



Los Angeles Chapter of the WaterReuse Association

February 11, 2020

Stantec's Water Reuse Capabilities and Experience





Agenda

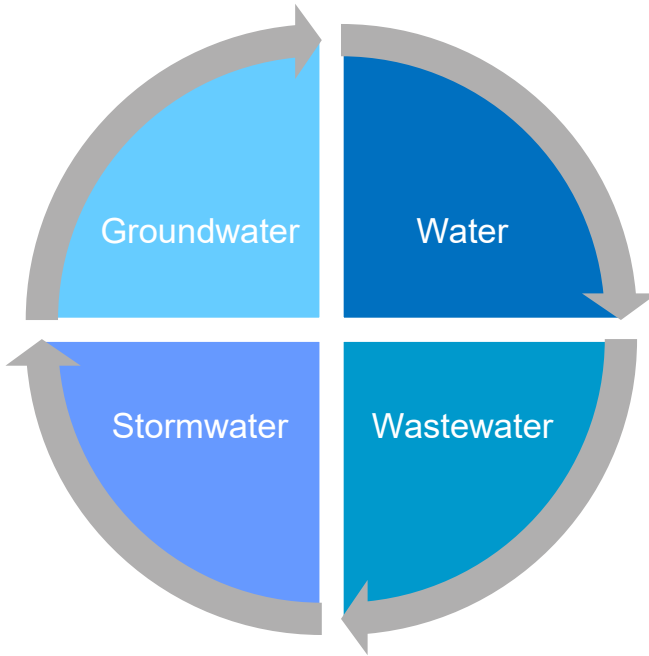
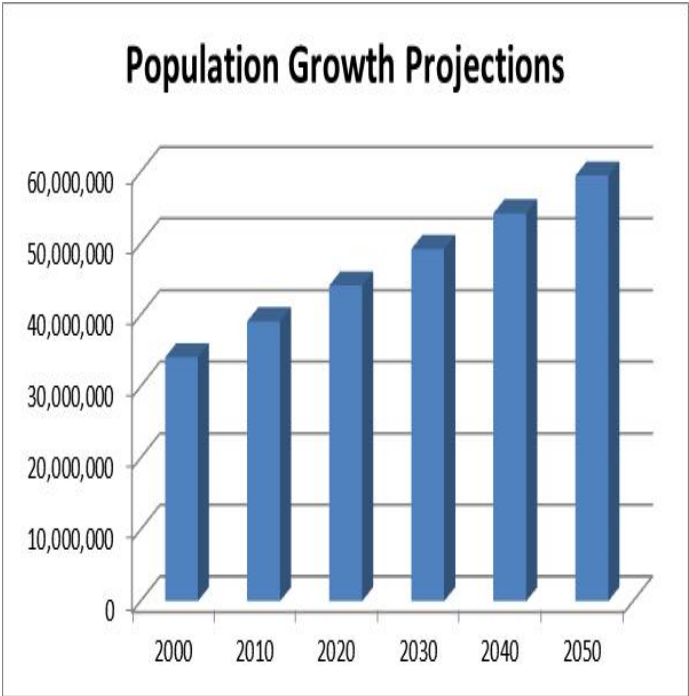
1. Emerging Business Conditions
2. Case Studies



