TURNER BASIN IMPROVEMENTS
PROJECT NO. WR11017.00
STATUS UPDATE: JULY 30, 2014

The project involves grading and hauling activities and the design and installation of new pipes, gates, and controls for two new recharge basins east of Turner Basin No. 4. This project also connects an existing flood control retention facility, Basin No. 5, to capture additional stormwater and recycled water for groundwater recharge by constructing new stormwater piping from Deer Creek Channel into Basin No. 8 which feeds into Basin No. 5. This will allow the Turner Basin site to receive and capture channel flow further upstream and increase recharge potential. The goal of the project is to bring in an additional 600 acre-feet of annual recharge through stormwater and recycled water.

Schedule:

Project Budget	Actual Cost to Date
$1,275,000	$1,231,736

Phase	Start	Finish	Status	Projected Cost	Actual Cost
Project Development	11/01/11	02/22/12	Completed	$32,622	$35,380
Pre-design	02/22/12	04/01/12	Completed	$13,419	$75,548
Environmental Impact	03/01/11	12/20/12	Completed	$72,892	$74,197
Design	04/02/12	02/22/13	Completed	$120,772	$122,203
Permits	03/30/12	12/20/12	Completed	$9,927	$9,927
Bid and Award	12/21/12	02/20/13	Completed	$2,736	$2,747
Construction	02/20/13	10/31/14	In Progress	$1,022,632	$911,734
				$1,275,000	$1,231,736

This project is partially funded by the Bureau of Reclamation with a grant of $406,712.

Project Update:

Construction on the new recharge structure under KIP Constructors Inc. is nearing completion where programming and testing of the new controls are the remaining tasks. The dirt hauling and grading activities for the new north basin at Turner No. 4 will be completed through GRB Engineering on October 2014.

Project Photos:

Completed junction structure

Damages to new electrical enclosure

Completed new south basin

WINEVILLE PROOF OF CONCEPT
PROJECT NO. EN13031.00
STATUS UPDATE: JULY 30, 2014

The Wineville Basin Proof of Concept Project (POC) was developed to provide information and data to determine the likely benefit if the basins were improved to facilitate artificial groundwater recharge. The primary objective of the POC was to measure basin infiltration rates and use those rates to estimate the likely annual recharge capacity of the basin. The investigative project consisted of six cells designed to test and evaluates infiltration rates at strategic locations throughout the Basin. Each of the test cells were 0.5 acres in size and excavated at different depths to gather percolation data for soils above and below identified clay layer. The study was completed in April 2014 and concluded that the basin presents an opportunity for groundwater recharge.

Schedule:

Project Budget	Actual Cost to Date
$424,300	$361,303

Phase	Start	Finish	Status	Projected Cost	Actual Cost
Design	01/11/13	04/30/14	Completed	$22,000	$22,000
Weeding	09/01/13	09/30/13	Completed	$28,000	$28,000
Permits	04/24/13	01/17/14	Completed	$2,200	$2,200
Environmental Assist.	03/01/13	11/30/13	Completed	$22,600	$18,800
Survey	09/01/13	11/30/13	Completed	$21,000	$11,767
Construction	06/19/13	04/30/14	Completed	$208,000	$208,000
Extra Equipment	10/01/13	11/30/13	Completed	$7,500	$7,500
Ontario Pump Costs	10/01/13	11/30/13	Completed	$19,967	$19,967
CM/Testing Support	09/01/13	04/30/14	Completed	$50,000	$43,069
Contingency				$43,033	
				$424,300	$361,303

Project Update:

The study was completed in April 2014. It concluded and recommended that the basin presents an opportunity to use the existing facility for the dual purpose of flood control and groundwater recharge. The proposed improvements to the basin will be a part of the projects listed within the 2013 Amendment to the 2010 Recharge Master Plan Update.

