

Energy and Environment Committee

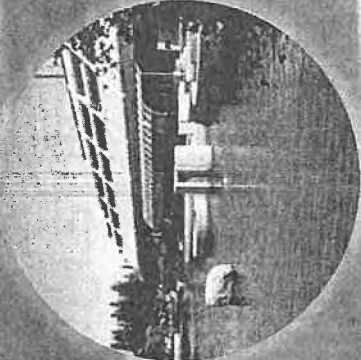
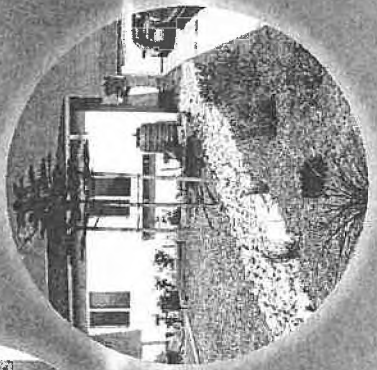
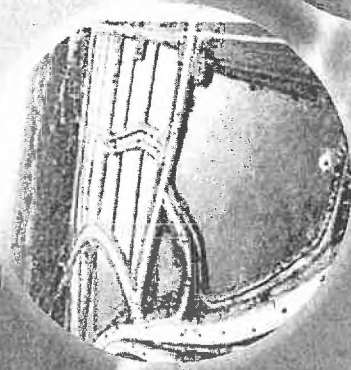
April 2, 2014

- Item No. 1 – Council File 13-1336: One Water Planning Concept
- Item No. 2 – Council File 14-0281: Regional Stormwater Capture Projects
- Item No. 3 – Council File 13-1385: LA Groundwater Replenishment Project & Groundwater Basin Remediation,
- Item No. 4 – Council File 13-0952: Local Water Supplies, Groundwater Basin Remediation, Stormwater Capture Master Plan

Date: 4/2/14
Submitted in E&E Committee
Council File No: 13-1336/14-0281
Item No: 1-4
Deputy: Adam R. Lid
13-1385
13-0952



One Water: Making it a Reality

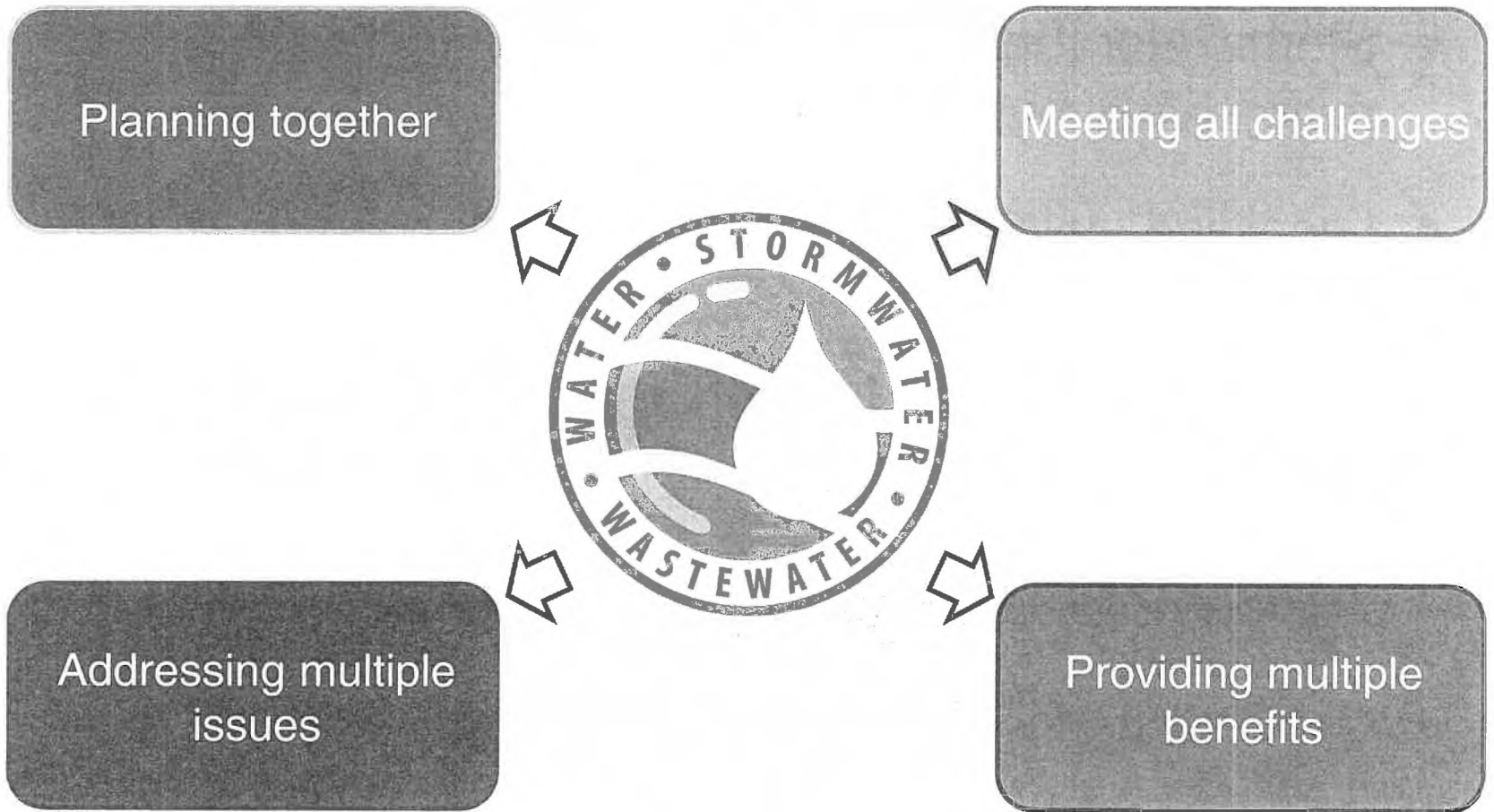


environment

CITY OF LOS ANGELES

Innovation • Integration • Inclusion

What's One Water?



L.A. faces several water resources challenges that need to be solved

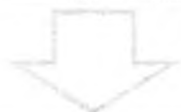
- Stormwater runoff resulting in poor water quality of our rivers, bays and ocean
- Localized, neighborhood flooding during extreme rainfall events
- Heavy reliance on imported water from Colorado River and Northern California (over 52%) to meet current water needs
- Aging wastewater, stormwater and water facilities
- Climate change impacts to water supply and critical facilities



THE SOLUTION:

One Water Los Angeles: A continuation of the Water Integrated Resources Plan (IRP)

City of Los Angeles
Integrated Resources Plan



One Water LA 2040



- City's first comprehensive plan, interconnecting water, wastewater and stormwater
- Developed with unprecedented stakeholder collaboration
- Led to successful Prop O funding for multi-benefit water quality projects
- Support for wastewater rate increases and project implementation
- Support for expanding water reuse & conservation
- Expanded planning horizon, from 2020 to 2040
- Incorporation of broader environment, energy and community goals
- Reflection of successes of Prop O, Recycled Water Planning, & Low Impact Development Ordinance
- Resiliency from climate change impacts



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City Department Collaboration



...and many others



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One Water is about sustainable water resources

Before



After



Integrating stormwater, wastewater, water conservation and water reuse into all projects fosters sustainability

