Water Resource Recovery & Resilience

Santa Ana River Watershed 2014

Orange County Sanitation District

We’re here for you.

October 14, 2014
“To protect public health and the environment by providing effective wastewater collection, treatment, and recycling.”
Water Resource Recovery

Preliminary Treatment

Primary Treatment

Secondary Treatment

Solids Processing

Digester Gas

Energy to Plant

Central Power Generation System Engines

Solids Dewatering

Heat

Digesters

Reclaim/Effluent

Solids Reuse
Groundwater is pumped from wells by producers (cities and water districts)

- 74% of the water used in North and Central OC
- Groundwater basin recharged by Santa Ana River, rainwater, imported and recycled water
Wastewater reclamation partnership since 1972

OCWD
Enhanced source control in collections system

Primary

Secondary

Advanced Water Purification

OCSD
Wastewater treatment

Reuse
Why did we partner?
Planning in the 1990s

**OCSD** – Defer the need for a new ocean outfall

**OCWD** – Need more water
- Larger seawater intrusion barrier
- 5 year drought 1987–92
- Steady population increases
- Imported water supply challenges
- Improve groundwater quality
OCSD Focuses on Wastewater as a Resource

- Master planning
- Enhanced source control program
- Flow diversions
- Secondary treatment operations
- Communications
Declining Wastewater Flows

Cumulative water storage changes from NASA GRACE (2002-2014)

June 2002: 239 MGD
June 2008: 218 MGD
June 2014: 198 MGD
Less Water to the Ocean

Final Effluent Flow, MGD
annual average per fiscal year

MGD

'90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13
OCSD Water Recycling Goals

💧 Work with OCWD to jointly study improvements needed to support GWRS Final Expansion.

💧 Determine partnerships, needs, strategies, benefits and costs associated with recycling any remainder flows from Plant No. 2 effluent water.
Digester Gas Recovery

Produced
11 MW of Electricity

Recovered
1.3 M Therms Heat

Saved
$ 5 million annually
Fuel Cell Evaluation
Our High-Quality Products:
Treated solids fertilize farm fields

Hay Farm, Yuma, AZ
- Farming with biosolids since 1980’s
- Valuable macro- & micro nutrients
- Reduces fossil-fuel fertilizer use
- Conserves water, sequesters carbon

Composting, Central Valley, CA
The Santa Ana River Interceptor
Questions?