Stormwater Capture Master Plan

AAEES Awards Luncheon and Conference

April 23, 2015

National Press Club; Washington, DC

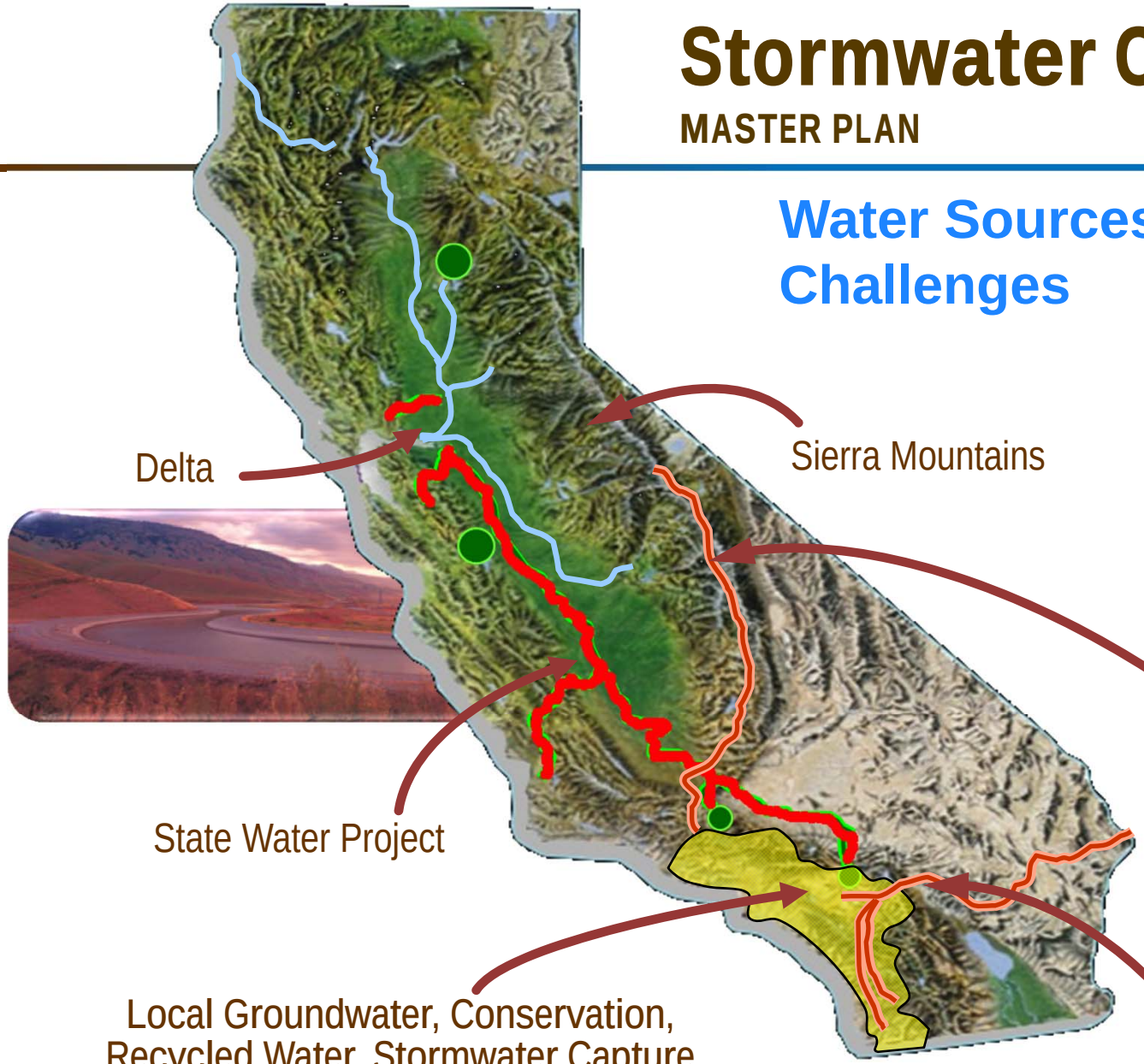
LADWP Mission

To provide our customers with safe, reliable, high quality and reasonably priced water services in a transparent and environmentally responsible manner.