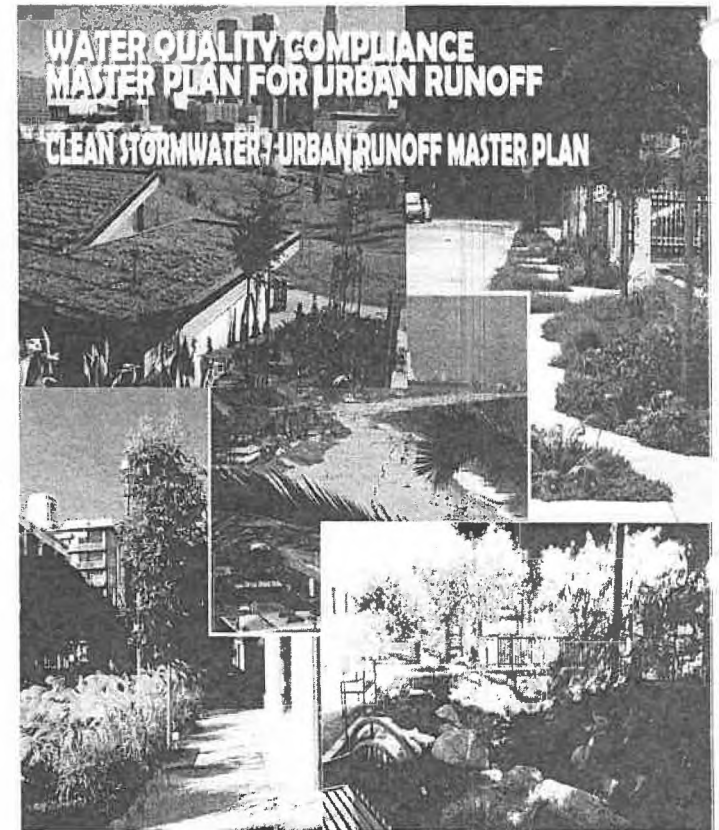
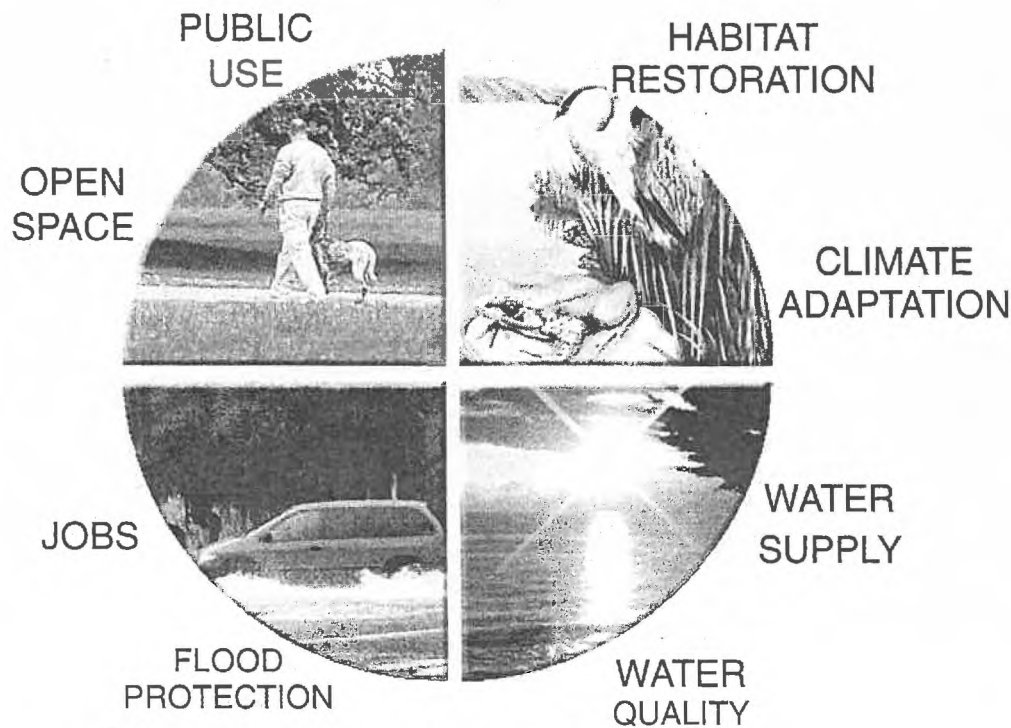


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The Multiplier Effect

For every \$1 Million in Water Quality investments, there is up to \$22 Million in added benefits or avoided costs.

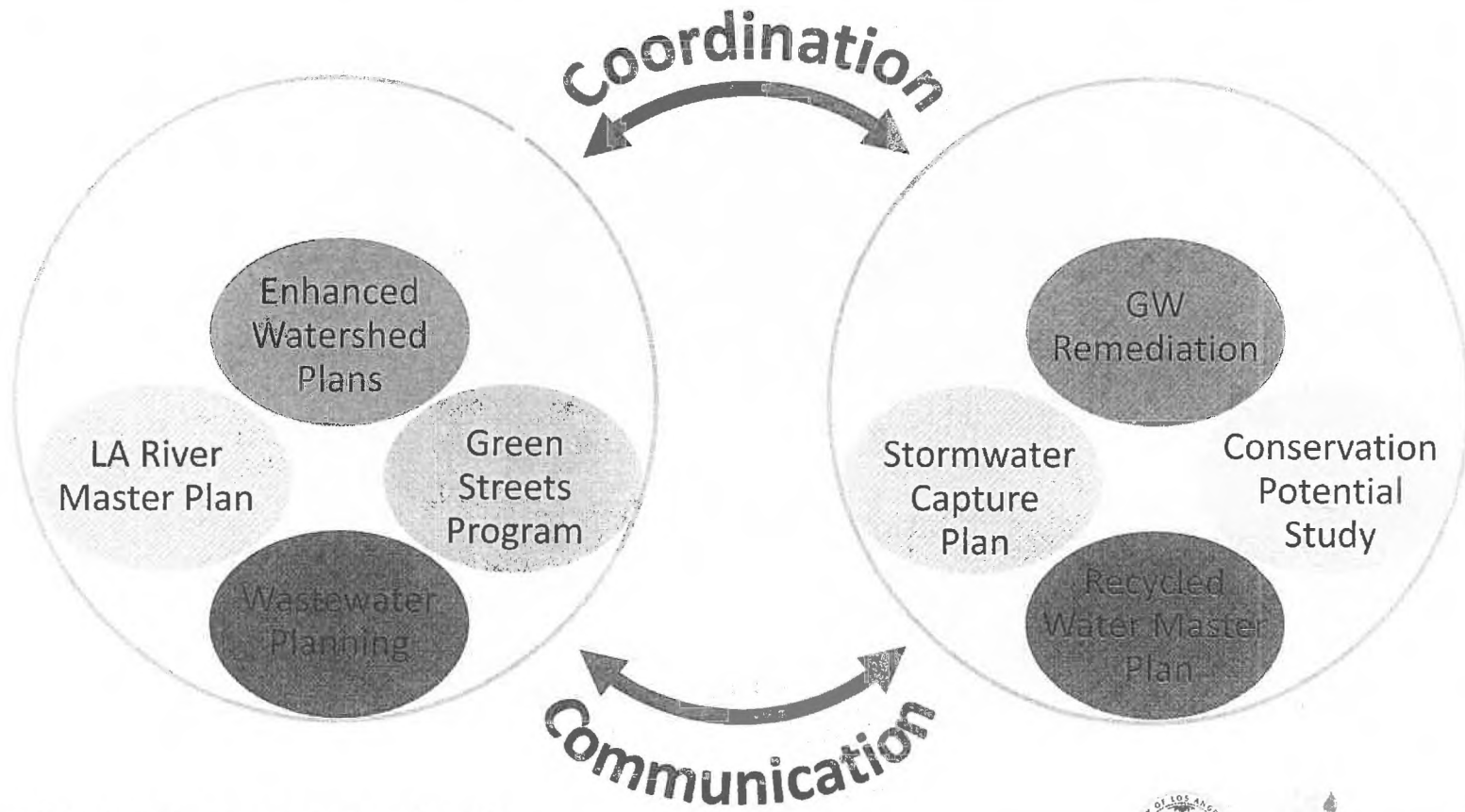


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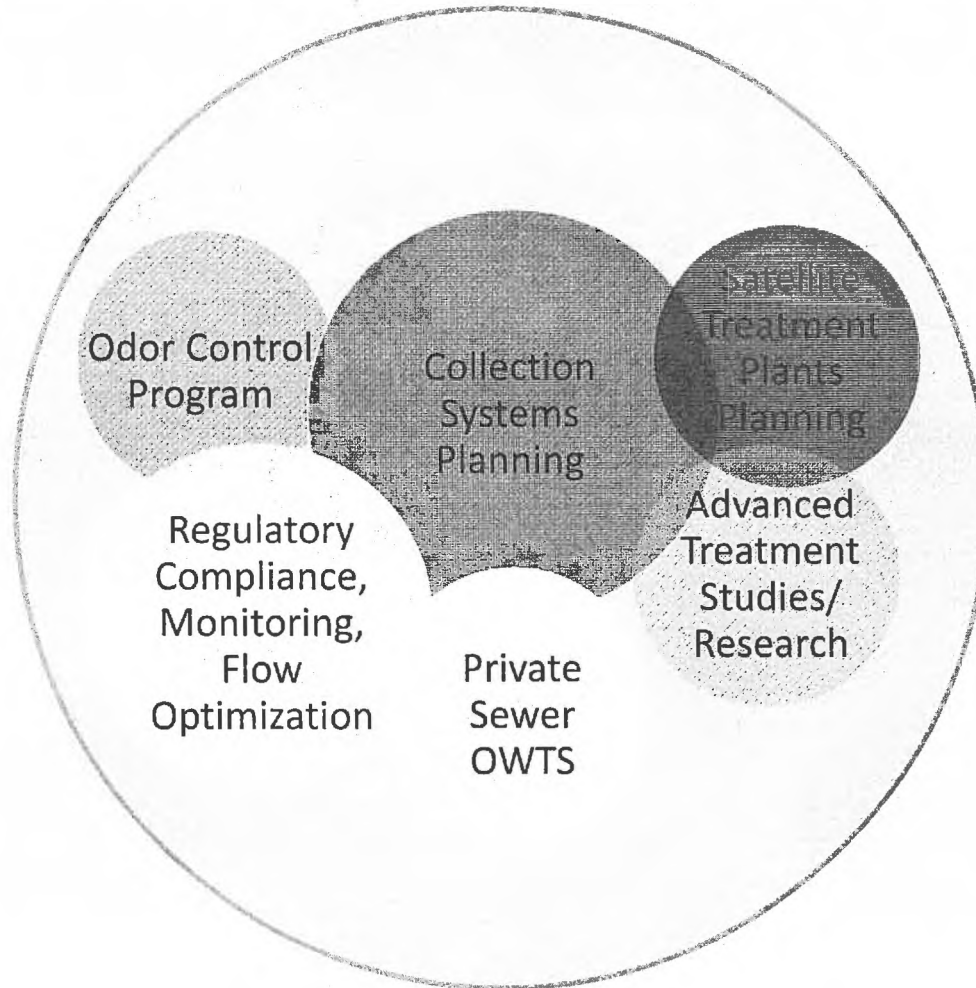


