Santa Ana River Watershed Ambassador Program
City of Anaheim
Stormwater Capture, Treatment and Recharge, Collaborative Projects
“Turning Challenges Opportunities”
“Doing More with Less” “Multitask”
Synergy = Collaboration; Cooperation; Leveraging Resources, etc.
Increase stakeholder engagement
Enhance efficiencies
Maximize collaboration
PUBLIC WORKS
Challenge/Need:

- Reduce pollutants in Stormwater to comply with NPDES Permit Requirements
Challenges/Needs:

- Address Stormwater Pollutant reduction for compliance with NPDES Regulations
- Reduce Flood Risk
- Improve Reliability and Groundwater Supply
- Comply with Trash Capture Requirements to comply with State Trash Provisions Requirements
- Reduce standing water in Storm Drains to address Mosquito Breeding and related nuisances
- Improve Park Facilities and Public Works Infrastructure
Opportunities:

- Improve potential for Grant funding
- Increased participation from other Departments/Agencies = $$$; Land; Infrastructure
- Sharing burden of responsibilities amongst stakeholders
- Economy of Scale: Bigger Project = More bang for the buck
- Broadened support for project from Policy Makers Community, Agencies

RESULT = MULTI-BENEFIT PROJECTS
WIPS Approach
Multiple Partners

MS4s
North OC Cities & County of Orange

Utilities + Parks
SCE/OC Parks/Others

Sanitation Districts
OCSD/IRWD

Schools + Colleges
Universities / Community Colleges / K-12

Transportation
Caltrans / OCTA

Flood Control
OC Flood

Water Districts
OCWD/IRWD/EOWD/Others

Industrial + Private
Industrial MS4s/ Private New & Existing Development (WQ Credit & Trading)
MODJESKA PARK
City of Anaheim

Rain water that can’t soak into the ground flows into the storm drain system. Along the way it picks up trash, oil, sediment, and metals from the parking lots and streets. Eventually, the polluted water reaches Bolsa Chica Channel and the Pacific Ocean.

- Under this parking lot is an underground pre-manufactured infiltration system. The concrete structures used for this project are approximately 14 feet tall and over 80 feet in length.
- Approximately 182-acre-feet of water per year will be directed into this groundwater system, which can support the annual indoor and outdoor needs of approximately 300 households annually.

Gaps within the permeable pavers allow rainwater to flow into an underdrain system that directs the flow to an infiltration system. Additional dry weather flows and rainwater are diverted to the infiltration system from the storm drain system along Nutwood Street.
200 acre Watershed in West Anaheim
Nearby 48” Storm Drain
Diversion and Pre-treatment System

Utility Note:
Contractor shall protect all existing utilities unless otherwise noted on plans.
Capture and Infiltration Chamber

MODJESKA PARK UNDERGROUND STORM WATER DETENTION AND INFILTRATION SYSTEM

PRELIMINARY DRAWING
NOT FOR CONSTRUCTION

MANHOLE ACCESS OPENING
TO BE LOCATED DIRECTLY
ABOVE 30" HOLES FOR
SLIDE GATE

ACCESS OPENING PER
DAY PVC 32"X 3, MANHOLE
COVER PER ANAMELI 630-3.

ISO VIEW
Challenges in the Watershed

- **Stormwater Quality** improvements required presently and in the future
- Undersized **Storm Drain** System
- **Groundwater Recharge** needed
- **Trash Full-Capture** required based on State Trash Amendment Requirement
- Need for **Stormwater Credit** Banking to offset future projects (program in development)
Opportunities at Modjeska Park

- **Grand Funding** opportunities (Prop 1) for large scale projects
- Nearby **Storm Drain**
- **Land** Available in Park
- **Limited Infrastructure Interference**
- Good Soil for **Infiltration**
- Potential for **Cost Sharing** with benefiting Water Agencies
- Potential for generation of **Stormwater Credits** to be applied to future projects required to address stormwater quality
Synergy/Support

- Public Works Department Management Support of:
  - Cutting edge innovation (not bleeding edge)
  - Grant Application and Matching Funding
  - Design Division Support/Cooperation of new thinking (capture not capacity)

- Parks Department Cooperation & Support
  - Coordination of Construction (rescheduling of community activities)
  - Reconstruction of Irrigation System and Parking Lot
  - Use of Park Land
State College Linear Underground Storage Tank and Infiltration System
2 Miles of 42” Sewer was to be abandoned and filled with Concrete Slurry (2.5 acre ft.)
Step 1: Construct New Sewer/Abandon Old Sewer
Step 2: Construct Manhole Crossings; No Slurry Backfill
Step 3: Connect to Storm Drain Upstream and Install Infiltration Wells Downstream
Agreement with
Orange County Sanitation District
Challenge/Need:

- Address **Stormwater Pollutant** reduction for compliance with NPDES Regulations
- Reduce **Flood Risk**
- Improve Reliability and **Groundwater Supply**
- Comply with **Trash Capture** Requirements to comply with State Trash Provisions Requirements
- **Avoid spending** $ filling Sewer with **Concrete**
Opportunities for State College Tank

- Cooperative and **Supportive Sewer Agency (OCSD)**
- **Repurposing Infrastructure** at no cost
- Reduction in potential for **Local Flooding**
- **Stormwater Treatment**
- **Groundwater Recharge**
- **Future Tank adjacent to Storm Drain**
- Good Soil for **Infiltration**
Synergy/Support

- Public Works Department Management Support of Innovation
- Orange County Sanitation District Coordination and Support
  - Design
  - Legal
- OC Flood consideration of “Outflow Connection”
Breaking Down the Silos!!!

Multi Benefit Projects Require (in order):
- Innovation
- Leadership
- Cooperation
- **YOU!**