



MARCH - APRIL 2009
PHASE II CHINO BASIN FACILITIES
IMPROVEMENT PROGRAM

Program Description

The Chino Basin Facilities Improvement Program (CBFIP) was a joint effort of the Chino Basin Watermaster (CBWM), the Chino Basin Water Conservation District (CBWCD), the Inland Empire Utilities Agency (IEUA), and the San Bernardino County Flood Control District (SBCFCD). This Program, which was partially funded by the State Water Resources Control Board and a recipient of The American Society of Civil Engineers (ASCE) project award, increased the annual recharge of storm, imported, and recycled water to the Chino groundwater basin and reduce long-term maintenance costs.

Phase II of the CBFIP is a Grant Funded Project with the California Department of Water Resources with matching funds from IEUA and CBWM. Phase II comprises the following recharge improvements:

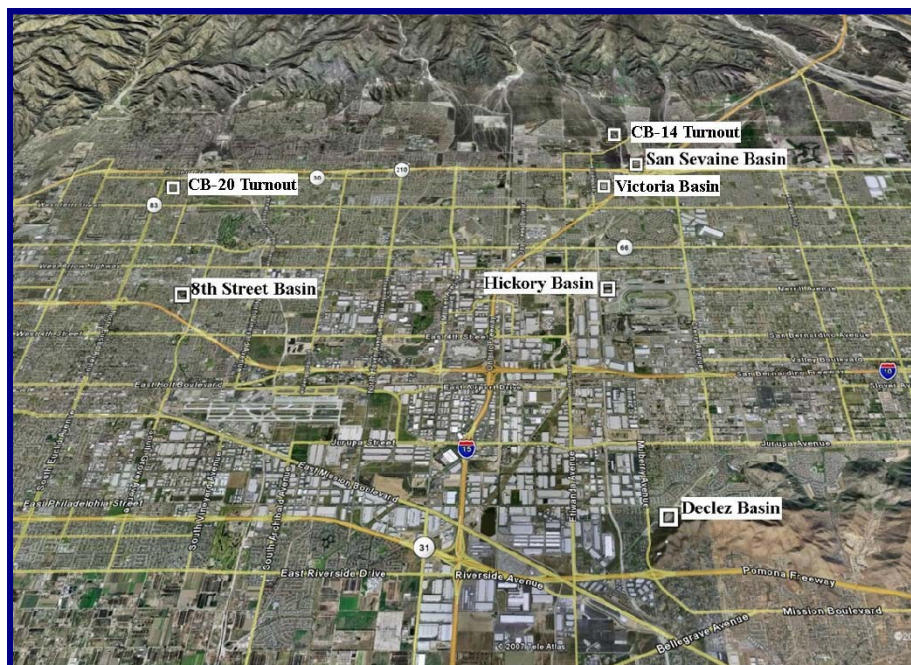
- Construction of new monitoring wells and lysimeters to monitor recycled water recharge operations
- Upgrading the capacity of MWD turnout CB-14 on the Rialto Feeder for imported recharge water
- Construction of a new turnout on the Rialto Feeder (CB-20) to provide imported water to 8th Street Basin
- Improvements to conservation berms at four storm water retention basins to increase recharge of storm water
- Improvements to the SCADA system to improve operation of the recharge facilities
- Evaluation of equipment for cleaning the basins without dewatering and drying basins.

Key Highlights:

- Improvements will capture an additional 2,000 AF of storm water annually for recharge to the Chino Groundwater Basin.
- Improvements will result in lower maintenance costs for the berms.

Project Purpose:

The purpose of the project is to expand the storm, recycled and imported water recharge capacity, which increases annually the overall replenishment of the Chino Basin.



Project Participants:

- Inland Empire Utilities Agency (Contracting Agency)
- Chino Basin Watermaster
- California State Department of Water Resources

Project Team:

- Design: Kennedy/Jenks Consultants, Wildermuth Environmental, Inc. Tetra Tech Inc.
- Project & Construction Management: IEUA
- Construction Contractors: Norstar Plumbing and Engineering Inc., Landmark Site Contractors Inc., Best Drilling and Pumps, Inc.
- Construction Inspection: Wildermuth Environmental, Inc.

Phase 2A – Monitoring Wells and Lysimeters

The monitoring wells were installed at RP-3 Basin, Declez Basin, Eight Street Basin (2), and Brooks Basin (2), and Lysimeters were installed at RP-3 Basin, Declez Basin, Eight Street Basin, and Brooks Basin as part of meeting the recycled water recharge operation.