Stormwater Capture

MASTER PLAN

Water Sources and Reliability Challenges



Los Angeles Aqueduct

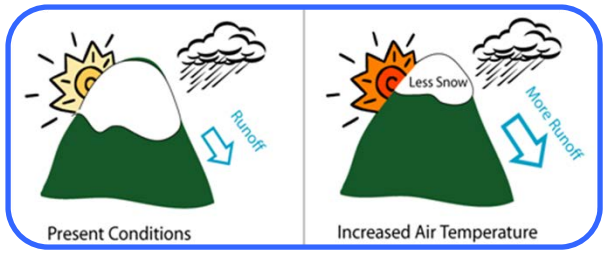
Colorado River Aqueduct

Water Supply and Reliability Challenges

Bay-Delta and Colorado River supply uncertainties due to allocations, pumping restrictions, and other threats

L.A. Aqueduct supply reduction due to Owens Lake dust mitigation

Groundwater contamination in the San Fernando Basin



Climate change impacts, water/energy nexus, and carbon footprint

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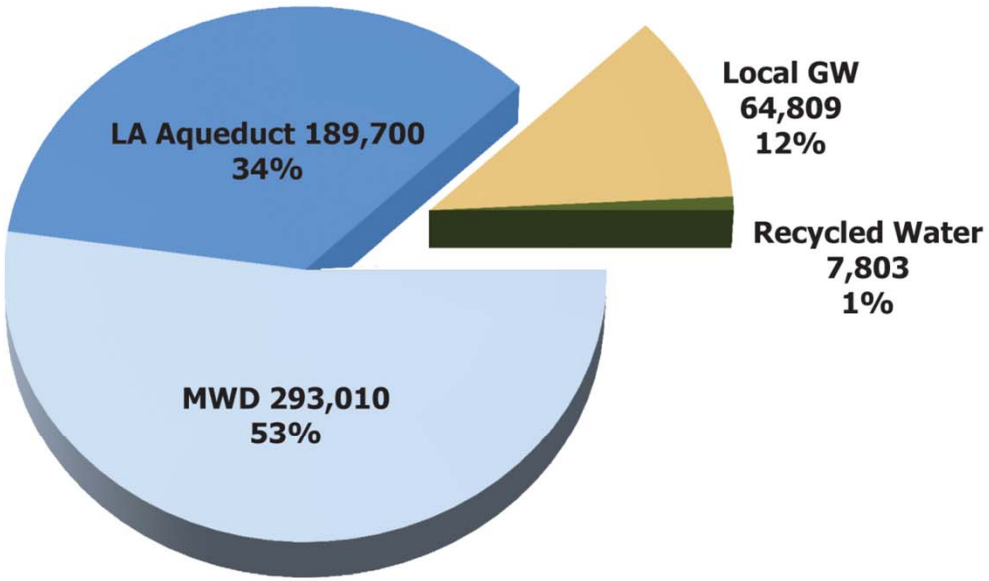
Comprehensive Strategy for Future Reliability