Emerging Business Conditions

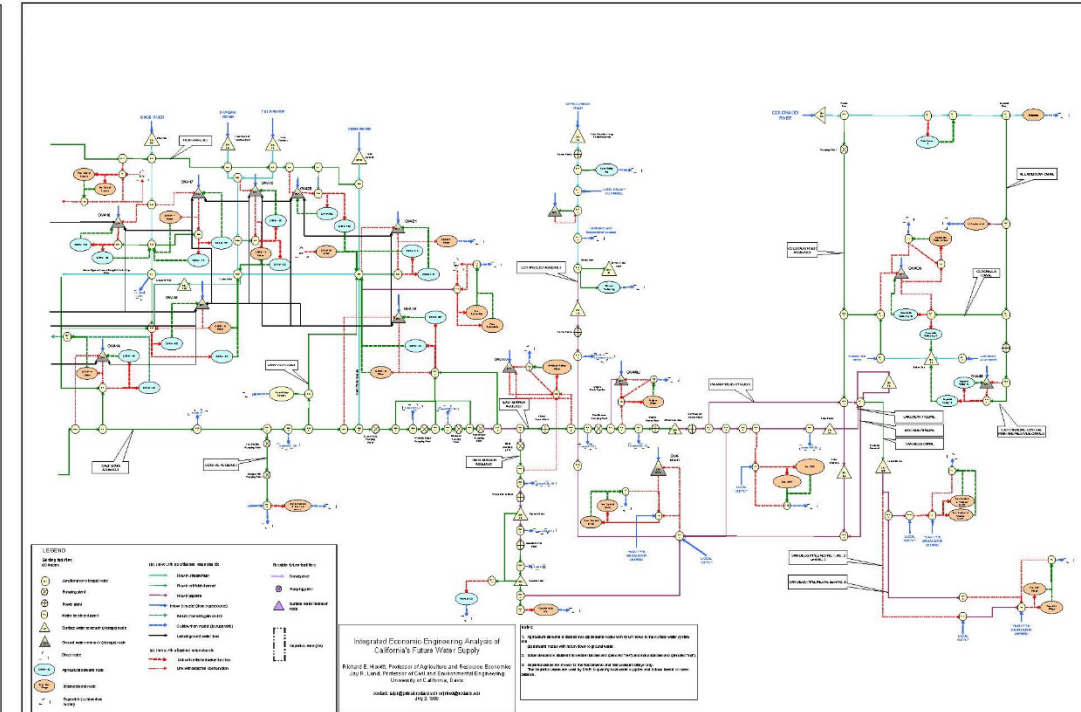
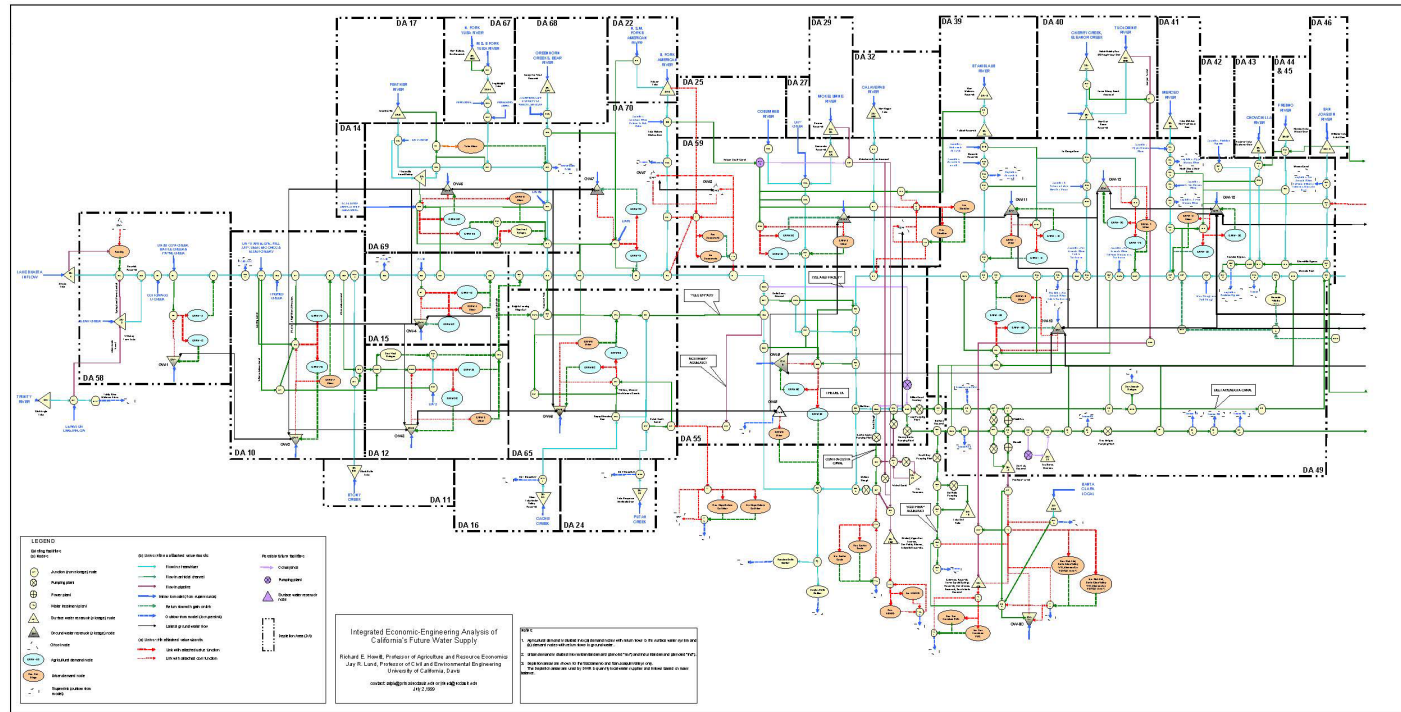