One Water Los Angeles 2040 will coordinate with initiatives already underway

Stakeholder Engagement

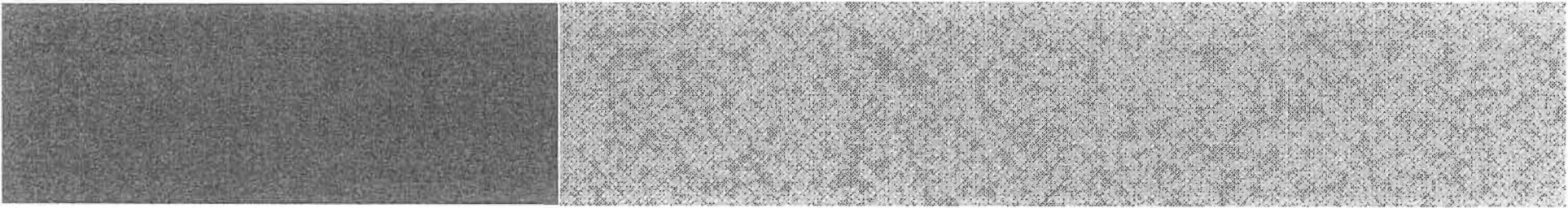


Wastewater Planning



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WATERSHED MANAGEMENT & STORMWATER CAPTURE



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Watershed Management & Water Quality Compliance

- The City of Los Angeles is striving to improve water quality as required by the MS4 Permit, which includes numeric limits for 24 TMDLs.

Green Infrastructure



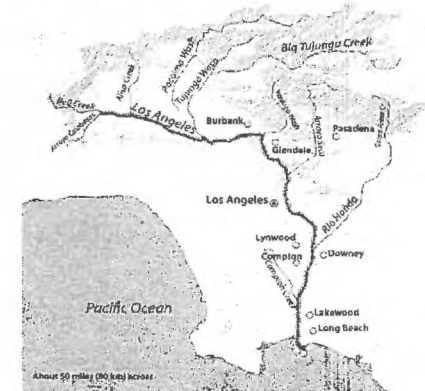
- Green Streets
- Green Alley

Low Impact Development (LID)



- Infiltration
- Capture & Use
- Biofiltration

Enhanced Watershed Management Plans



- Watershed Planning
- Addressing Multiple Pollutants

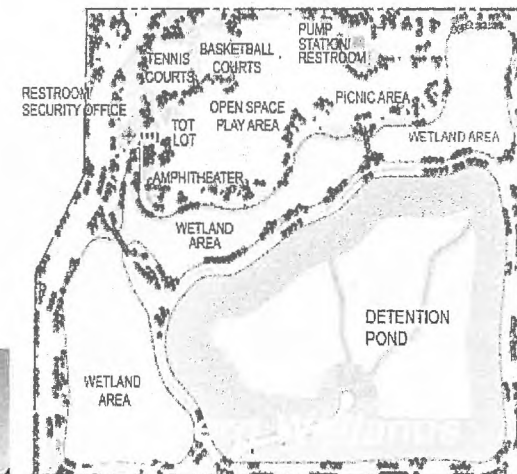
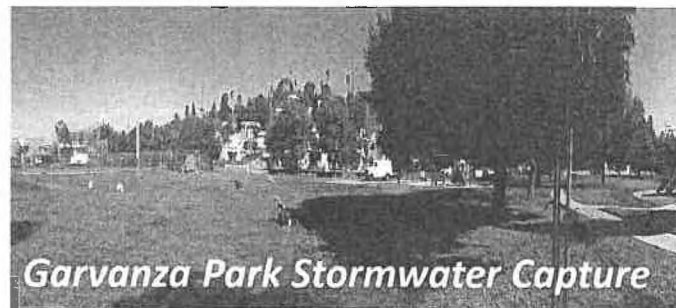


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Proposition 0

- City of Los Angeles \$500 million Clean Water Bond (2004)
+33 water quality, water conservation, water supply, habitat protection,
and open space projects



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LA River Revitalization

Multiple Benefits

- Peak Flow Attenuation
- Flood Control
- Water Quality
- Habitat Restoration

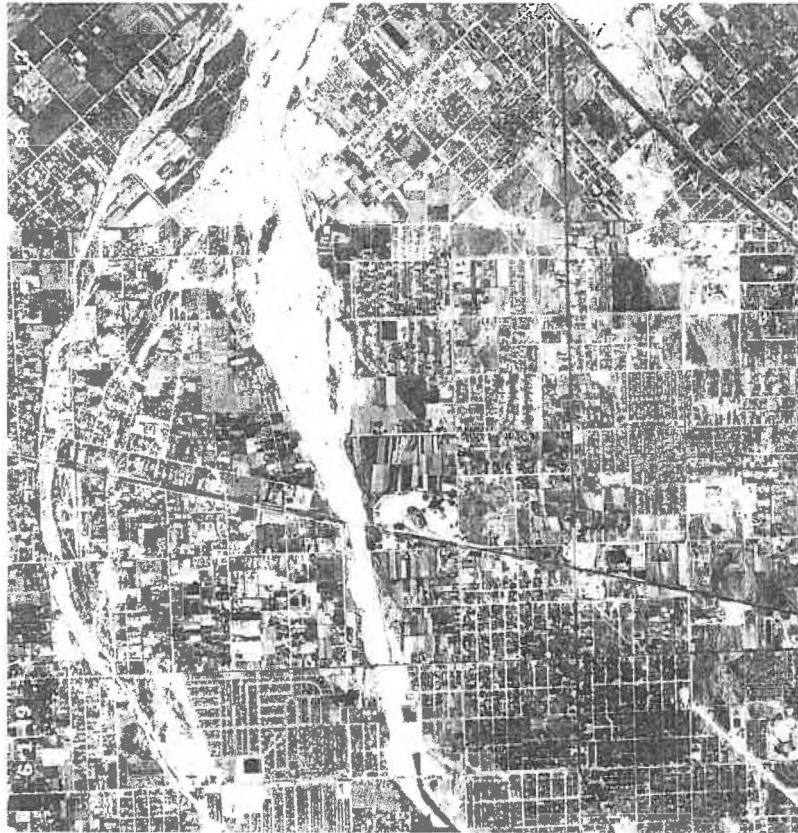


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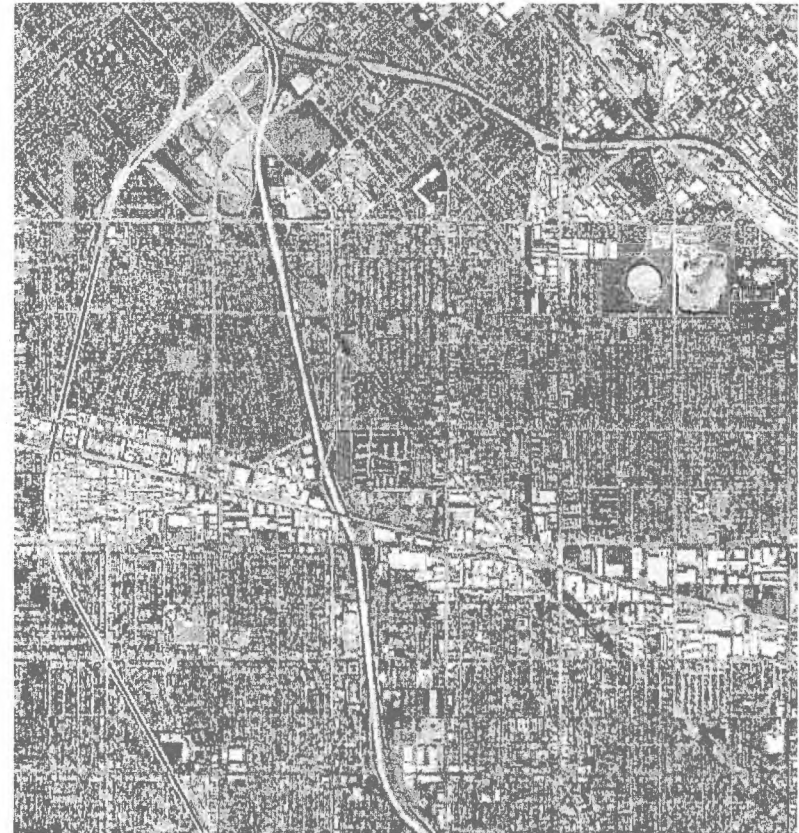


Effects of Urbanization

Eastern San Fernando Valley,
1949



Eastern San Fernando Valley,
2008



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Storm Data 3/1/2014

HOW MUCH WATER?