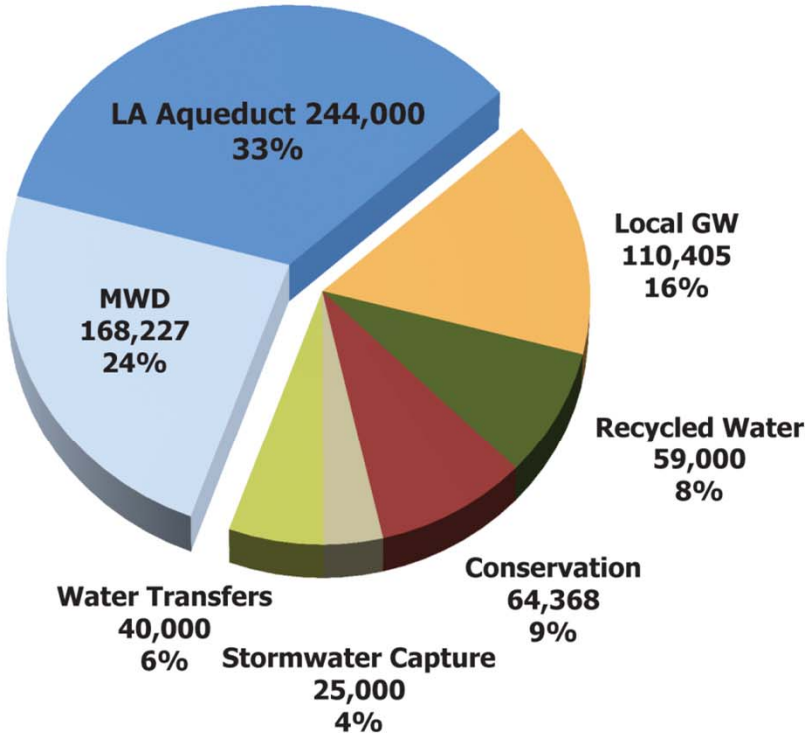
Today

FYE 2010 - 2014 Average
Total: 553,876 AFY



Future

Fiscal Year 2034 - 35
Total: 711,000 AFY



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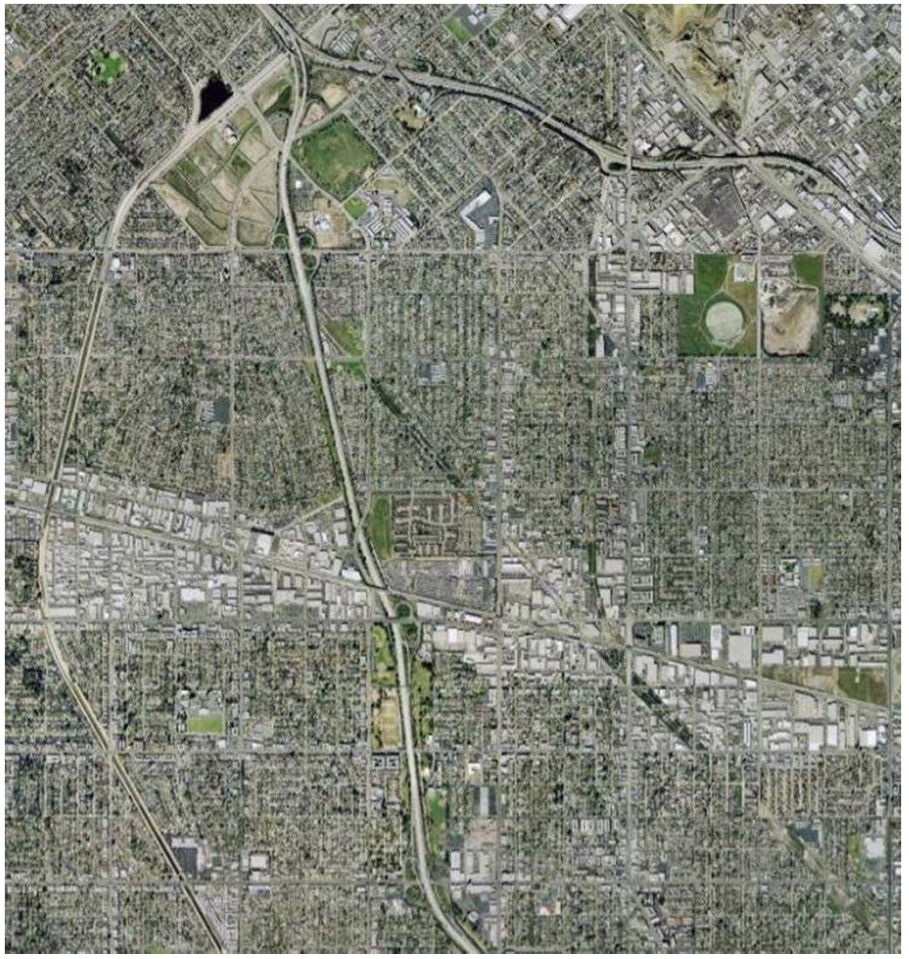
Why we need to take action

