

# Fiscal Year 2015/16 Ten-Year Capital Improvement Plan





# Inland Empire Utilities Agency Fiscal Year 2015/16 Ten-Year Capital Improvement Plan

**Inland Empire Utilities Agency**

6075 Kimball Avenue

Chino, CA 91708

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# Acronyms

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<b>4R</b>	Repair, Relocation, Reconstruction, and Rehabilitation
<b>AFY</b>	Acre-Feet of Water per Year
<b>AMP</b>	Asset Management Plan
<b>ARRA</b>	American Recovery Rehabilitation Act
<b>BIP</b>	Base Interruptible Program
<b>BCU</b>	Baseline Capacity Units
<b>BMPTF</b>	Basin Monitoring Program Task Force
<b>CASA</b>	California Association of Sanitation Districts
<b>CBFIP</b>	Chino Basin Facilities Improvement Project
<b>CBWCD</b>	Chino Basin Water Conservation District
<b>CBWM</b>	Chino Basin Watermaster
<b>CCRA</b>	Capital Capacity Reimbursement Account
<b>CCTV</b>	Closed Circuit Television
<b>CCWRF</b>	Carbon Canyon Wastewater Recycling Facility
<b>CDA</b>	Chino Desalter Authority
<b>CEC</b>	California Energy Commission
<b>CEQA</b>	California Environmental Quality Act
<b>CH<sub>4</sub></b>	Methane
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>CO<sub>2</sub>-eq</b>	CO <sub>2</sub> Equivalent

<b>CPUC</b>	California Public Utilities Commission
<b>CSI</b>	California Solar Incentive
<b>CSDLAC</b>	County Sanitation Districts of Los Angeles County
<b>CUWCC</b>	California Urban Water Conservation Council
<b>CVWD</b>	Cucamonga Valley Water District
<b>DA</b>	Direct Access
<b>DCS</b>	Distribution Control System
<b>DR</b>	Demand Response
<b>DWR</b>	Department of Water Resources
<b>DYY</b>	Dry Year Yield
<b>EDU</b>	Equivalent Dwelling Unit
<b>ESP</b>	Electricity Service Provider
<b>FMP PEIR</b>	Facilities Master Plan Program Environmental Impact Report
<b>FSL</b>	Firm Service Level
<b>FY</b>	Fiscal Year
<b>GG</b>	Administrative Services Program
<b>GPD/EDU</b>	Gallons per Day per Equivalent Dwelling Unit
<b>GPS</b>	Global Positioning System
<b>GWP</b>	Global Warming Potential
<b>H<sub>2</sub>S</b>	Hydrogen Sulfide
<b>HFC</b>	Hydrofluorocarbon
<b>HVAC</b>	Heating/Ventilation/Air Conditioning
<b>ICE</b>	Internal Combustion Engine

<b>IE</b>	Inland Empire
<b>IERCF</b>	Inland Empire Regional Composting Facility
<b>IRP</b>	Integrated Resource Plan
<b>KPI</b>	Key Performance Indicators
<b>KW</b>	Kilowatt
<b>LOC</b>	Lewis Operating Company
<b>LOS</b>	Level of Service
<b>MACR</b>	Modified Accelerated Cost-Recovery
<b>Mg/L</b>	Milligrams per liter
<b>MGD</b>	Million Gallons per Day
<b>MW</b>	Megawatts
<b>MG</b>	Million Gallons
<b>MWH</b>	Megawatt Hours
<b>MOU</b>	Memorandum of Understanding
<b>MVWD</b>	Monte Vista Water District
<b>MWD</b>	Metropolitan Water District of Southern California
<b>N<sub>2</sub>O</b>	Nitrous Oxide
<b>NC</b>	Non-Reclaimable Wastewater Program Capital Fund
<b>NEM</b>	Net Energy Metering
<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>NRW</b>	Non-Reclaimable Wastewater
<b>NRWS</b>	Non-Reclaimable Wastewater System
<b>O&amp;M</b>	Operations & Maintenance