Final Project Data:

Table 1 - Projected Basin Performance Summary in Acre-Feet per Year (AFY)

Scenario	Infiltration Rate	Stormwater Recharge	Supplemental Water Recharge	Total Annual Recharge
No. 1	0.13 ft./day	820 AFY	940 AFY	1,760 AFY
No. 2	0.24 ft./day	2,080 AFY	1,750 AFY	3,830 AFY

Figure 1- Temporary Infiltration Test Cells Constructed at Wineville

JURUPA PUMP STATION HVAC IMPROVEMENTS
PROJECT NO. EN14040
STATUS UPDATE: JULY 30, 2014

The Jurupa Pump Station (PS) is a key recharge facility that directly conveys storm water runoff, local runoff, imported and recycled water to Cell 1A at the RP-3 Basin. The PS is located on the north-east corner of Jurupa Basin which acts as a pass through basin for flows intercepted at the nearby San Sevaine Channel. The PS' electrical equipment, such as the motor control center, variable frequency drives (VFDs) and communication equipment, is critical to the operation of the pump station. With high temperatures experienced at the PS, vital controls and switches have been experiencing temperature related failures and shutdowns. The HVAC improvements will address these critical failures by installing a permanent air conditioning system, roof thermal insulation, controls, etc. for the electrical equipment at the Jurupa PS.

Schedule:

Project Budget	Actual Cost to Date
$300,000	$24,112

Phase	Start	Finish	Status	Projected Cost	Actual Cost
Project Development	09/02/13	03/20/14	Completed	$3,000	$3,031
Pre-design	10/31/13	03/03/14	Completed	$5,000	$2,731
Proposal	03/04/14	05/14/14	Completed	$12,000	$7,257
Design/Build	05/14/14	11/30/14	In Progress	$186,000	$11,093
				$206,000	$24,112

The total project cost was originally $300,000. Through the Pre-design Phase, the Agency has been able to evaluate the details of the project and simplify the scope. The projected cost is expected to be completed below the total project budget.

Project Update:

Currently the design/build contract work with Integrated Design Services (IDS) is nearing completion of the AC system. The project is anticiptated to be completed before November 2014 and below the approved budget.

Project Photos:

Existing MCC Control Panel

Existing Pumping System

Installed AC Unit

Installed ceiling Insulation and AC air ducting

SAN SEVAINE IMPROVEMENTS PROJECT
PROJECT NO. EN13001
STATUS UPDATE: JULY 30, 2014

San Sevaine basins consist of five, soft-bottomed basins along the San Sevaine Channel. The basins encompass approximately 93 acres with the potential to recharge up to 8,500 acre-feet per year (AFY) of recycled water (RW), storm water (SW) and imported water. The basins currently operate by delivering most flow to Basin No. 5, which has the lowest infiltration rate as compared to the other basins. This has limited current recharge to approximately 500 AFY.

As part of the 2013 Amendment to the 2010 Recharge Master Plan Update, this Project will evaluate, design and construct basin improvements needed to maximize infiltration and recharge capture at the San Sevaine Basins. Depending upon the final recommendation from the preliminary development report, either one or more of the following designs may be implemented as part of construction: (1) a new stormwater/recycled water pump station and pipeline, (2) extend the existing RW pipeline, (3) re-grade and deepen basin, (4) construct internal berms.

Schedule:

	Project Budget $3,550,000*			Actual Cost to Date $84,849	
Phase	Start	Finish	Status	Projected Cost	Actual Cost
Pre-design	10/01/12	09/8/14	In Progress	$252,300	$67,220
Environmental Impact	06/26/13	09/26/14	In Progress	$32,200	$8,942
Design	09/10/14	06/18/15	Not Started	$216,200	$0
Permits	05/15/13	12/22/15	In Progress	$107,300	$8,687
Bid and Award	07/06/15	09/18/15	Not Started	$11,600	$0
Construction	12/23/15	04/03/17	Not Started	$2,930,400	$0
				$3,550,000	$84,849

The project was approved to receive a $750,000 grant from the Department of Water Resources through the Santa Ana Watershed Project authority as part of Propostion 84.