Eastern San Fernando Valley
1949



Eastern San Fernando Valley
2008

Stormwater Capture MASTER PLAN

Dam Improvements

Centralized

CAPTURE

Distributed

Cisterns

Spreading Basins

Rain Gardens

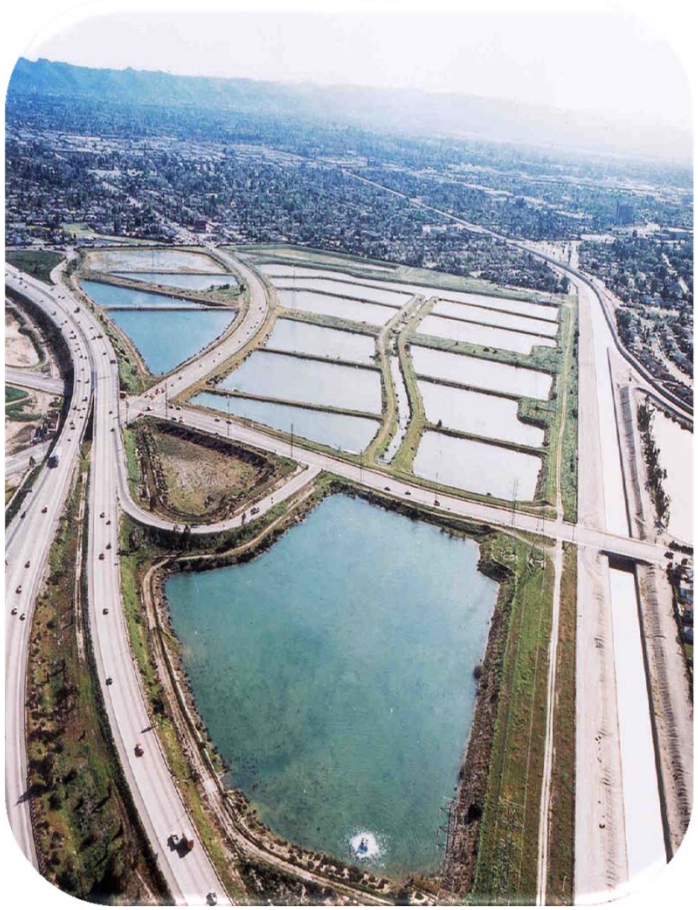
Rain Barrels

What is the Stormwater Capture Master Plan?

Document that reflects upon past successes at improved stormwater management, and places them in a context of LADWP's strategies through 2035:

- Programmatically implementing stormwater projects in the City of LA
- Contribute to more reliable and sustainable local water supplies.

Stormwater Capture MASTER PLAN



- Quantify benefits of improved operations
- Identify next generation of stormwater management improvements
- Prioritize based on water supply criteria
- Develop cost/benefits for past and future projects/programs/policies
- Define timing and key milestones