<b>OBMP</b>	Optimum Basin Management Plan
<b>OBMP PEIR</b>	Optimum Basin Management Plan Program Environmental Impact Report
<b>OCSD</b>	Orange County Sanitation District
<b>OWOW</b>	One Water One Watershed
<b>PPA</b>	Power Purchase Agreement
<b>PFC</b>	Perfluorocarbon
<b>RC</b>	Regional Capital Improvement (Wastewater) Fund
<b>RCA</b>	Regional Composting Authority
<b>RDA</b>	Redevelopment Agency
<b>REC</b>	Renewable Energy Credit
<b>RO</b>	Regional Operations and Maintenance (Wastewater) Fund
<b>RP-1</b>	Regional Plant No.1 in the City of Ontario
<b>RP-2</b>	Regional Plant No.2 in the City of Chino
<b>RP-4</b>	Regional Plant No.4 in the City of Rancho Cucamonga
<b>RP-5</b>	Regional Plant No.5 in the City of Chino
<b>RP-5 SHF</b>	RP-5 Solids Handling Facility
<b>R&amp;R</b>	Repair and Replacement
<b>RW</b>	Groundwater Recharge Fund
<b>RWC</b>	Recycled Water Contribution
<b>RWRPs</b>	Regional Water Recycling Plants
<b>RWQCB</b>	Regional Water Quality Control Board
<b>SAWA</b>	Santa Ana Watershed Association

<b>SAWPA</b>	Santa Ana Watershed Project Authority
<b>SBCFCD</b>	San Bernardino County Flood Control District
<b>SCADA</b>	Supervisory Control and Data Acquisition
<b>SCAP</b>	Southern California Alliance of Publicly-Owned Treatment Works
<b>SCAQMD</b>	South Coast Air Quality Management District
<b>SCE</b>	Southern California Edison
<b>SF6</b>	Sulfur Hexafluoride
<b>SGIP</b>	Self-Generation Incentive Program
<b>SRF</b>	State Revolving Fund
<b>SWRCB</b>	State Water Resources Control Board
<b>TA&amp;TI</b>	Technical Assistance and Technology Incentives
<b>TDS</b>	Total Dissolved Solids
<b>TIN</b>	Total Inorganic Nitrogen
<b>TOU</b>	Time of Use
<b>TOU-BIP</b>	Time-of-Use Base Interruptible Program
<b>TYCIP</b>	Ten-Year Capital Improvement Plan
<b>UPC</b>	Unit Production Cost
<b>USBR</b>	United States Bureau of Reclamation
<b>UWMP</b>	Urban Water Management Plan
<b>VFD</b>	Variable Frequency Drives
<b>WC</b>	Recycled Water Program Fund
<b>WFMP</b>	Wastewater Facilities Master Plan
<b>WSAP</b>	Water Supply Allocation Plan

**WUE**

Water Use Efficiency

# Introduction

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## PURPOSE OF THE TEN-YEAR CAPITAL IMPROVEMENT PLAN

The purpose of a capital improvement plan is to catalog and schedule capital improvement projects over a multiyear period. Each year, pursuant to the terms of the Regional Sewage Service Contract, the Inland Empire Utilities Agency (Agency) submits a ten-year forecast of capacity demands and capital projects called the Ten-Year Capital Improvement Plan (TYCIP) to the Regional Technical and Policy Committees. This TYCIP identifies projects for the Fiscal Years (FY) 15/16 through FY 24/25 that are needed for the rehabilitation, replacement, or expansion of the facilities owned or operated by the Agency.

The TYCIP is a document which links the vision of the Agency with a list of physical projects to fulfill that purpose. Projects identified in the TYCIP are necessary to accomplish the Agency's goals based on physical conditions of assets and forecasted regional projections of water and wastewater needs. Based on these projections, the TYCIP proposes a schedule for the implementation of projects based on necessity. The timing of the projects identified in the TYCIP are further refined during the Capital Budget based on the availability of financial resources.

## DEFINITION OF A CAPITAL PROJECT

The TYCIP is composed of a list of Capital Projects. Capital Projects are projects which involve the purchase, improvement or construction of major fixed assets and equipment, which are typically large in size, expensive, and permanent. Examples of capital projects include the expansion of treatment plants and the construction of pipeline and pump stations.

## REGIONAL SEWAGE SERVICE CONTRACT REQUIREMENTS AND TYCIP ADOPTION

The Regional Sewage Service Contract is the guiding document that defines the terms of the services and facilities in the Agency's regional sewage system. The

contract was originally signed in January 1973, amended in April 1984, and is due for renewal in January 2023, 50 years after it was originally executed.