- 4-Inch Storm, 4 Day Duration
- = 30.4 Billion Gallons Rained on LA
- = 17% of Annual Water Demand

=

TOTAL: 93,900 AF* Available

WHAT WAS CAPTURED

- 1,355 AF Behind the Dams
- 950 AF at Spreading Grounds
- 75 AF by Distributed Projects
- 18,000 AF by LACFCD in San Gabriel Mountains

=

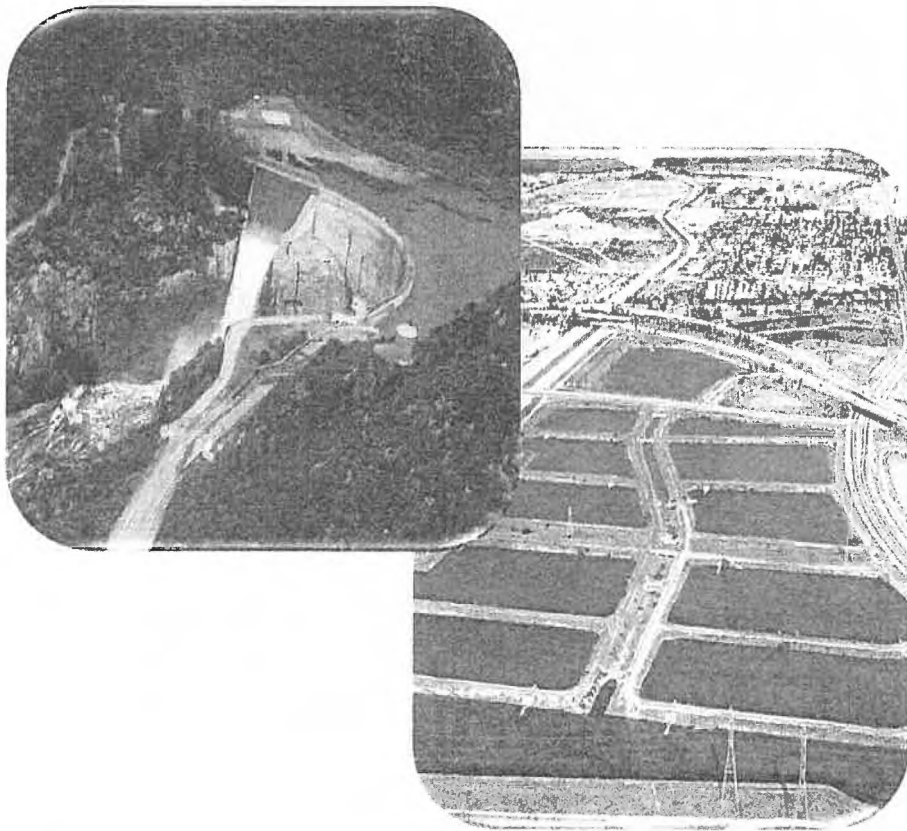
TOTAL: 20,380 AF Captured

*1 AF Supplies 2.5 Single-Family Households for One Year



Stormwater Capture Master Plan

Stormwater and watershed management programs to contribute to more reliable and sustainable local water supplies



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Stormwater Capture Master Plan

Stormwater Capture Potential

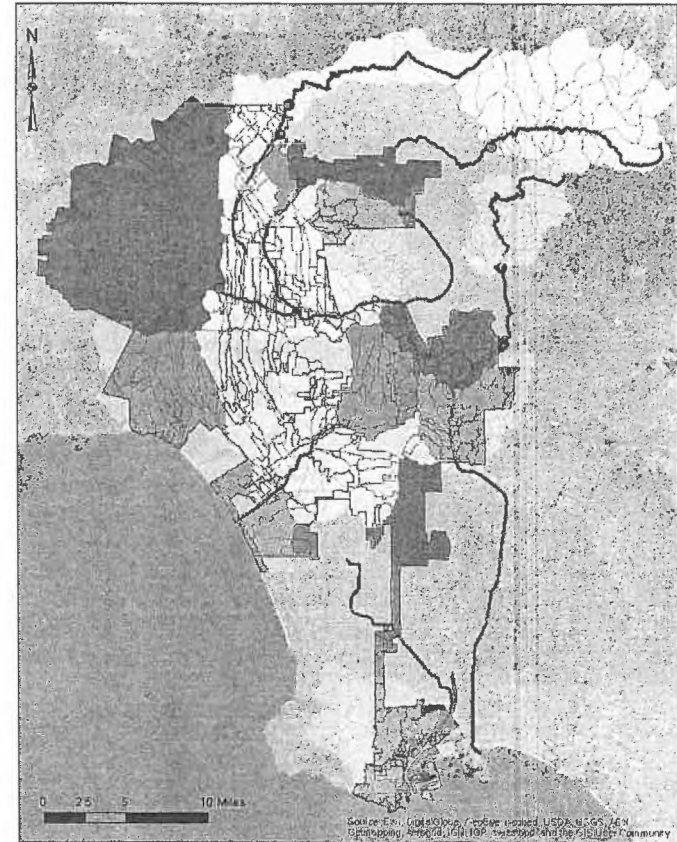
TODAY

- Active Recharge: 27,000 AFY
- Passive Recharge: 66,500 AFY*

FUTURE POTENTIAL*

- 75,000 to 190,000 additional AFY
- Provides for 187,500 to 475,000 Single-Family Households Annually

*Based on Modeling Results from SCMP

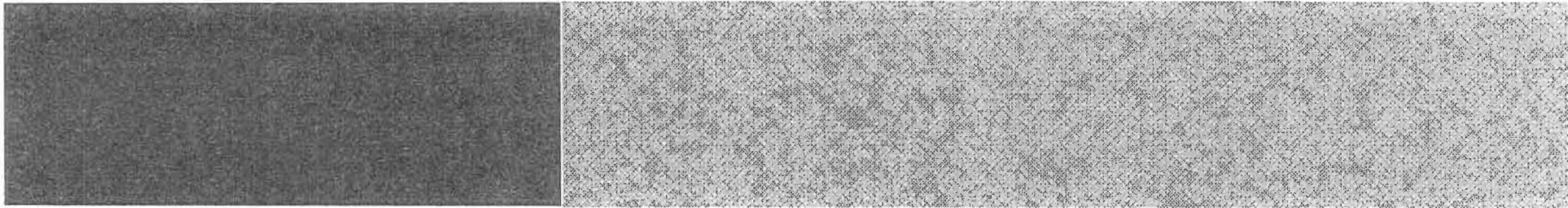


LA Watershed Map



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RECYCLED WATER & GROUNDWATER REPLENISHMENT



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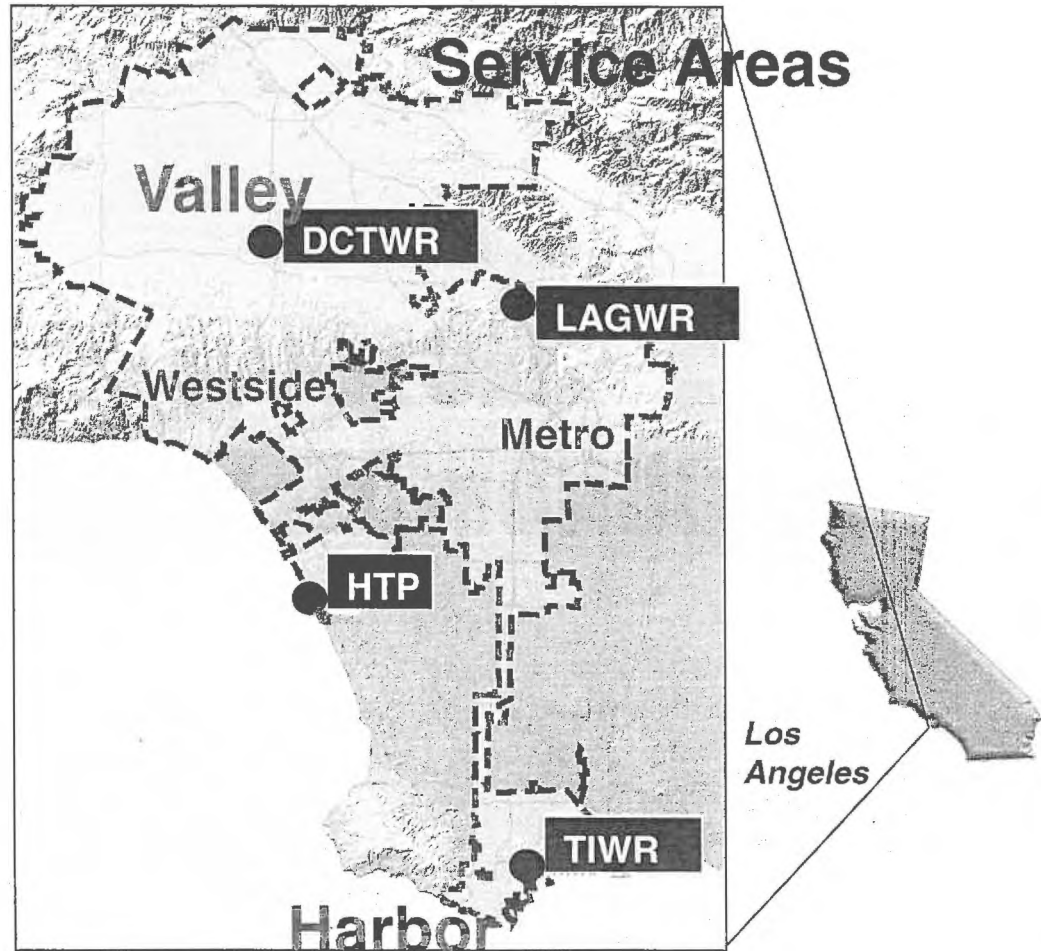