PARTNERS

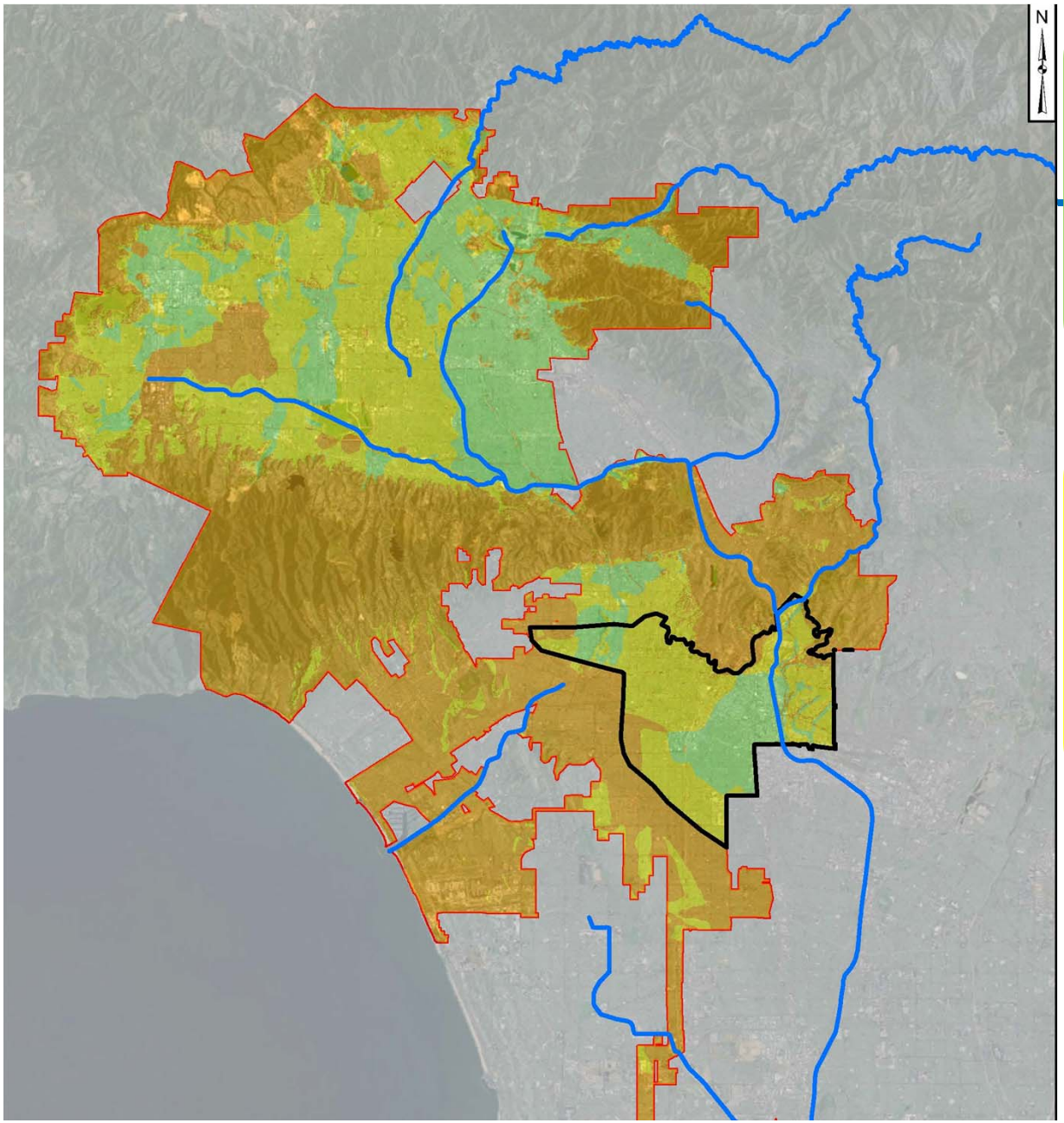
environment LA SANITATION CITY OF LOS ANGELES

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Geosyntec consultants

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

MWH



CATEGORY A

- Least hydrogeologically constrained
- Highest priority aquifers
- Conducive to infiltration BMPs

CATEGORY B

- Somewhat hydrogeologically constrained
- Mid level priority aquifers
- Conducive to infiltration BMPs

CATEGORY C

- Most hydrogeologically constrained
- Lower priority aquifers
- More advantageous for direct use BMPs