*The project budget was recently amended from $2.5 Million to match the projected budget within the approved 2013 Amendment to the 2010 Recharge Master Plan Update.

Project Update:

Recent Activities:	Date	Status
▪ Obtain CEQA and Impacts from TDA	12/30/13	Completed
▪ Complete Project Development Report	08/30/14	In Progress
▪ Perform Soil Investigation	09/15/14	Delayed (1)

Notes:
(1) With an approved permit from the Army Corps of Engineers, the soils investigations will start after September 15, 2014 which is after the end of the bird nesting season. This report will be used as part of the PDR's discussion and findings on the Basin's projected infiltration rates.

Project Photo:

Aerial View of San Sevaine Basin 5

GWR SCADA UPGRADES
PROJECT NO. EN14047
STATUS UPDATE: JULY 30, 2014

The Inland Empire Utilities Agency's existing Supervisory Control & Data Acquisition (SCADA) system is comprised of a wide range of equipment that is located at various remote sites and facilities throughout the IEUA's RW and GWR facilities. During the master planning process, a thorough and comprehensive review and evaluation of the recycled water and groundwater recharge SCADA system was conducted. The Master Plan recommended SCADA upgrades to the RW and GWR SCADA systems. The purpose of these upgrades will provide the foundation of a robust, reliable and seamless control system that will sustain and support the continued growth of the RW and GWR programs.

Schedule:

Project Budget	Actual Cost to Date
$892,000	$31,930

Phase	Start	Finish	Status	Projected Cost	Actual Cost
Project Development	11/11/11	02/24/14	Completed	$927	$422
Design	02/26/14	12/01/14	In Progress	$129,900	$31,508
Permits	09/12/14	12/01/14	Not Started	$10,000	$0
Bid and Award	12/02/14	02/18/15	Not Started	$428	$0
Construction	02/19/15	04/16/16	Not Started	$750,745	$0
				$892,000	$31,930

This project qualified to receive a $139,650 grant and a 1% interest 30-year loan at $740,145 from the Clean Water State Revolving Fund loan program, as part of the Proposition 50 grant program, and a Department of Water Resources Proposition 84 grant program through Santa Ana Project Water Authority.

Project Update:

Staff provided initial comments on the draft Preliminary Design Report from MSO Technologies. MSO is currently finalizing the report which addresses the following topics:

- Evaluation of the existing SCADA System, Hardware, and HMI
- Alternative Equipment Analysis
- Recommended Equipment Upgrades
- Detailed Project Cost Estimate/Project Construction Schedule

Design is scheduled for completion on December 1, 2014.

Project Photo:

San Sevaine Turnout Control Panel

COMMUNICATION UPGRADES
PROJECT NO. EN12019
STATUS UPDATE: JULY 30, 2014

This project will transition the communication equipment within the remote GWR and RW sites (totaling over 20 sites) onto the new, faster and more reliable communication network. The upgrade will replace the radio equipment for each site and add several new communication towers to send all communication onto the Agency's new 18GHz Motorola network back-haul. The Communication System Upgrades anticipates all remote sites to be upgraded for integration with the new communication network, and seven monopoles necessary to improve the line-of-sight communication. After the completion of a predesign study, which will determine the required location and number of towers, the project will move forward with a design/build approach in implementing the communication upgrades.

Schedule:

Project Budget	Actual Cost to Date
$1,245,000	$176,680

Phase	Start	Finish	Status	Projected Cost	Actual Cost
Project Development	11/11/11	01/17/14	Completed	$5,771	$47,270
Design	01/20/14	07/29/14	In Progress	$135,129	$129,410
Permits	03/17/14	03/05/15	In Progress	$6,000	$0
Construction	07/30/14	06/24/15	Not Started	$1,098,100	$0
				$1,245,000	$176,680

This project qualified for a $192,850 grant and a 1% interest 30-year loan at $1,022,105 from the Clean Water State Revolving Fund loan program, as part of the Proposition 50 grant program, and a Department of Water Resources Proposition 84 grant program through Santa Ana Project Water Authority.