Per the Regional Sewage Service Contract, the TYCIP includes wastewater flow forecasts and a description of planned capital projects, including any necessary facility expansions, major asset repair and rehabilitation, and major capital equipment purchases. Projected annual expenditures and financing will be developed in the Agency's annual Operating and Capital Program Budget. After comments and recommendations from the Regional Technical and Policy Committees have been considered and incorporated, the TYCIP is presented to the Inland Empire Utilities Agency Board of Directors for adoption.

## CONNECTION OF TYCIP TO OTHER AGENCY PLANNING INITIATIVES

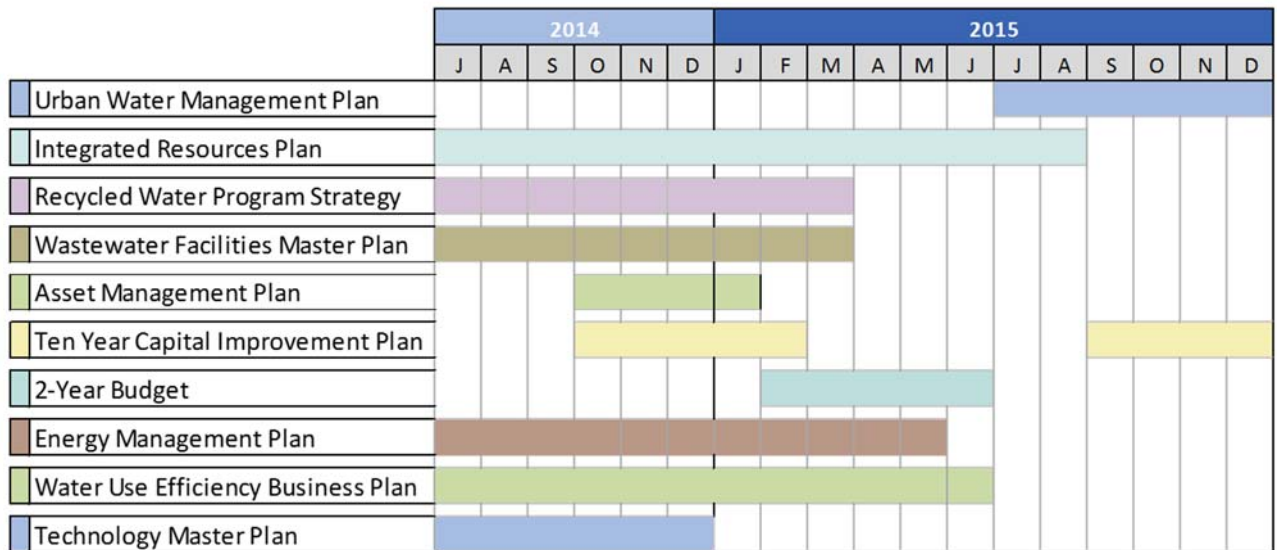
The TYCIP is one of several critical planning documents involved in the delivery of capital improvements. These include:

- IEUA Business Goals
- IEUA Strategic Plan
- Urban Water Management Plan
- Facilities Master Plan Program Environmental Impact Report
- Asset Management Plan
- Ten Year Capital Improvement Plan
- Operating and Capital Program Budget
- Long-Range Plan of Finance

The IEUA Business Goals (2013) guide the development of the capital improvement program, operational budget, and organizational goals and objectives. The objectives and commitments outlined in the document establish the framework for the direction of the Agency and subsequent planning efforts. The Goals reflect the Agency's commitment to deliver high-quality, reliable services to customers in a regional, cost-effective manner through prudent financial planning and strategic resource management. Goals were categorized into six main areas: Fiscal Responsibility, Workplace Environment, Business Practices, Water Reliability, Wastewater Management and Environmental Stewardship. To meet these commitments the Agency is also conducting studies to establish baseline conditions at the RWRPs, such as an Odor Assessment Panel Study.

The IEUA Strategic Plan serves as a transitional document between the IEUA Business Goals and the annual Operating and Capital Program Budget (Budget).

FIGURE 1: CURRENT IEUA PLANNING INITIATIVES



Every two years a Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis based on the current business environment is completed by executive management to update strategies within the IEUA Strategic Plan. These strategies introduce actions and timeframes to the high level IEUA Business Goals. In turn, those strategies become specific work plans containing department goals and objectives referenced in the budget book. The Strategic Plan, with a rolling five year timeframe, outlines the fundamental decisions that shape what the Agency plans to accomplish and sets a rational course of action.