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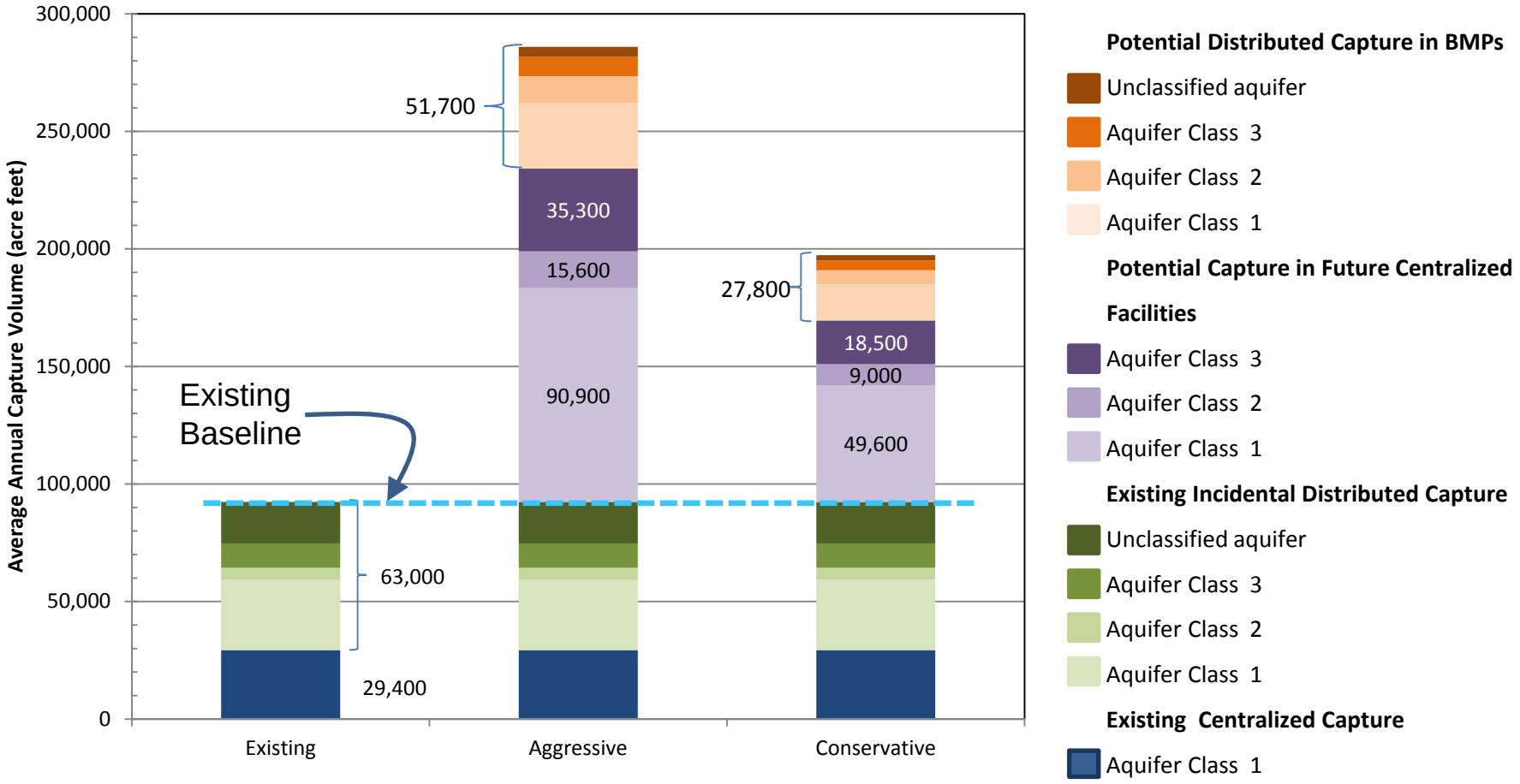
Existing & Potential Stormwater Capture