Where Recycled Water is Produced



*The City treats over 350
million gallons
of wastewater every day*

**MOST OF THIS RESOURCE
GOES TO THE OCEAN**



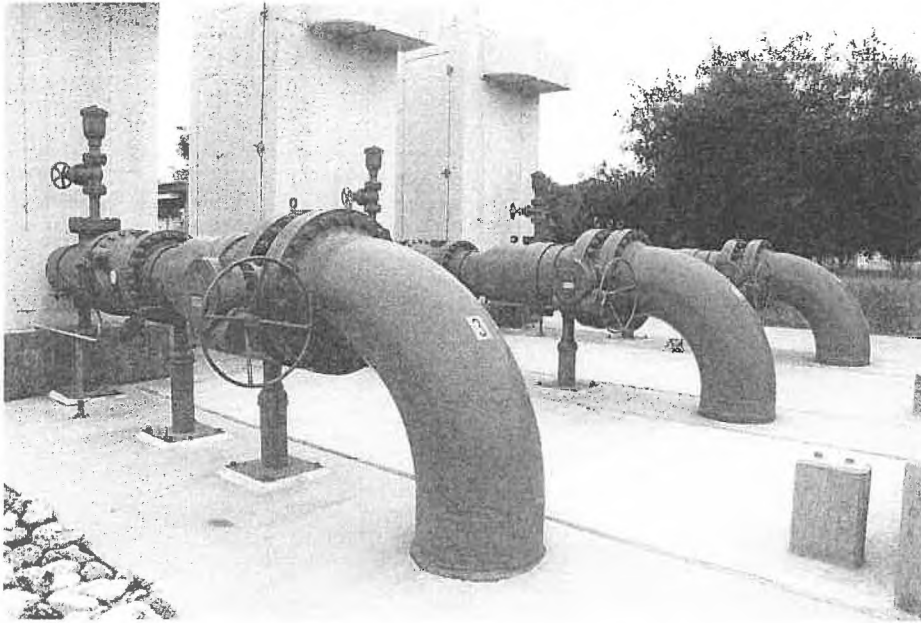
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L.A. Will Increase Water Recycling More Than 7 Fold

Two Key Strategies:

More purple pipe



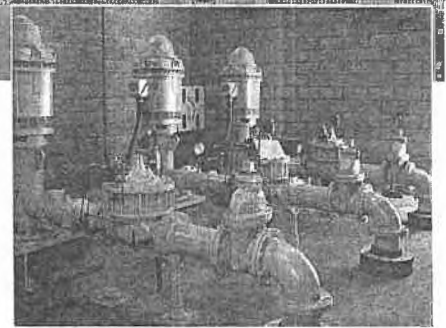
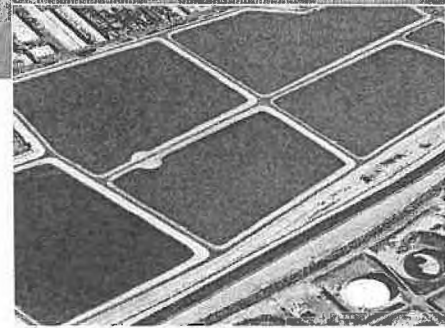
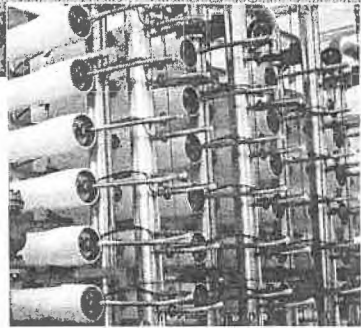
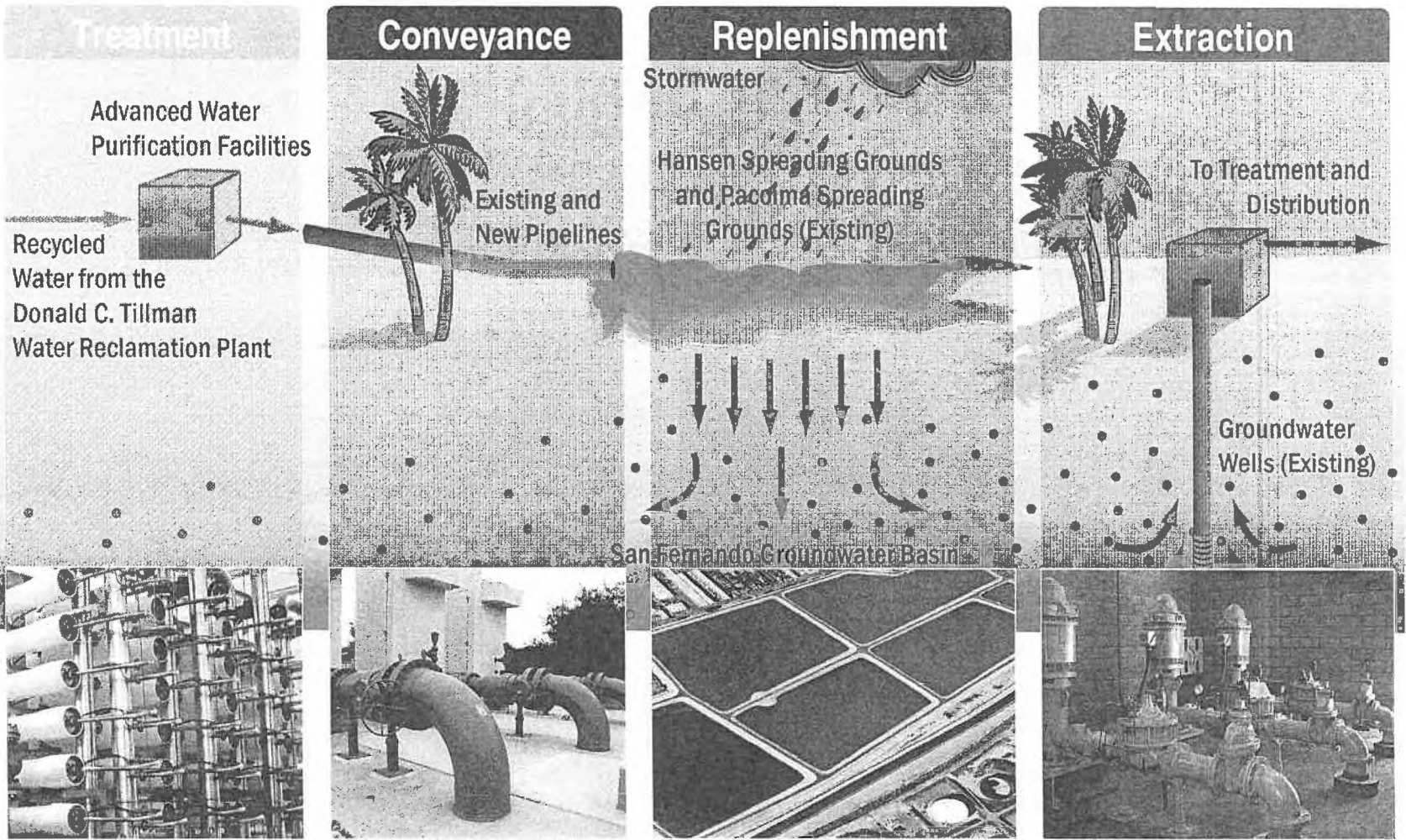
More groundwater replenishment



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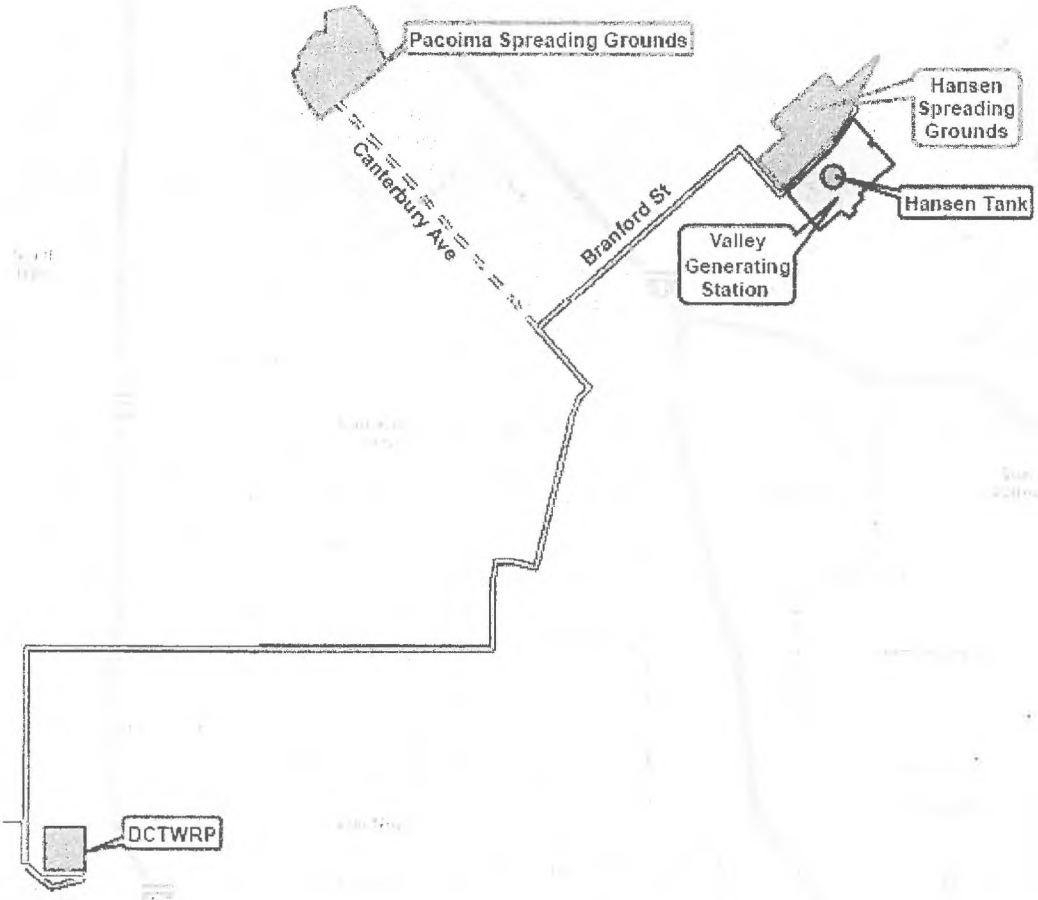
Groundwater Replenishment