Emerging
Business
Conditions



Emerging
Business
Conditions

California's Water System is Complex and Needs to be Re-thought!

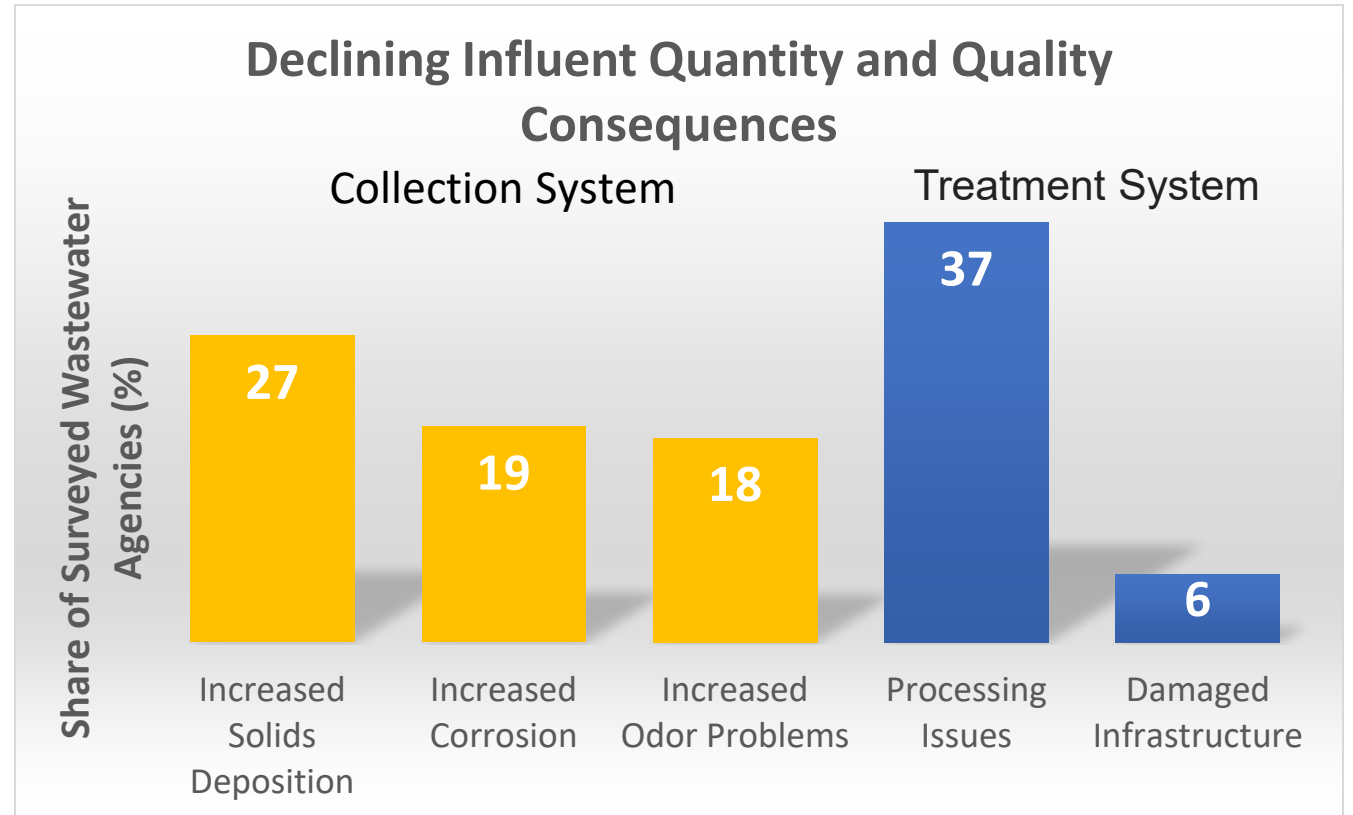
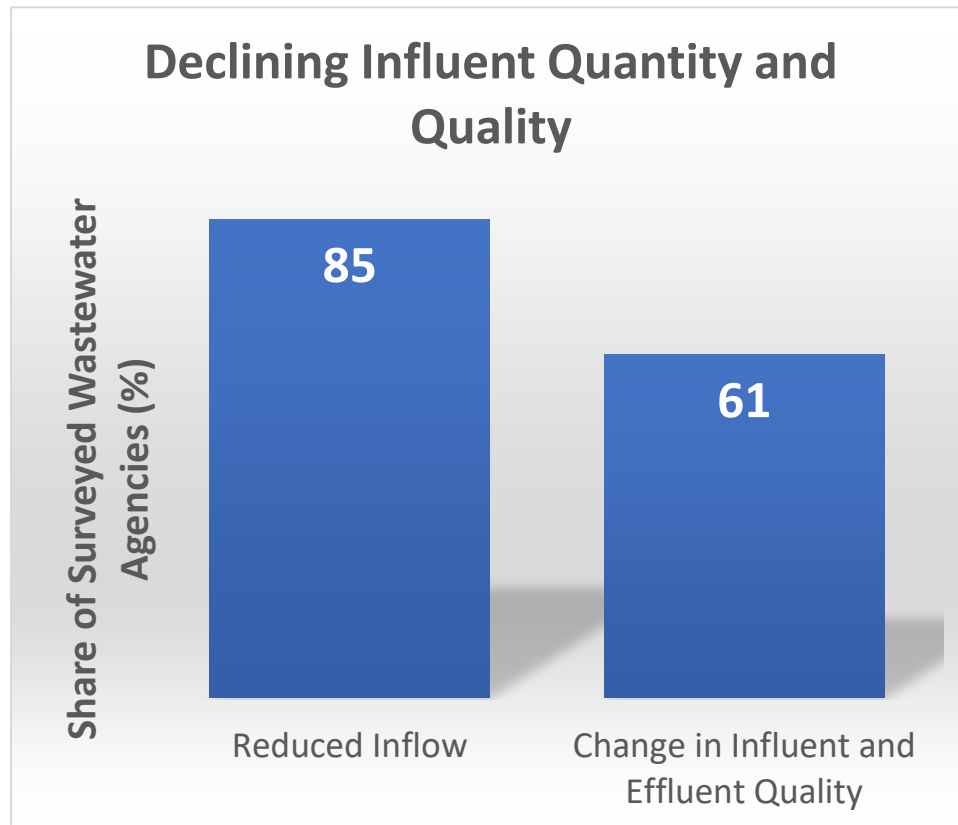