Project Update:

After completing a thorough site survey/analysis of all twenty-five remote locations, Dahl Taylor & Associates/Sun Wireless determined that 21 sites had adequate line-of-site to IEUA high-speed backbone system through the 6B tower. The report also revealed Ely Basin would have line-of-site RP-1, Hickory FMM Turnout to RP-4, and three locations (College Heights, Montclair Basin and Upland Basin) to CCWRF. Of the 25 sites, eight do not have towers and one existing tower would require an extension in height. TDA is finalizing the cost in installing the radio upgrades to each site, add eight new towers, and extend an existing tower.

The following table summarizes Dahl's findings:

Site	Remote Site	Distance	Tower Height (Feet)	Antenna Height
8th Street Basin	6-B	6.3 miles	Existing 55'	40' or above
Brooks Street Basin	6-B	10.8 miles	Existing 55'	55'
CB-11 MWD Turnout	6-B	1.6 miles	No tower (Need at least 45')	40' or above
CB-14 MWD Turnout	6-B	3.8 miles	No tower (Need at least 25')	20' or above
CB-15 MWD Turnout	6-B	2.5 miles	No tower (Need at least 20')	15' or above
CB-18 MWD Turnout	6-B	5.2 miles	No tower (Need at least 35')	30' or above
CB-20 MWD Turnout	6-B	4.8 miles	Need 10' extension on 25' square monopole or new 35' tower	30' or above
College Heights	CCWRF	8.2 miles	Exitsing 55'	40' or above
Declez Basin	6-B	10.2 miles	Existing 55'	40' or above
Ely 3 Basin	RP-1	0.5 miles	Existing 55'	15' or above
Grove Basin	6-B	10.8 miles	Existing 55'	40' or above
Hickory Basin	6-B	6.1 miles	Existing 55'	40' or above
Hickory FMM Turnout	RP-4	1.3 miles	Existing 55'	40' or above
Jurupa Basin	6-B	8.8 miles	Existing 55'	40' or above
Lower Day Basin	6-B	2.9 miles	Existing 55'	15' or above
Montclair Basin	CCWRF	7.3 miles	Existing 55'	40' or above
Orchard RW Turnout	6-B	10.2 miles	No tower (Need at least 20')	15' or above
RP-3	6-B	10.4 miles	Existing 55'	40' or above
San Sevaine 5RW Turnout	6-B	4.5 miles	Existing 55'	40' or above
San Sevaine Basin 5	6-B	4.6 miles	No tower (25' lamp post or new 25' tower)	25' or above
Turner Basin 1	6-B	6.4 miles	Existing 55'	40' or above
Turner Basin 4	6-B	6.4 miles	Existing 55'	50' or above
Upland Basin	CCWRF	8.0 miles	No tower (Need at least 45')	40' or above
Victoria Basin	6-B	4.7 miles	Existing 55'	40' or above
Wineville Basin	6-B	8.8 miles	No tower (Need at least 45')	40' or above

Sites that need attention

CB20 NOISE MITIGATION
PROJECT NO. EN14038
STATUS UPDATE: JULY 30, 2014

In 2010, a recharge basin turnout structure was constructed within the Metropolitan Water District's right-of-way in the residential area of the City of Upland. The turnout was to provide immediate access to available raw water for the purpose of groundwater storage. The Noise Mitigation Project is to reduce the impact of operating noise to the surrounding residences. Current sound studies reveal the facility generates noise levels above the allowable limits permitted by Upland's Ordinances. As a public service effort, IEUA and Chino Basin Watermaster initiated a capital project to design and build a sound enclosure by a qualified sound specialist. The objective is to maintain compliance with City Ordinance and reduce the impact of noise to nearby residents.