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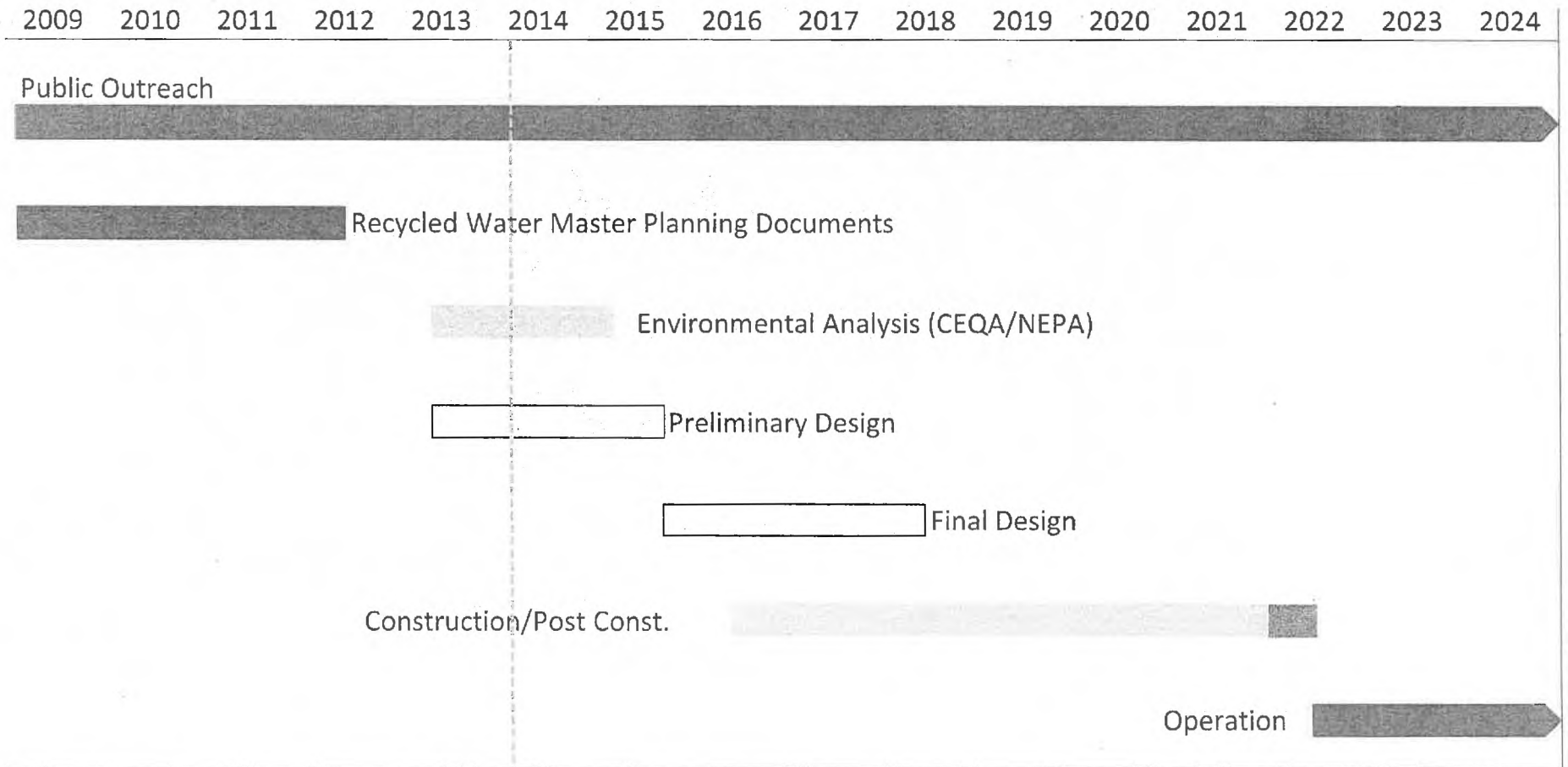
Proposed Project Overview



- Existing 54" pipeline
- - Proposed 42" pipeline



Project Schedule





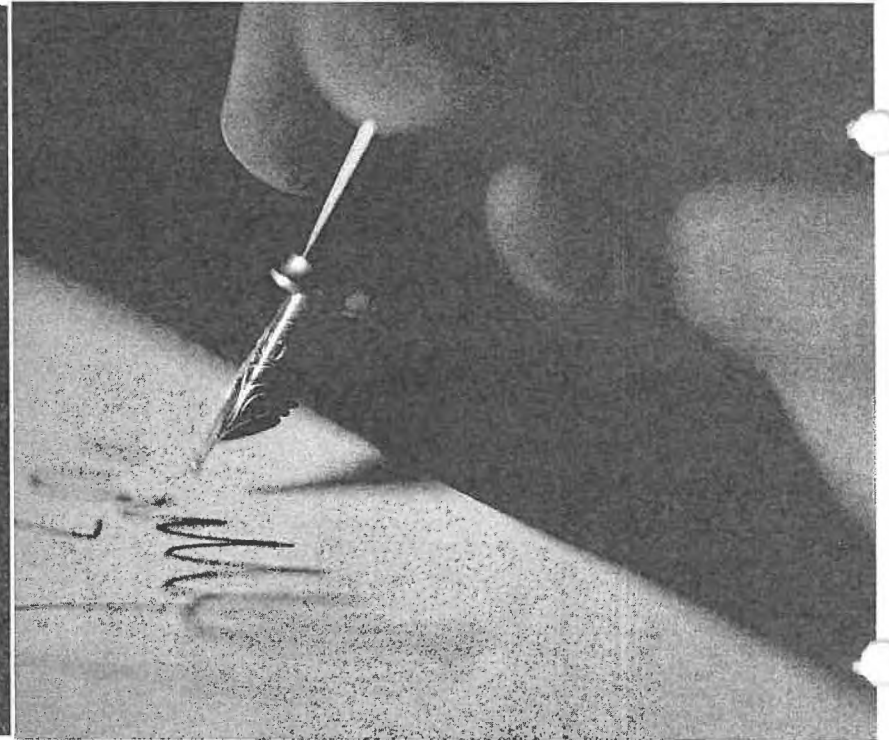
Diverse Cross Section of Los Angeles

RECYCLED WATER ADVISORY GROUP

Engaging the Community:

Engaging the Community: RECYCLED WATER ADVISORY GROUP

“The Recycled Water Advisory Group (RWAG) strongly supports use of purified recycled water to augment the groundwater supply that Los Angeles draws on for its drinking water.”



*– Excerpt from RWAG Consensus Statement
(Signatories in progress, April 2014)*



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Expert Panel Support



"The Panel supports the City's efforts on potable reuse in the San Fernando Basin, including the groundwater replenishment project based on the proposed full advanced treatment.

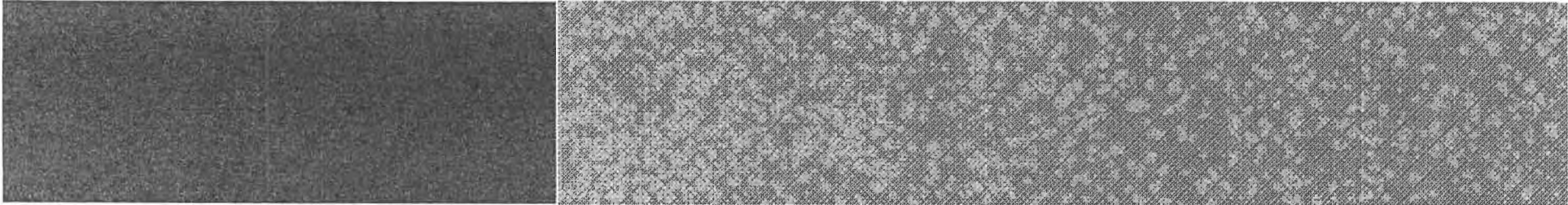
Potable reuse provides a significant opportunity to provide a new and locally-controlled sustainable water supply for the residents of Los Angeles."