CALVIN: Inter-tied California water system (surface and groundwater), economic-driven optimization model

Professor Jay R. Lund
Civil & Environmental Engineering, UC Davis

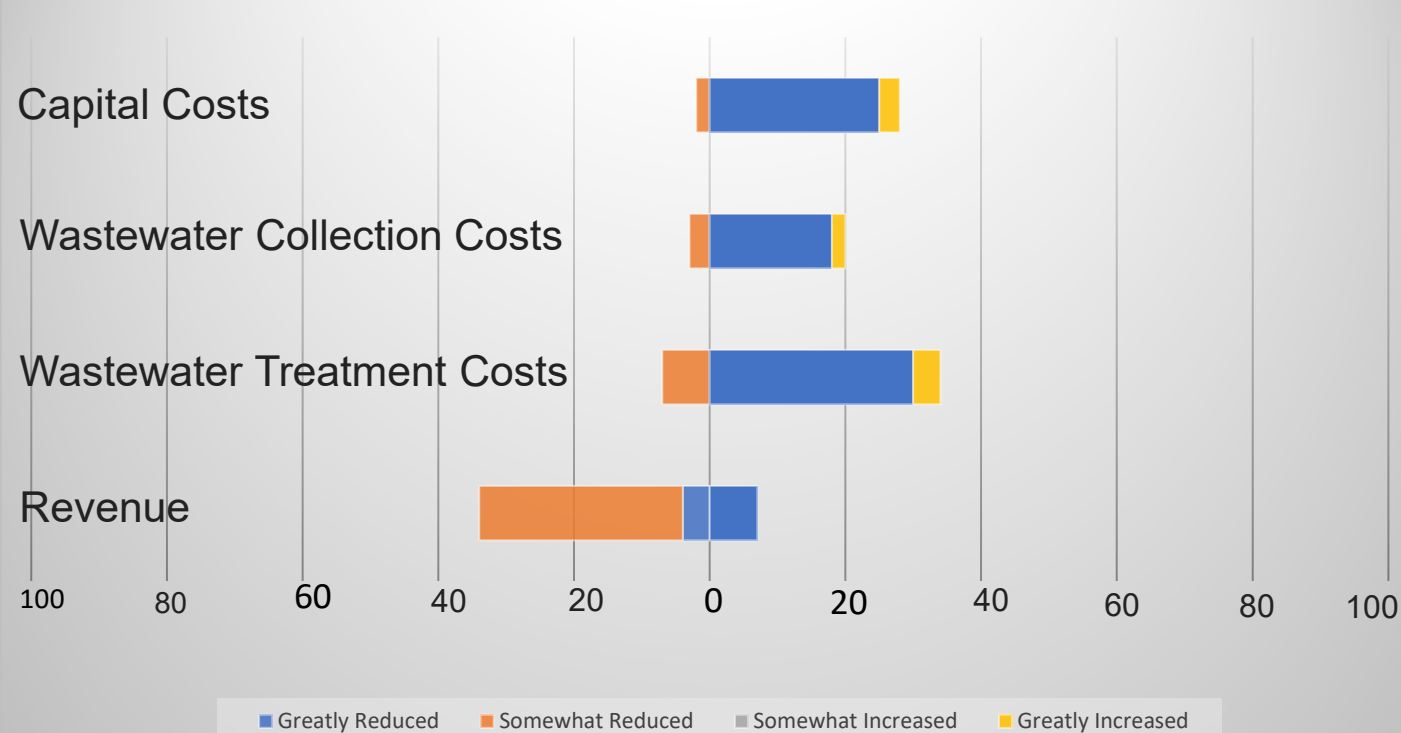
Professor Richard E. Howitt
Agricultural & Resource Economics, UC Davis
cee.engr.ucdavis.edu/faculty/lund/CALVIN/