The 2010 Urban Water Management Plan (UWMP) and 2002 Facilities Master Plan Program Environmental Impact Report (FMP PEIR) are long-range planning documents that provide a vision of the desired future water resources and wastewater facilities programs for the Agency. The FMP PEIR, as illustrated in Figure 1, links together three major fundamental master planning documents: the Chino Basin Organics Management Strategy (May 2001), the Recycled Water System Feasibility Study (2002), and the Wastewater Facilities Master Plan (2002). Within these documents, projects are identified to accommodate changes within the service area, such as increasing and shifting population growth, wastewater flows, water and recycled water supply demands, and salinity management. The Agency is currently updating these documents and developing an Integrated Resources Plan (IRP), which will be the foundation for the Agency’s major programs. The IRP will be published in

July 2015. Once the updated planning documents have been completed, identified projects will be used to generate a new Programmatic Environmental Impact Report (EIR) that will be used to guide the Agency's future planning initiatives.

The Agency's first Asset Management Plan (AMP) was completed in 2014. The AMP provides a up-to-date inventory and status assessment of the physical assets owned by the Agency to determine the future funding requirements needed to maintain, repair, and manage these assets. A key component of developing the AMP is assembling a comprehensive list of the Agency's assets at each of the regional water recycling plants, recycled water distribution system, Inland Empire Regional Composting Facility, regional sewer system, and non-reclaimable wastewater system. Projects identified in the AMP will be instrumental in prioritizing and planning for the repair and replacement of equipment and facilities. AMP updates will be done on an annual basis and align with the TYCIP and budget processes.

The Ten-Year Capital Improvement Program (TYCIP) identifies and prioritizes the capital assets required to successfully carry out the Agency's dual mission of providing wastewater treatment services and wholesale potable water supplies to the service area in an environmentally responsible manner over the next ten years. The TYCIP contains projects identified by the maintenance, operations, engineering, and planning departments and will be used to determine revenue requirements and long-term rates and financial impacts to fund the proposed projects and anticipated operating costs. The TYCIP has historically been updated annually, but will move to a biannual cycle effective FY 16/17.

The annual Operating and Capital Program Budget (Budget) is an implementation document that prioritizes the identified physical improvements in the TYCIP and links them with available financial resources for the upcoming year. The FY 15/16 Budget will be published in June, 2015.

The Long-Range Plan of Finance is document analyzing the long-term implications of financial decisions. Short-term actions can have far reaching implications and impact the Agency's future financial standing and available options. As a result, the Finance Department is in the process of completing the Long-Range Plan of Finance which is projecting financial trends over a 50-year period, so that the Agency can better anticipate and prepare for necessary adjustments and reduce sudden budgetary impacts to stakeholders and operations. The Agency is also doing a rate study in conjunction with the Long-Range Plan of Finance which will evaluate connection fees and rates.

IEUA is initiating a series of planning efforts that will update previous work by incorporating both recent successes and new challenges facing the state and local water resources settings. Although each document functions as an independent or “stand-alone” planning document, there are inherent synergies between them that rely upon having a consistent foundation, approach, and implementation strategy. Key documents that are currently under development or being updated include the Long-Range Plan of Finance, Wastewater Facilities Master Plan, Recycled Water Program Strategy, Water Use Efficiency Business Plan, 2015 Urban Water Management Plan, and EIR for the projects that will be identified in the updated planning documents.

The IRP, with the purpose of developing an overall strategy to meet projected water demands within the IEUA service area in a cost-effective manner, will play a central role in the integration of previous and these new planning efforts. Figure 1 on the previous page illustrates the projected timeline for the completion of these documents.







# IEUA Overview

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## INTRODUCTION

The Agency is a regional wastewater treatment agency and wholesale distributor of imported water. Today the Agency is responsible for serving approximately 844,000 people<sup>1</sup> over 242 square miles in western San Bernardino County. The Agency is focused on providing three key services: (1) treating wastewater, developing recycled water, local water resources, and conservation programs to reduce the region's dependence on imported water supplies and provide local supply resiliency to the service area; (2) converting biosolids and waste products into a high-quality compost made from recycled materials; and (3) generating electrical energy from renewable sources. This Ten-Year Capital Improvement Plan, beyond being a requirement of the Regional Sewage Service Contract between the Agency and its Contracting Agencies, is also a means of communicating with the public concerning priorities for future projects and capital spending requirements needed to meet future demands in the service area.