Schedule:

Project Budget	Actual Cost to Date
$160,000	$3,625

Phase	Start	Finish	Status	Projected Cost	Actual Cost
Project Development	09/25/13	01/23/14	Completed	$11,319	$182
Design	01/24/14	09/23/14	In Progress	$9,057	$3,443
Construction	09/24/14	12/19/14	Not Started	$137,237	$0
				$157,613	$3,625

Project Update:

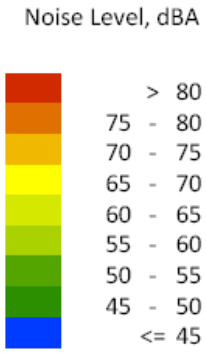
C.E. Pickup concluded its additional sound survey analysis which confirmed that additional design improvements are required to meet municipal code requirements. The study mapped the measured noise level impact to the nearby residence without any mitigation and mapped the anticipated noise level impact with proper mitigation measures. The results of the study are summarized in the following page.

The project schedule has been extended to address the additional design efforts. Currently there is no immediate impact to the project budget of $160,000 due to the placed contingencies within design and construction.

Estimated Noise Level at 1st Level
without Mitigation

Estimated Noise Level at 1st Level
with Mitigation

Estimated Noise Level at 2nd Level
with Mitigation



HICKORY BASIN ARIZONA CROSSING
PROJECT NO. EN12025
STATUS UPDATE: JULY 30, 2014

The Hickory Basin Arizona Crossing Project designed and constructed a new soil cement access road and culvert over the inlet channel at the Hickory Basin. The purpose of the access road was to provide immediate maintenance and operational access for IEUA and San Bernardino Flood Control District (SBCFCD) personnel to the north area of the Basin without interrupting recharge or storm water detention operations. The goal of the project is to minimize maintenance costs and mitigate recharge interruptions due to basin dewatering when accessing critical pumping equipment for routine or emergency maintenance. Secondly, the access crossing was also a required condition with the Flood Control as part of a maintenance agreement to utilize the basin for continuous recharge. This project was a part of the Chino Basin Facilities Improvement Program, Phase II which was deferred due to Flood Control permitting approvals. In January 2012, the project re-commenced bidding after receiving full permitting documents from the District.

Schedule:

Project Budget	Actual Cost to Date
$332,971	$220,417

Phase	Start	Finish	Status	Projected Cost	Actual Cost
Design	10/01/11	12/31/11	Completed	$7,200	$7,200
Permits	10/01/11	01/12/12	Completed	$2,000	$1,518
Bid and Award	01/12/12	03/21/12	Completed	$1,200	$307
Construction	03/22/12	04/17/13	Completed	$222,571	$211,392
Added Contingencies				$100,000	
				$332,971	$220,417

The added contingency was included into the project towards the later phase of construction to address potential change orders with the General Contractor.

Project Update:

The project completed construction and the facility has been in operation since April 17, 2013. The project was fully completed and operational on April 2013 with a final total project cost of $220,417. In November 2013, IEUA received from the General Contractor a “Notice of Potential Claim” and “Notice of Claim” which were both denied by IEUA. On April 8, 2014, IEUA Legal Counsel notified staff of a filed lawsuit from Kaveh Engineering and Construction. Currently IEUA Legal Counsel is addressing the notice.

Project Photo:

Completed access road leading to the north side of Hickory Basin

Completed Arizona Crossing which spans the inlet channel

UPPER SANTA ANA RIVER WATERSHED HABITAT CONSERVATION PLAN
PROJECT NO. RW15002
STATUS UPDATE: JULY 30, 2014

The purpose of the Habitat Conservation Plan is to investigate and develop a plan to offset the biological impact of future water and recharge improvement projects in the Chino Basin area that have the potential to affect federally-listed endangered, threatened or special status species. This project will be a part of a regional plan with other proposed projects within the Upper Santa Ana River Region. The goal of the project is to identify in advance sites that may require biological offset/mitigation and avoid permitting delays on future RMPU projects or other identified recharge improvement projects.