Stormwater Can Help Address Wastewater Operational Challenges

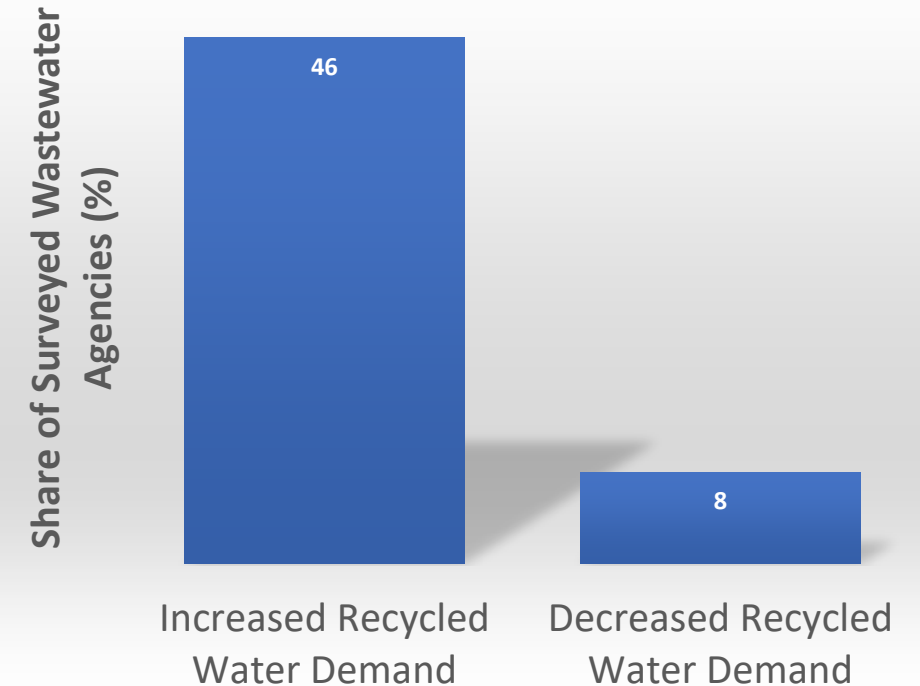


Stormwater Can Help Address Wastewater Operational Challenges

Reduced Revenues and Increased Costs



Recycled Water Demand

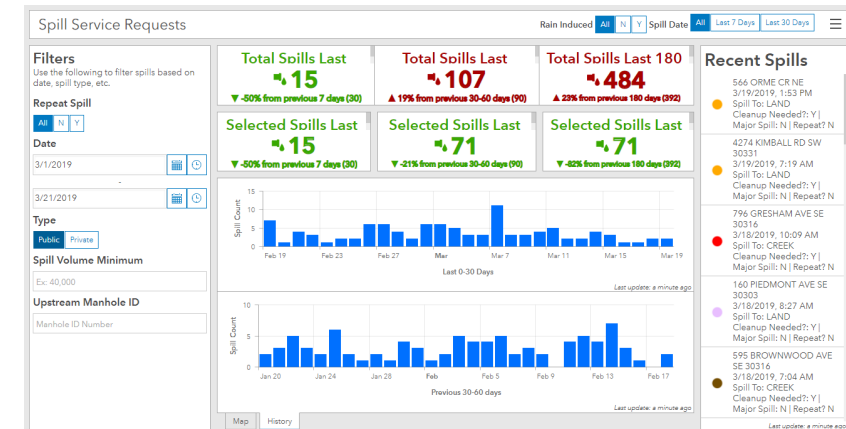
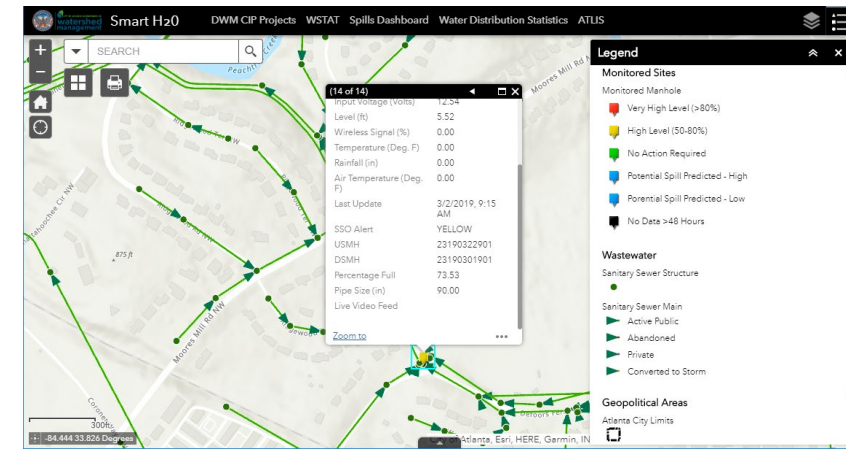
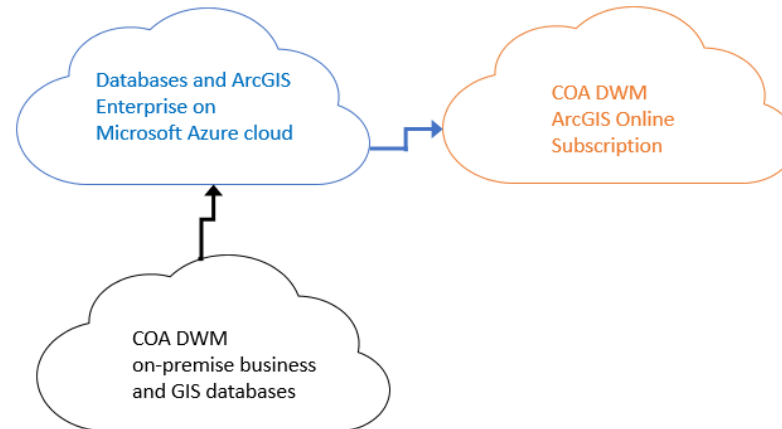