## FORMATION & PURPOSE

The Agency was originally formed as the Chino Basin Municipal Water District on June 6, 1950 as a municipal corporation with a mission to supply supplemental imported water purchased from the Metropolitan Water District of Southern California (MWD) to municipalities in the Chino Groundwater Basin. Since then, the Agency has expanded its mission from a supplemental water supplier to include regional wastewater treatment with domestic and industrial disposal systems, and energy production facilities. In addition, the Agency has become a major provider of recycled water, a supplier of biosolids/compost materials, as well as continuing its leading role in water quality management and environmental protection in the Inland Empire.

## GOVERNANCE

The Agency is a special district which is governed by five publicly elected Board of Directors. Each director is assigned to one of the five divisions: Division 1- Upland/

<sup>1</sup>Source: California Department of Finance, April 2014 census projection

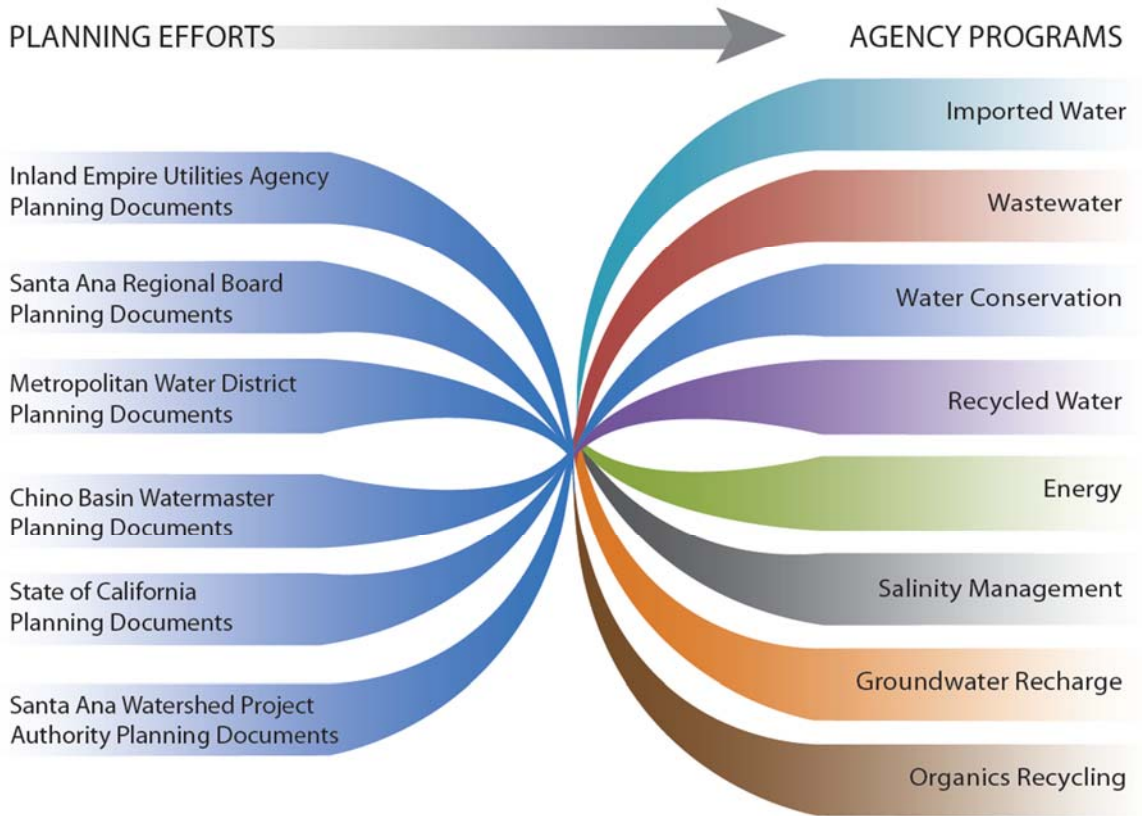
Montclair; Division 2- Ontario/Agricultural Preserve; Division 3- Chino/ Chino Hills; Division 4- Fontana; Division 5- Rancho Cucamonga. Monthly meetings are also held with the Regional Technical and Policy Committees that are comprised of representatives from each of the Agency’s Regional Sewer Service Contracting Agencies to discuss and provide information on technical and policy issues affecting the Agency.