– Independent Advisory Panel Report, April 2013



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GROUNDWATER BASIN REMEDIATION



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Groundwater Basin Remediation

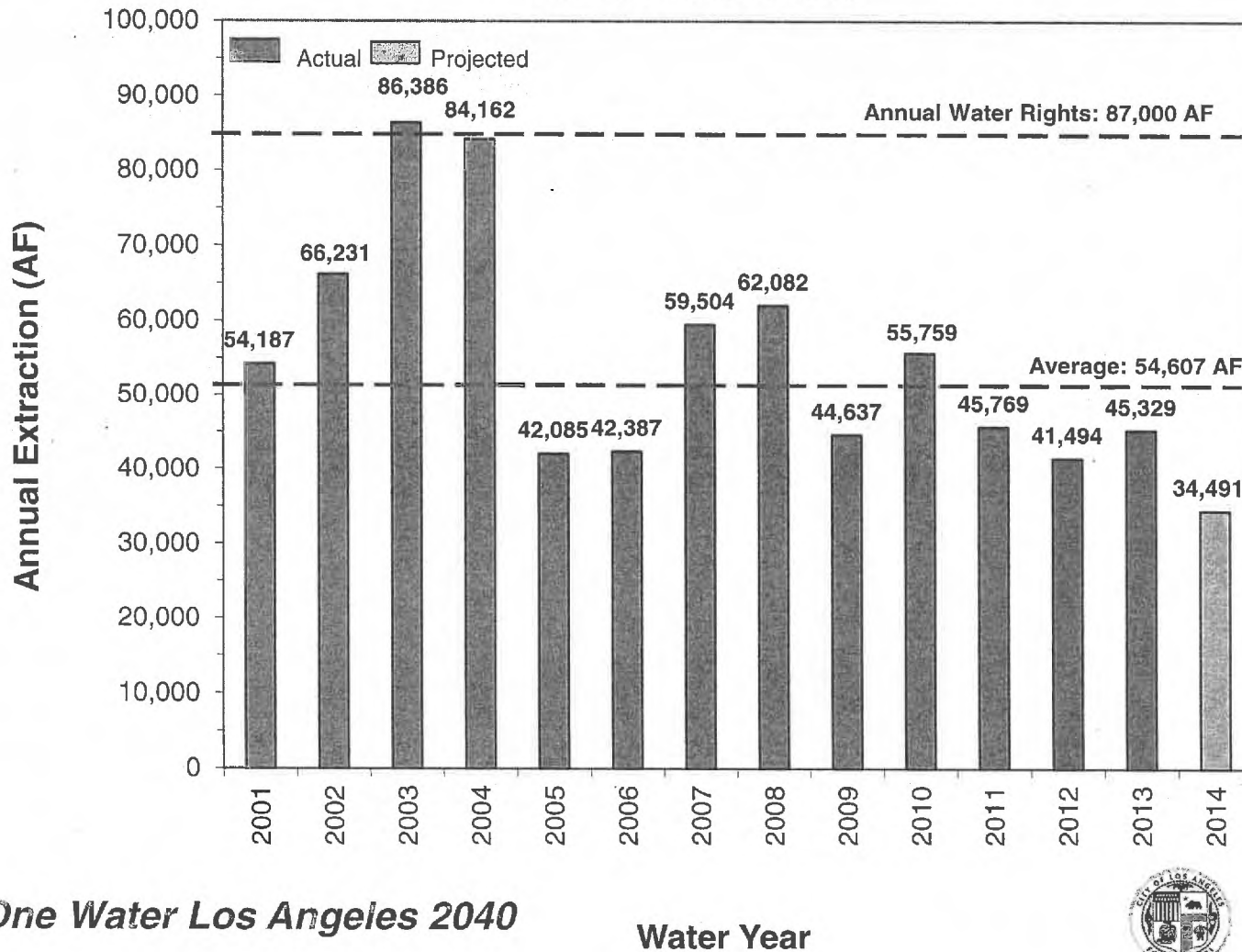
Groundwater contamination in the San Fernando Groundwater Basin must be remediated to prevent total loss of this resource within the next decade



SFB Groundwater Production Declines

Challenges to Water Supply

Historical and Projected Extractions for San Fernando Basin



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Water Year



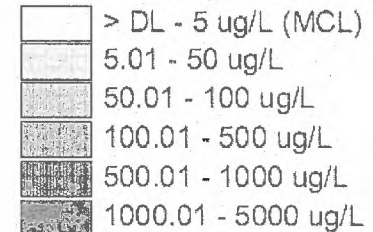
SFB Groundwater Basin Remediation

Restoration of LA's Largest Local Groundwater Reserve



Production Wells and TCE Plume

TCE Plume (Source: USEPA, 2005)



Estimated Cost to Remediate Groundwater Contamination is \$600-900 million

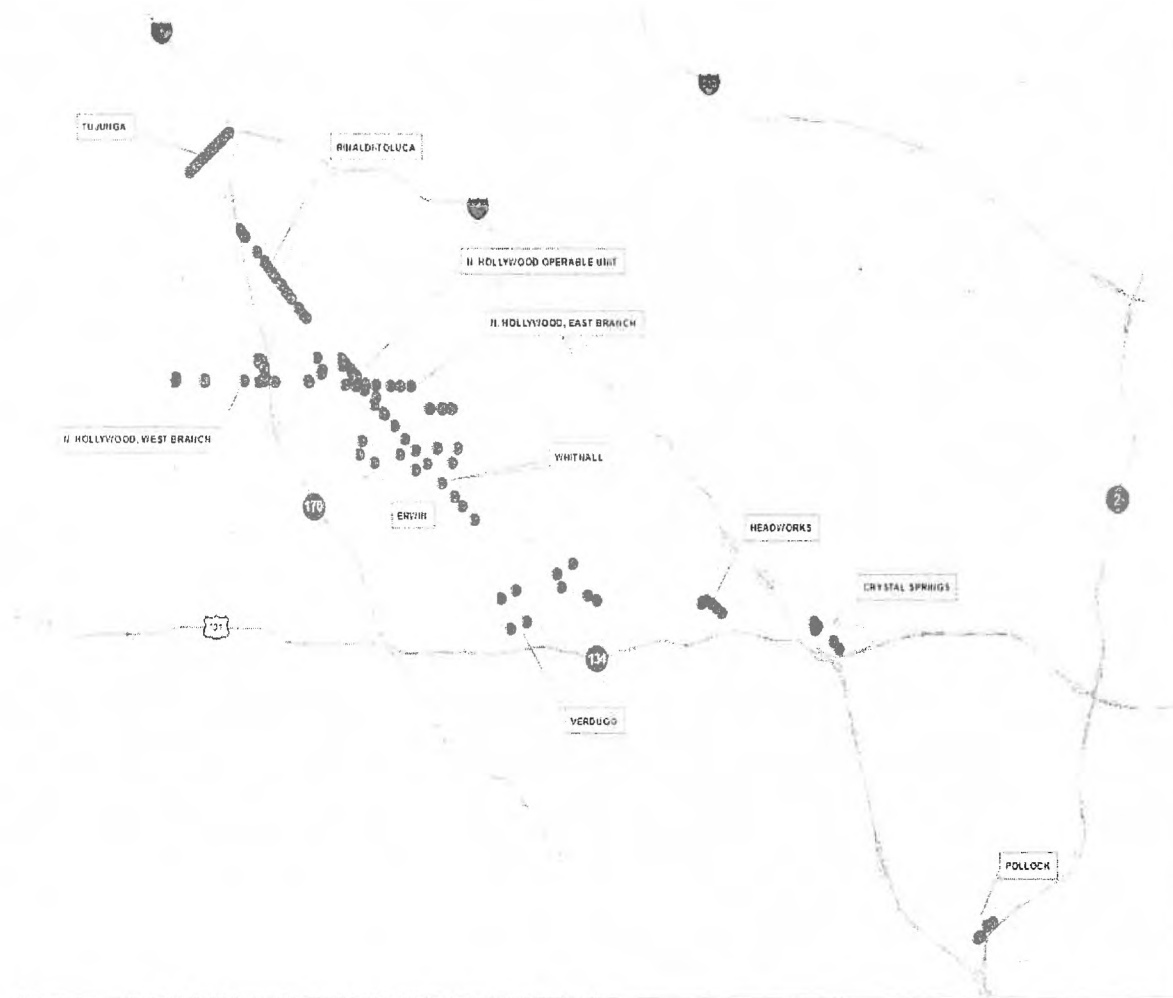


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SFB Groundwater Basin Remediation