- Completed

Phases 2B – Basin SCADA Improvements

The SCADA improvements within San Sevaine, Lower Day, Upland, Brooks, and Turner Basins include new communication towers and controls, automation of gate controls, installation of flow and level sensors, and various hardware and software upgrades to enhance operation and system security. A majority of the improvements will be done by Norstar Plumbing and Engineering while the hardware and software improvements will be done by IEUA staff. Construction is completing the installation of basin communication towers and the Agency is proceeding with the purchase of mitigation land to help off-set the impact to sensitive habitats at San Sevaine due to the new tower installation.

- Construction 75% Complete
- Construction Completion Date: June 2009

Phase 2C – New MWD Turnout (CB-20) / 8th Street Basin Pipeline

This project is to construct a new turnout along the MWD Rialto Feeder and install additional storm drain piping to increase imported recharge water into the 8th Street Basin. Due to construction submittal issues, construction completion has been delayed until early May 2009. Major construction along Winston Avenue is completed, which added a storm pipeline for recharge conveyance from CB-20 to Eight Street Basin. Testing and project close out at the Turnout Facility is scheduled for June 2009.

- Construction 80% Complete
- Construction Completion Date: June 2009

Phase 2D – MWD Turnout Expansion at CB-14

This construction project is to expand an existing CB-14 turnout along the MWD Rialto Feeder and install additional surface pipeline improvements to increase imported recharge water into the Victoria and the Etiwanda Debris Basins. Due to construction submittal issues, completion of major construction has been extended until May 2009. The testing and project close out is scheduled for June 2009.

- Construction 80% Complete
- Construction Completion Date: June 2009

Phase 2E – Recharge Basin Berm Heightening, Hardening, and Outlet Improvements

The Sevaine, Hickory, Declez, and 8th Street Basins have shown significant washout of their berm structures. These improvements are to prevent this by raising and hardening the existing berm structures. Due to delays in meeting regulatory requirements with Army Corp and U.S. Fish & Wildlife, the berm improvements within San Sevaine have been deleted from Landmark's contract and deferred outside of this project. However, the Agency is proceeding with the purchase of mitigation land to help off-set the impact to sensitive habitats at San Sevaine in preparation of the berm hardening. The remaining construction work within Hickory, Declez, and 8th Street Basins has been completed.

- Major Construction 100% Complete at Hickory, Declez & 8th Street Basins – Close-out is in progress

Phase 2F – Montclair Basin Inlet

The design evaluation of constructing an inlet structure in the San Antonio Channel near Montclair Basin did not prove to provide immediate benefits. Current recharge operations and the above SCADA Improvements will provide the ability to increase recharge flow. This improvement will be deferred when the benefits are more cost effective.

- Completed

Phase 2G – Wet Basin Cleaning Development

Current cleaning practices necessitate dewatering and drying the basin so that earth moving equipment can enter the basin to remove accumulated silt. This practice reduces the quantity of water that can be recharged at that basin. Initial studies of wet basin cleaning technology concluded that the technology was more costly than current methods. This phase was completed at the initial study.

- Completed



Proposed Communication Tower



Berm Hardening at Declez Basin



Construction Concrete Spillway at Declez



Construction of Berm No. 1 at Declez

Project Financing

■ DWR Grant	\$5.2500 Million
■ IEUA Local Share	\$2.625 Million
■ CBWM Local Share	<u>\$2.625 Million</u>
■ Total Project	\$10.500 Million

Project Budget Summary

Project Activity	Budgeted Amount	Cost to Date	Projected	Total Project Cost
Phase 2A - Monitoring Wells and Lysimeters	\$ 1,726,000	\$ 1,726,000	\$ -	\$ 1,726,000
Phase 2B - Basin SCADA Improvements	\$ 265,000	\$ 197,014	\$ 67,832	\$ 264,846
Phase 2C - New MWD Turnout (CB-20)	\$ 3,702,000	\$ 2,752,253	\$ 947,604	\$ 3,699,857
Phase 2D - MWD Turnout Expansion (CB-14)	\$ 2,769,000	\$ 2,058,614	\$ 708,783	\$ 2,767,397
Phase 2E - Recharge Basin Berm Improvements	\$ 1,868,000	\$ 1,592,347	\$ 149,653	\$ 1,742,000
Phase 2F - Montclair Basin Inlet	\$ 120,000	\$ 120,000	\$ -	\$ 120,000
Phase 2G - Wet Basin Cleaning Development	\$ 50,000	\$ 50,000	\$ -	\$ 50,000
Projected Contingencies			\$ 129,899	\$ 129,899
Total Phase II	\$ 10,500,000	\$ 8,496,228	\$ 2,003,771	\$ 10,500,000