**INTER-AGENCY COORDINATION IN THE CHINO BASIN**

The Agency joined the Santa Ana Watershed Project Authority (SAWPA) in 1972 to participate in regional watershed-scale planning. The Agency also currently sits on the Board of Directors for MWD, SAWPA, and Chino Basin Watermaster (CBWM).

The Agency collaborates with SAWPA, MWD, CBWM, and the Regional Water Quality Control Board (RWQCB) to develop regional planning documents. The Agency also works with state agencies, such as the Department of Water Resources and CalEPA in the development of State of California planning documents. Figure 2 below illustrates how the various regional and state planning documents are tied to the Agency’s capital and operational programs.

**FIGURE 2: COORDINATED REGIONAL PLANNING PROCESS**

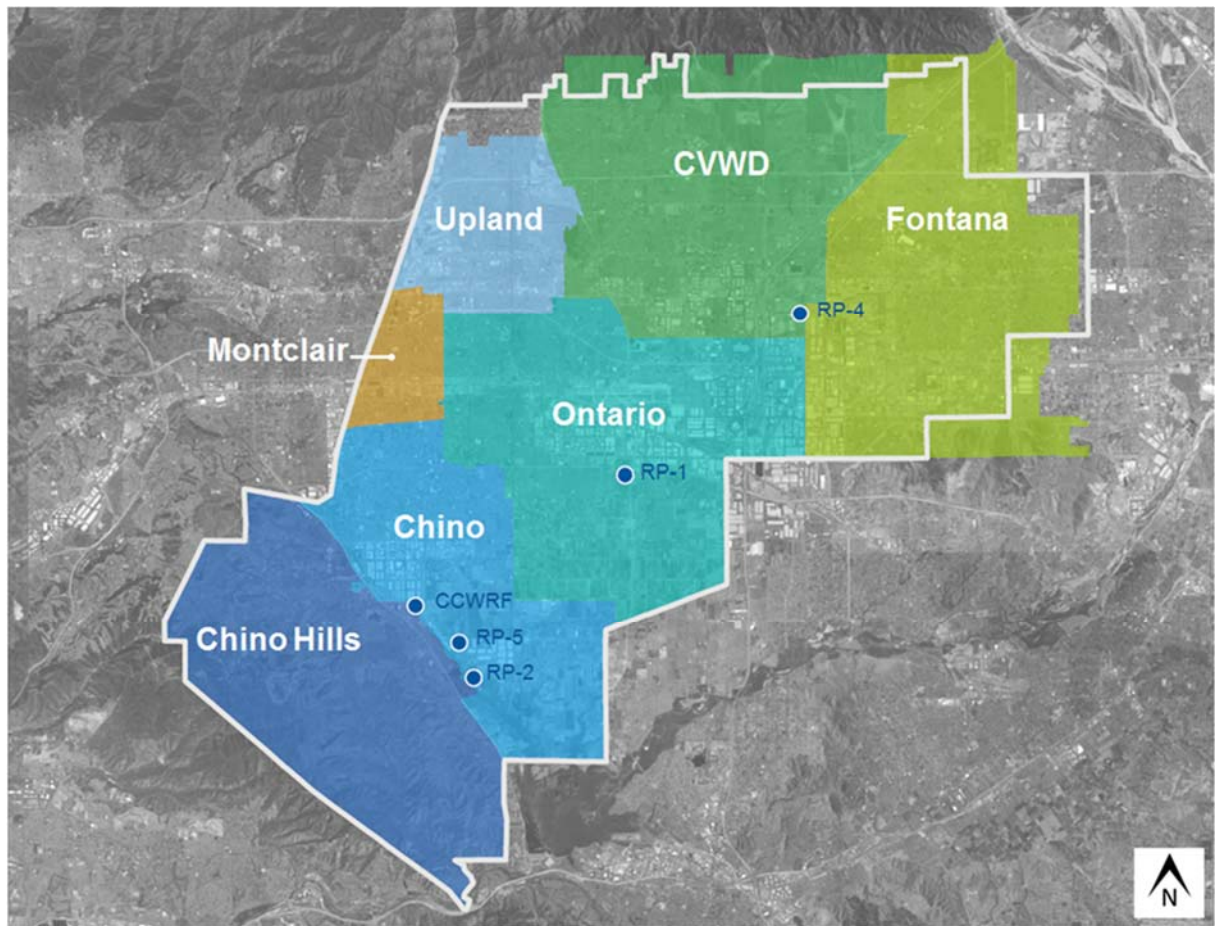




## CONTRACTING AND RETAIL AGENCIES

As a regional wastewater treatment agency, the Agency provides sewage utility services to seven contracting agencies under the Chino Basin Regional Sewage Service Contract: the cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, and Cucamonga Valley Water District (CVWD) in the city of Rancho Cucamonga. Figure 3 depicts each Contracting Agency’s sphere of influence within the Agency’s service area.