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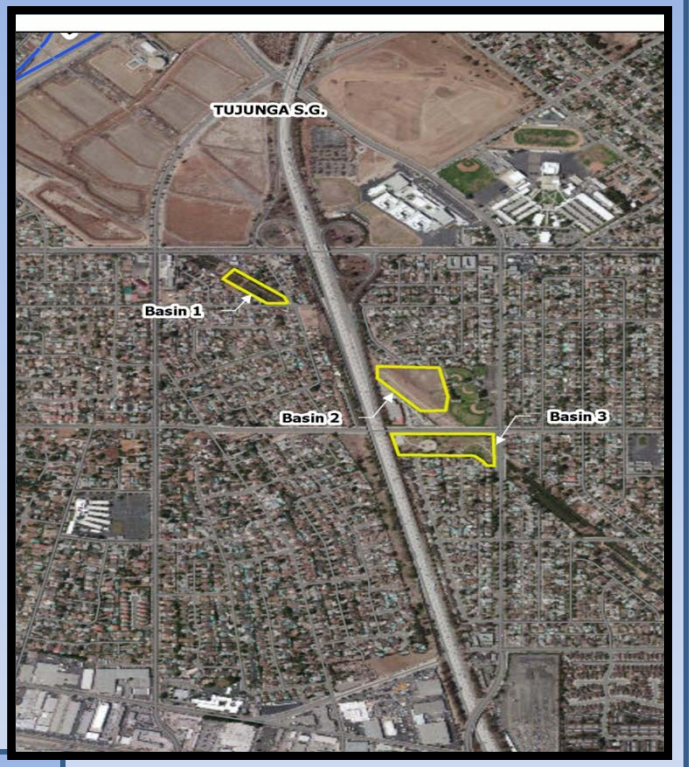
Canterbury Power Line Easement

- 24 recharge basins to be excavated within the 18 available acres of the Canterbury Avenue



Old Pacoima Wash

- Infiltration basins created by installing rubber dams along 2 miles of the Old Pacoima Wash

Strathern Park

- 3 infiltration basins to be excavated within Strathern Park

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On-site Infiltration

- Collecting stormwater runoff from impervious areas for infiltration within the same parcel

✓ Permeable pavement with run-on
✓ Simple, rain garden
✓ Complex bioretention
✓ Dry wells with pretreatment

Residential rain garden

On-site Direct Use

- Collecting stormwater runoff from impervious areas and store in cisterns and rain barrels for use at a later time

✓ Irrigation through hand watering, drip feeds, gravity fed irrigation

Residential Cistern

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Subregional Infiltration

- Collect stormwater runoff from multiple parcels, city blocks, or entire neighborhoods into an infiltration facility within the public right-of-way or adjacent public/private lands

✓ Underground infiltration galleries

✓ Bio-infiltration basins

Elmer Avenue Infiltration Gallery

Pelican Hill Golf Course Cistern, Newport

Subregional Direct Use

- Collect stormwater runoff from a larger tributary area into an underground storage reservoir

✓ Pump, smart cistern technology, and treatment enables reuse of water for irrigation

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Green Streets

- Public right-of-way projects capturing stormwater through BMPs
- ✓ Permeable pavement with run-on
- ✓ ROW bulb-outs
- ✓ Simple rain gardens

Elmer Avenue Green Street, Los Angeles

Permeable interlocking concrete pavers

Impervious Replacement

- Removal of impermeable hardscape and replacement with highly permeable hardscape surfaces
- ✓ Porous concrete and asphalt
- ✓ Interlocking concrete pavers