Case Studies

Intelligent Platforms to the Rescue

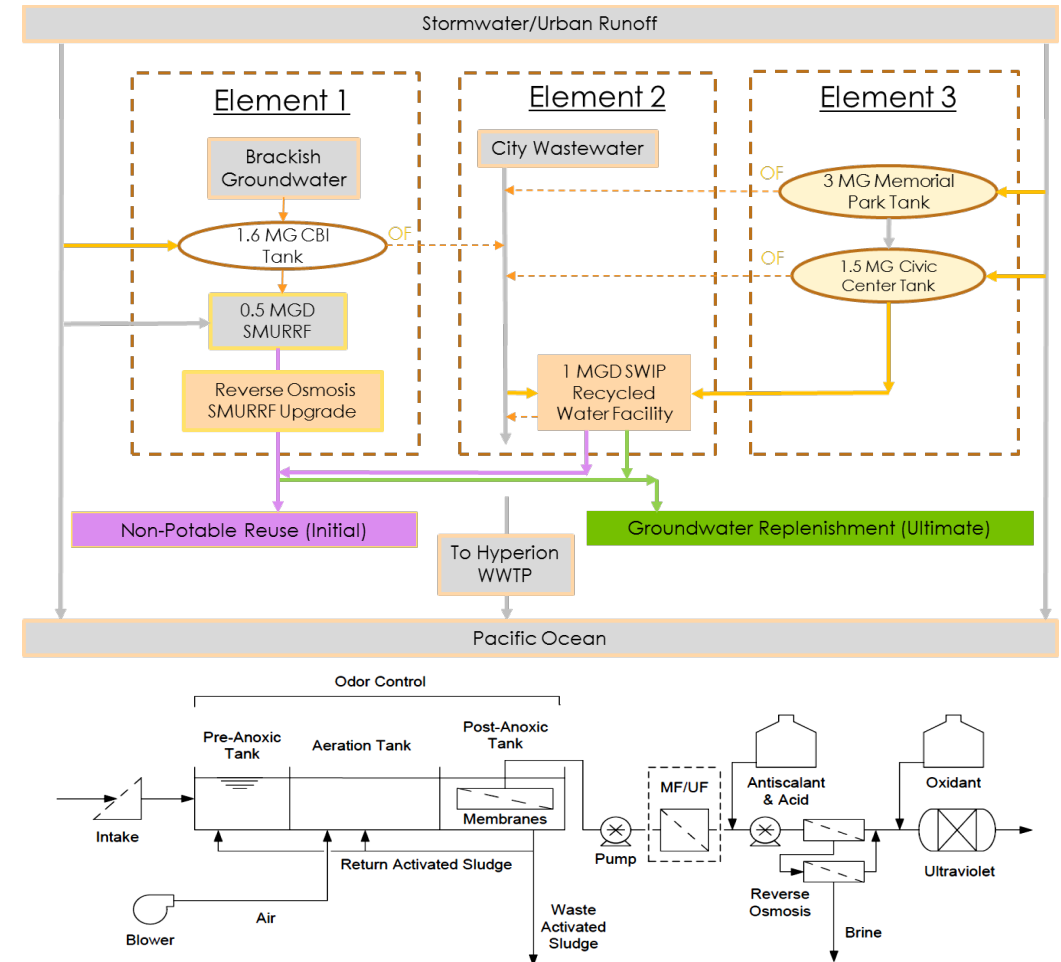
- Adapted for stormwater management
- Leveraging the City's existing infrastructure and systems to enable more effective decision making
- Predicting both dry- and wet-weather overflows before they happen
- Enabling more effective capital planning
- Proven to effectively manage Atlanta's combined sewer system



Santa Monica Sustainable Water Infrastructure Project (SWIP)

Case Studies

- Integrated water resource management – stormwater, wastewater, groundwater blending, treatment and use
- Finding infrastructure solutions in a built-out environment
- Moving towards achieving water independence
- Leveraging regulatory-driven initiatives



Metropolitan's Regional Recycled Water Program

Case Studies

- Joint effort by Metropolitan Water District of Southern California and Los Angeles County Sanitation Districts
- Provide advanced treatment to non-nitrified secondary effluent from JWPCP (Carson, CA) to produce 150-MGD of potable water
- Planning for indirect potable reuse with direct potable reuse in mind for future
- Stantec completed the design of a demonstration facility consisting of MBR, RO and UV/AOP processes
- Completed multiple planning studies for the full-scale AWT Facility



