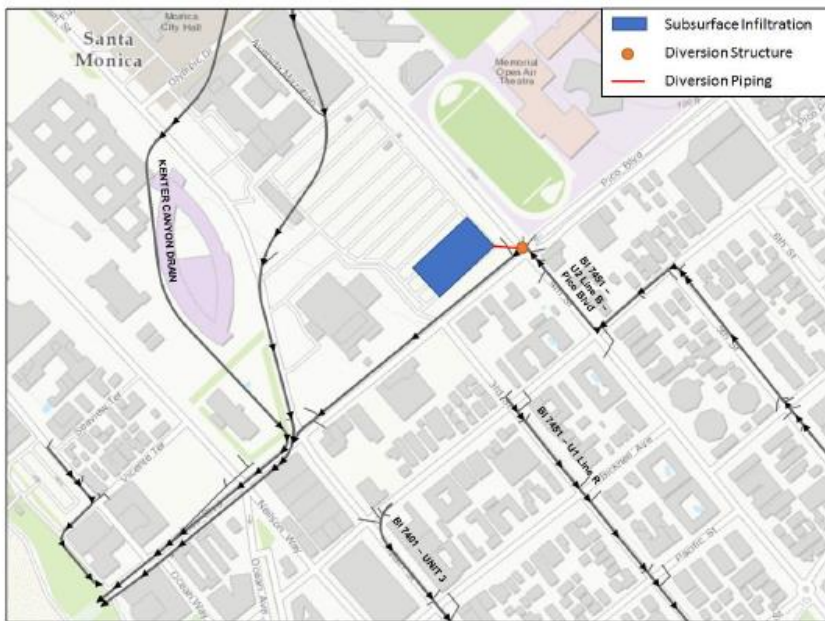
Example Project Moving Forward: Ballona Creek (LA County)

- Ladera Park Regional BMP
- Would capture design storm from 100+ acres
- Includes demonstration garden adjacent to recreational areas



Example Project Moving Forward: Santa Monica Bay (City of Santa Monica)

● Civic Auditorium and Courthouse (Infiltration)

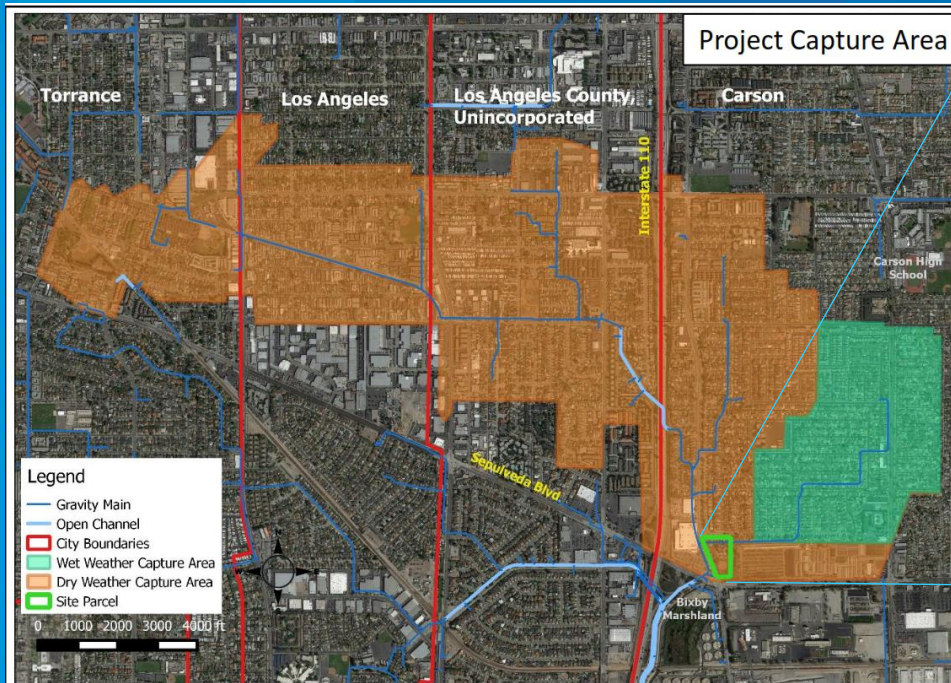


● Memorial Park (Harvest and Use)



Example Project Moving Forward: Dominguez Channel (Carson)

- Carriage Crest Park Regional BMP
- Would capture ~ 1100 acres of watershed, including runoff from Carson, Uninc County, Los Angeles, and Torrance



Additional Planning Effort Example: City of LA Capital Improvement Program (CIP)

- **Stormwater CIP: short-term (5 yrs) details on projects and coordination with other infrastructure projects**
- **Expanded CIP in Dec 2015 identified \$1.5B in specific projects for early EWMP milestones**
 - **Signature regional projects**
 - **Distributed green streets**
 - **Rainwater capture & water supply**
 - **Flood control needs**

City of Los Angeles Stormwater and
Green Infrastructure 5-Year Capital
Improvement Plan



CITY OF LOS ANGELES, BUREAU OF SANITATION
WATERSHED PROTECTION DIVISION

JUNE 30, 2015

Financial Strategy

Revised Financial Strategy

- **Expanded Information on Potential Funding Sources**
 - **Loans**
 - **Federal and State Grants**
 - **Traditional Fee Based Programs**
 - **Innovative Regional Funding Sources**
- **Prioritized Strategy based on Funding Sources**
 - **Evaluated near and long-term feasibility**
 - **Applicability to BMP types**
 - **Potential Availability of Funding**

Summary of Funding Options

Funding Source	Estimate Annual Available Funding	Scope/ Scale		Potential/ Feasibility	
		Project	Program	Near Term (<5 years)	Long Term (>5 years)
Clean Water State Revolving Fund	>\$100M	●	●	High	High
Federal/ State Grants	\$1-5M	●		Moderate	Moderate
Service Related Fees	\$1-25M		●	High	High
Property Based Fees	\$5-100M		●	Moderate	High
Special Assessment Districts	\$5-100M	●	●	Moderate	High
Water Quality Trading	\$1-25M	●	●	Low	Moderate
Public Private Partnerships	\$1-5M	●	●	Low	Moderate
Sales Tax Measure	\$1-25M		●	Low	Moderate
Environmental Impact Fees	\$1-25M		●	Low	Moderate

Example from Ballona Creek Watershed

Financial Strategy: Future Steps

- **Move Forward with Individual Strategies**
- **Collaborate on an array of regional strategies:**
 - **Follow on from LA County Stormwater Funding Options Report (Farfsing and Watson)**
 - **Funding pursuits at the local, state and federal levels**
 - **Pursue source control options (e.g., zinc in tires)**
- **Increase Public Support**

Closing Remarks

- ◉ **EWMPs represent a major leap in stormwater planning**
- ◉ **Revisions have further improved the EWMPs**
- ◉ **Efforts already underway to move forward with projects including pursuit of funding**
- ◉ **Looking forward to EWMP approval and transition to implementation phase**

Questions?

HUUB COX, Ph.D, PE

Assistant Division Manager

Bureau of Sanitation, City of Los Angeles