Schedule:

Project Budget	Actual Cost to Date
$160,000	$0

Phase	Start	Finish	Status	Projected Cost	Actual Cost
Investigate/Plan	07/01/14	06/30/17	In Progress	$160,000	$0
				$160,000	$0

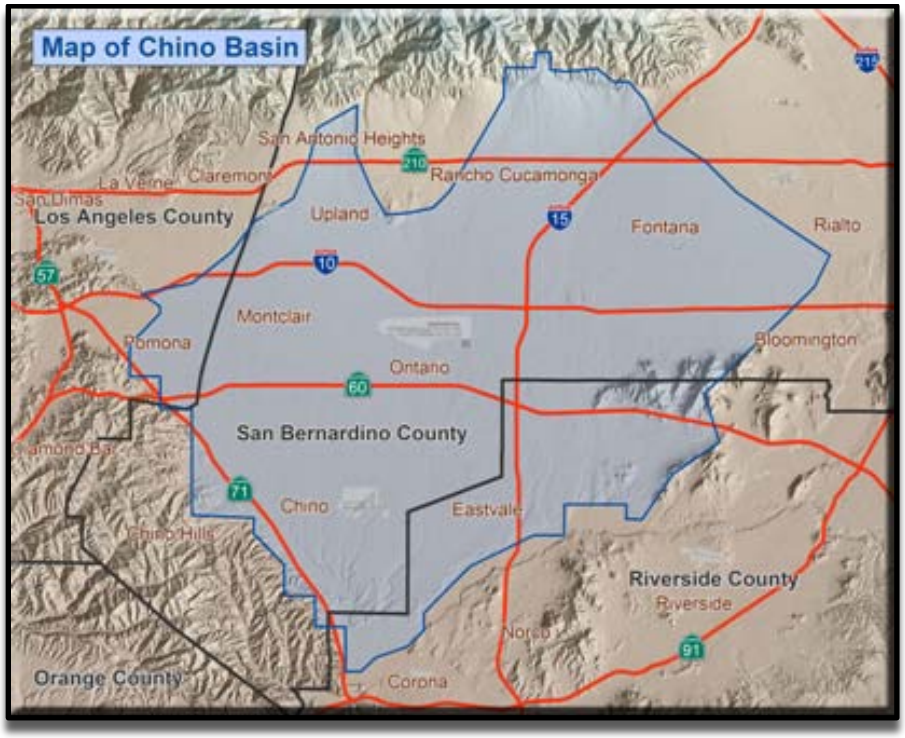
Project Update:

Currently five projects sites, which are listed below and are part of the 2013 Amendment to the 2010 Recharge Master Plan Update (RMPU), have been determined to potentially impact federally-listed species. The Project Manager is scheduled to submit these sites to the HCP Team by August 15, 2014. The following task is to evaluate the locations and impacts based on the proposed project improvements, as defined in the RMPU, Recycled Water Capital Project list in IEUA's FY14/15 Ten-Year Capital Improvement Plan, and the July 2014 draft Recycled Water Program Strategy. As impact areas are evaluated, plans and cost proposals will be submitted and filed for each location.

RMPU Projects	Location	Potential Species
PID - 19a	Wineville Basin	DSF
PID - 12	Lower Day Basin	SBKR,CAGN,BUOW
PID - 7	San Sevaine Basins (1-5)	SBKR
PID - 11	Victoria Basin	SBKR
PID - 2	Montclair Basins (1-3)	CAGN

DSF=Delhi Sands Flower-Loving Fly; SBKR=Merriam's San Bernardino Kangaroo Rat; CAGN=California Gnatcatcher; BUOW=Burrowing Owl

Project Photo:



Map of Chino Basin