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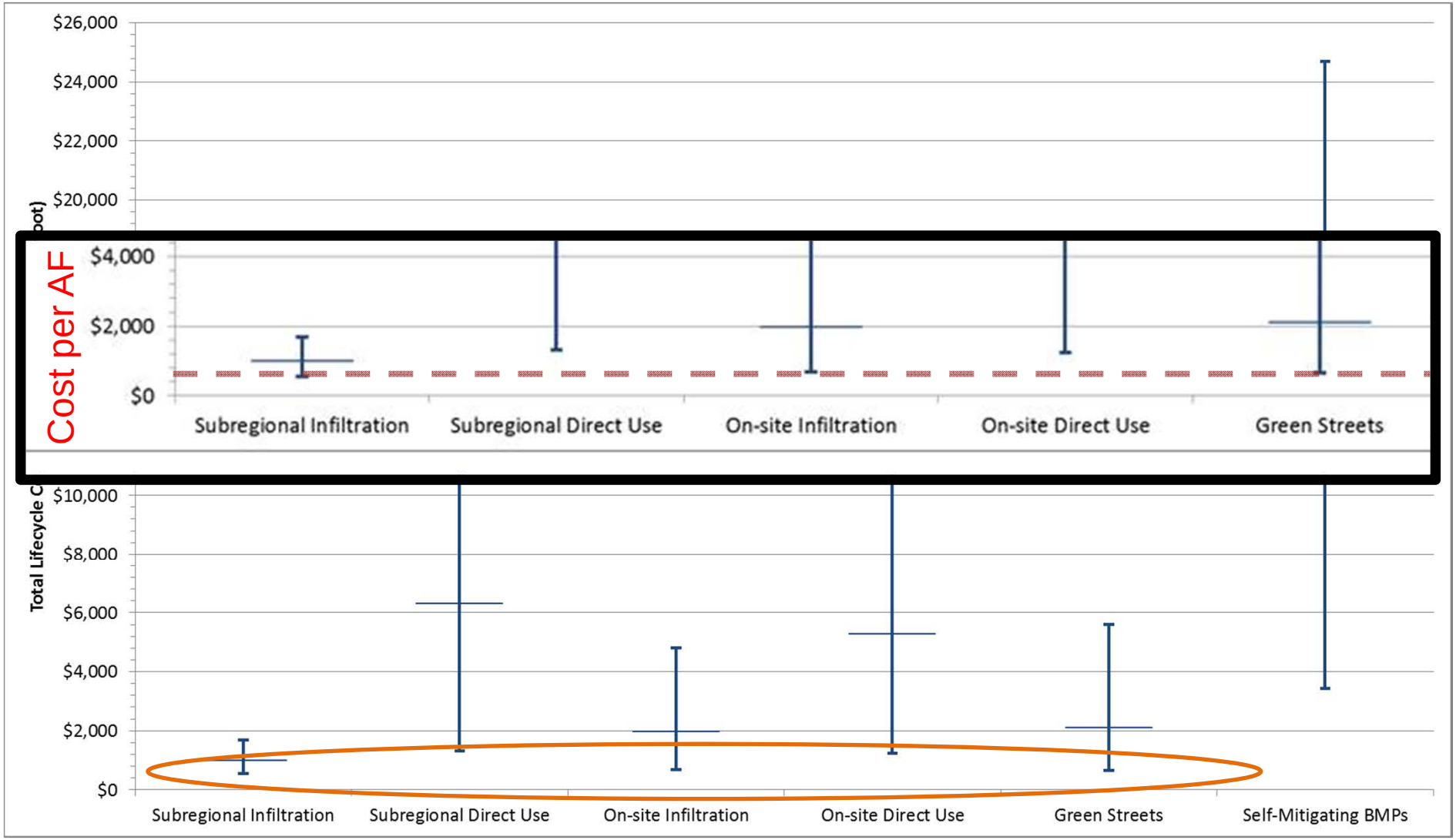

Project Selection Process

- Hydrology analysis to determine water supply benefits
- Cost of project and operation and maintenance
- Business Case
  - Cost per acre-foot per year
  - Internal rate of return
  - Payback period
  - Funds (grants) availability based on type of project
  - Comparison of cost and benefit
  - Partnership

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For more information

www.ladwp.com/stormwater
www.ladwp.com/scmp

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