Public Utilities Department

Proposition 50 – Project 6  
6A – Recycled Water Distribution System Expansion  
6B – Parklands Retrofit  
6C – IPR/RA Demonstration Project and Extended Testing

IRWM Regional Advisory Committee  
December 7, 2016

Public Utilities Department

Project 6A  
Recycled Water Distribution System Expansion

The City of SAN DIEGO
Camino del Sur Recycled Water Conversion Project

- Located on Camino Del Sur (between Torrey Meadows Drive and Torrey Santa Fe Road)
- Project Completed in 2013
- Connected 80 new sites
- Estimated of 1100 AFY Recycled Water in Northern Service Area
Project 6A provided recycled water to:

- Schools
- Retail sites
- HOAs
- Commercial sites
- Parks
- Street medians
- Caltrans
- Golf courses

Service Areas

Schools

Westview High School
Solana Ranch Elementary
Canyon Crest Academy
Pacific Trails Middle School
Retail Sites

The Village of Pacific Highlands Ranch

Torrey Highlands Plaza

Parks and Medians

Solana Ranch Park

Pacific Highlands Ranch Parkway
Home Owners Association

Commercial Site
Caltrans (State Route 56)

Golf Courses

Palacio Del Mar Golf Course

Grand Del Mar Golf Course
Public Utilities Department

Project 6B
Parklands Retrofit

Westview Neighborhood Park
Recycled Water Retrofit
Public Utilities Department

Project Location

- Mira Mesa Community Planning Area
- Southwest corner of Westview Parkway and Capricorn Way (West of I-15)

Tasks Completed

- Installed recycled water pipelines
- Upgraded electrical service and booster pump
- Replaced existing 2-inch potable irrigation meter with a recycled water meter
- Trained park staff for use of recycled water
- Since 2007, City Sites have increase from 23 to 114 recycled water meters.
Westview Neighborhood Park

Project 6C
Indirect Potable Reuse/Reservoir Augmentation (IPR/RA) Demonstration Project and Extended Testing
Project Objectives

- Evaluate feasibility of advanced treatment technology for potable reuse and reservoir augmentation
- Determine viability of a full-scale Indirect Potable Reuse/Reservoir Augmentation (IPR/RA) project
- Extended Testing to evaluate efficacy of two additional treatment steps
  - Ozone
  - Biological activated carbon (BAC)

Tasks Completed

- Advanced Water Purification (AWP) Facility (Demonstration Plant)
- Independent Advisory Panel (IAP)
- San Vicente Reservoir Limnology Study
- Regulatory Coordination
- Conveyance Pipeline Study
- Public Outreach & Education Program
- AWP Facility with additional treatment and monitoring equipment – Extended Testing
Project 6C Timeline

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- Water Purification Demonstration Project
- DWR Approval of Amendment
- AWPF Extended Testing

Purification Process... Completes Our Water Cycle

Public Utilities Department
Demonstration Plant

- Designed, procured, installed, operated, and tested a one MGD AWP Demonstration Plant at North City
- Developed and implemented a Testing and Monitoring Plan
- Prepared a report based on the operation and testing of the demonstration plant

Demonstration Plant Conclusions

- Purified water met all federal and state drinking water standards
- Continuous and daily monitoring verified integrity of treatment process and equipment
- Lab tests plus continuous monitoring ensures only high quality water is produced
- Water quality comparable to Orange County’s Groundwater Replenishment System

sandiego.gov
Independent Advisory Panel (IAP)

- Convened to provide expert peer review of the technical, scientific, and regulatory aspects of the Demonstration Project
- Provided feedback regarding
  - Reservoir augmentation
  - AWP Demonstration Plant
  - Proposed regulatory framework
- Unanimously concluded the Demonstration Project satisfied all City Council directives
- Ten IAP meetings over three years

San Vicente Reservoir Limnology Study

- Three-dimensional computer model
- Model calibrated and validated with measured data from the reservoir
- Input from DDW and IAP
- Modeled ten different scenarios with varying
  - Reservoir volumes
  - Purified water inlet locations
  - Seasonal changes
Regulatory Coordination

- Regulatory agencies DDW (formerly CDPH), Regional Water Board, and County Dept of Environmental Health, attended IAP meetings

- Regulators commented on:
  - AWP Demonstration Plant equipment
  - Testing & Monitoring Plan
  - San Vicente Reservoir Limnology Study
  - Reservoir Augmentation Concept Proposals

Conveyance Pipeline Study

- 22 mile, 36-inch pipeline to convey water from the AWP Facility to San Vicente Reservoir

- Two potential alignments identified
Public Outreach & Education Program

More than 2,900 Support Pledges from San Diegans

More than 10,200 people have toured the Pure Water Facility.

Media Coverage
Demonstration Project and Next Steps

Water Purification Demonstration Project

- Final report summarizing all project components was adopted by City Council on April 23, 2013

Next Steps after Demonstration Project

- City Council directed staff was to continue to operate the Demonstration Plant for research projects and on-going education and outreach
- City secured grant funding through a Prop 50 Grant Amendment to continue to operate the Demonstration Plant, known as the AWP Facility Extended Testing

Extended Testing

- Designed, installed, operated two additional treatment steps, ozone and biological activated carbon (BAC) to the existing Demonstration Plant’s treatment train.
- Developed and implemented a Test Plan
- Report based on the operation and testing of the demonstration plant was finalized July 2015
Pure Water Program

- The Demonstration Project and Extended Testing enabled implementation of PW
- Pure Water: 20-year program to provide a safe, secure, and sustainable local drinking water supply
  - Reliable and locally controlled
  - Drought proof, climate independent
  - Decreases reliance on imported water

Goals of IRWM and Prop 50

Pure Water Program Supporters