JWPCP

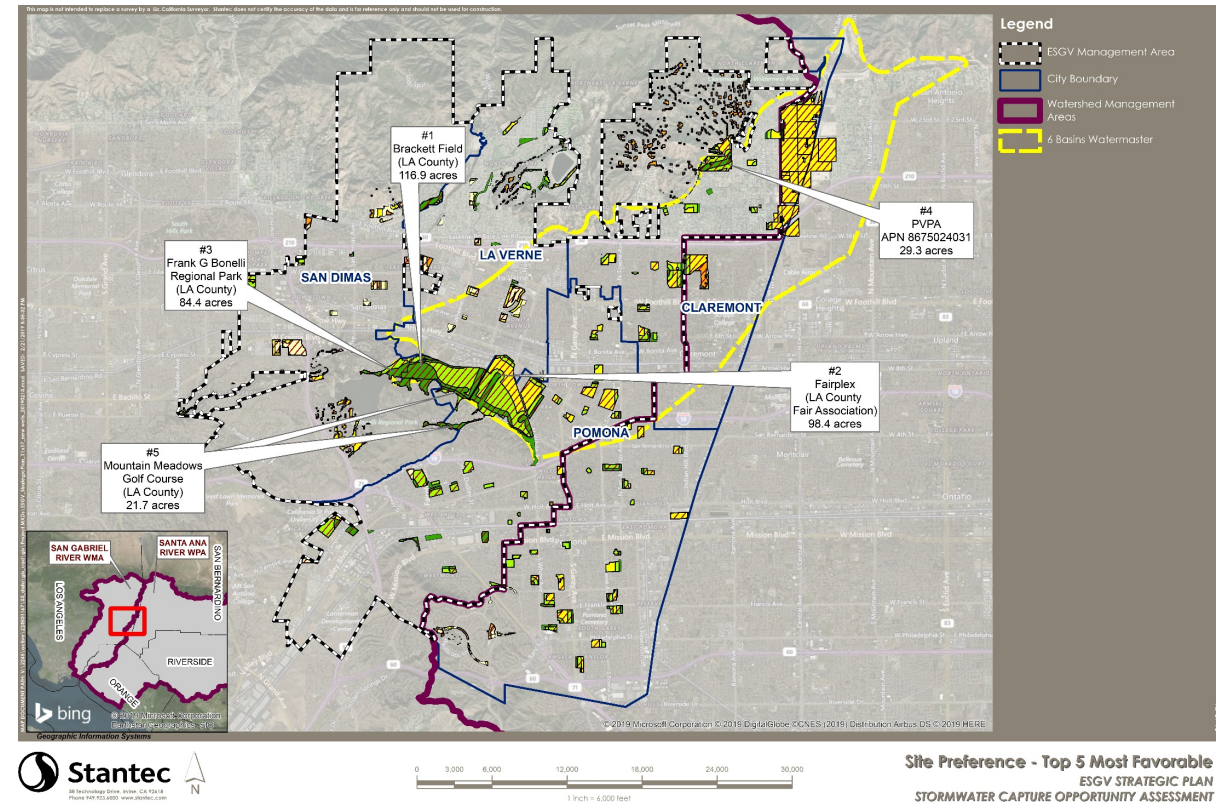


Demonstration Facility

East San Gabriel Valley Watershed Management Group and Six Basins Water Master

- Coordinated Stormwater Capture and Groundwater Recharge Feasibility Study

Major Watershed	35% Milestone, Year 2020 (acre-ft)	65% Milestone, Year 2023 (acre-ft)	100% Milestone, Year 2026 (acre-ft)
Puddingstone	38.1	70.7	108.9
San Jose Creek	104.1	193.3	297.3
San Dimas Wash	10.3	19.1	29.4
Walnut Creek	37.2	69.2	106.4
Big Dalton Wash	0.7	1.2	1.9
Total	190.4	353.5	543.9



Port of Long Beach Recycled Water and Stormwater Harvesting Project

- Recycled water demand and analysis
- Stormwater capture and use
- Integration with LB-MUST
- Stormwater diversion to sanitary sewer



Long Beach Municipal Urban Stormwater Treatment (LB-MUST)

- LA River signature project
- Treat dry weather and portion of first flush flows from 12,300 acres (41% of Long Beach)
- Comply with NPDES Permit and TMDLs
- 2 MGD initial capacity/4 MGD final capacity
- Produce alternative water supply
- Education and community enhancement features
- 15 Pump Stations
- 10.8 miles of conveyance



The End

Thank You!

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