Restoration of LA's Largest Local Groundwater Reserve



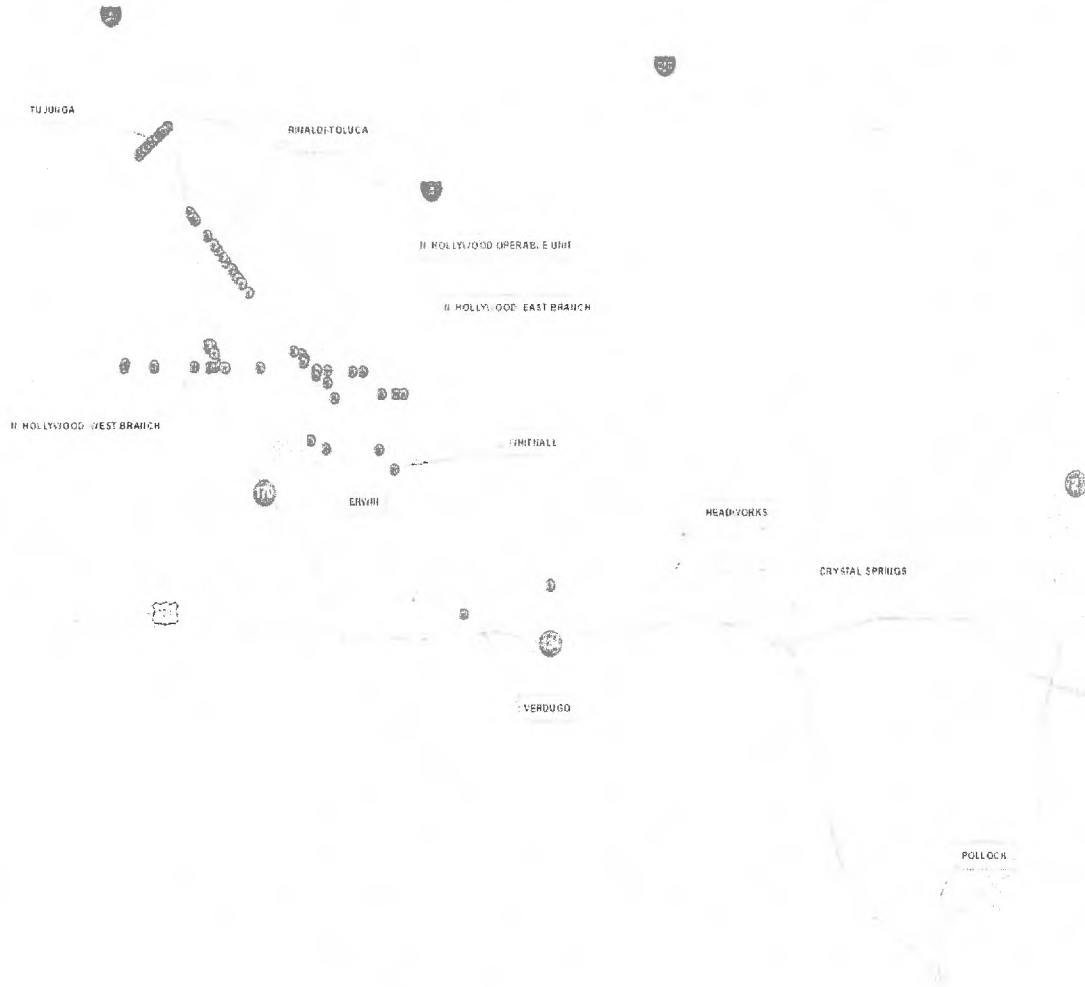
Estimated Cost to Remediate Groundwater Contamination is \$600-900 million

115 Wells Total



SFB Groundwater Basin Remediation

Restoration of LA's Largest Local Groundwater Reserve



Estimated Cost to Remediate Groundwater Contamination is \$600-900 million

58 Wells in 1998



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SFB Groundwater Basin Remediation

Restoration of LA's Largest Local Groundwater Reserve



**Estimated Cost to
Remediate
Groundwater
Contamination is
\$600-900 million**

31 Wells in 2009



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Potential Remediation Strategies

- Centralized
- Localized (Wellfield/Wellhead)
- Hybrid



Potential Remediation Strategies

- Ultimately, remediation will depend on:
 - Upcoming basin characterization
 - Remediation requirements – Federal and State laws, rules, and regulations
 - CDPH Policy 97-005 permit guidelines
 - Necessary and reasonable costs for remediation



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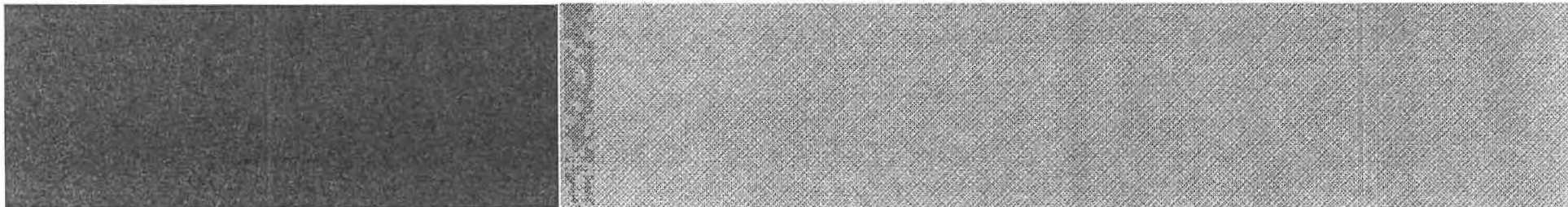
Groundwater Remediation Facilities Preliminary Timeline

- Complete SFB Characterization - 2015
- Complete Environmental Documentation - 2017
- Anticipated In Service Date – 2021 to 2023



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NEXT STEPS



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Moving forward

Ongoing Implementation of Existing Programs:

- ◆ Continue implementation, interdepartmental coordination, & stakeholder engagement

2040 One Water L.A. Plan:

- ◆ Phase I: Stakeholder Outreach and Update/Development of Guiding Principles *Dec. 2013 – Dec. 2014*
- ◆ Phase II: Development of New Documents (*Technical studies, Draft Alternatives, CEQA Process, Preferred Alternative, CIP & Implementation Plan*) *Jan. 2014 – Dec. 2016*
- ◆ Stakeholder Workshop #1: *May 21 11:30 a.m. – 3:00 p.m.*
- ◆ ***Stakeholder participation is essential***

To Sign Up Visit: <http://lacitysan.org/irp/2040SignUp.cfm>

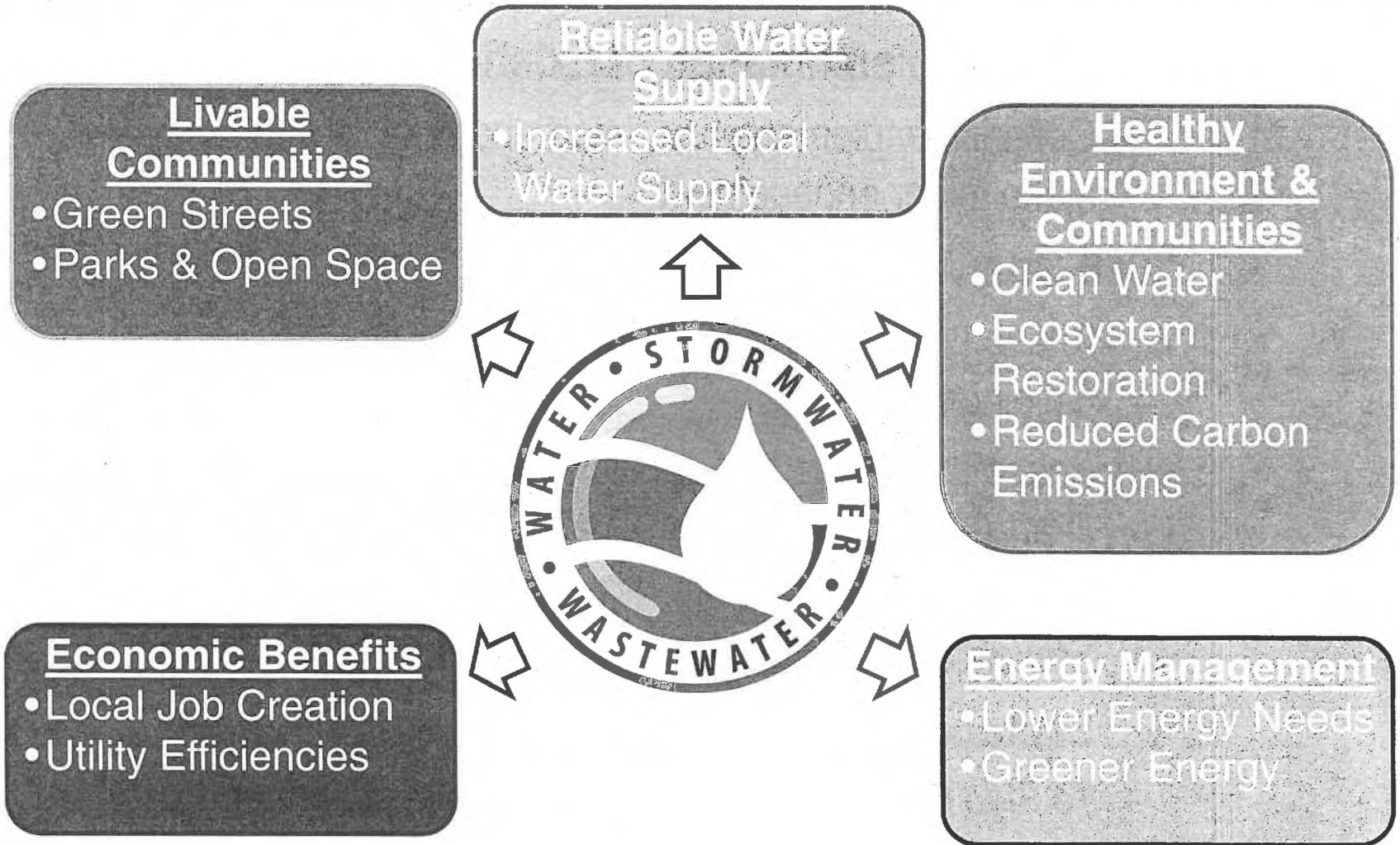


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LA's Water Future



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