FIGURE 3: IEUA CONTRACTING AGENCIES



In addition to the contracting agencies, the Agency provides wholesale imported water from MWD to seven retail agencies: the cities of Chino, Chino Hills, Ontario, Upland, CVWD in Rancho Cucamonga, Fontana Water Company in Fontana, and the Monte Vista Water District (MVWD) in the city of Montclair.

## FINANCING/CAPITAL FUNDING SOURCES

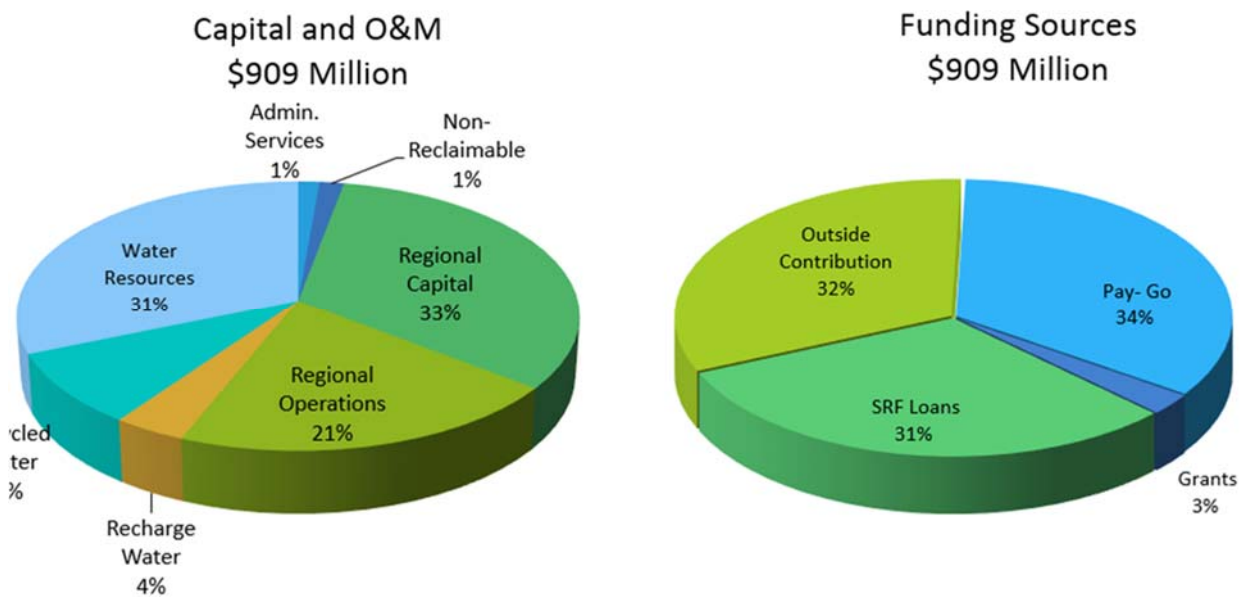
In general, the Agency’s capital financing is derived from four primary sources:

1. Pay-go cash, defined as net system revenues—primarily user charges, Equivalent Dwelling Unit (EDU) connection fees, and property taxes not needed for debt service;
2. New debt borrowing from State Revolving Fund (SRF) at fixed low interest rate loans and the issuance of new debt
3. Federal and State grant receipts
4. Inter-fund loans from Regional Capital Program and Non-Reclaimable Wastewater Program to support Recycled Water Program projects
5. Service Rates will be used to fund Replacement and Rehabilitation projects, thereby reducing a portion of the pay-go cash.

The financial planning and budget for FY 15/16 will be discussed in detail in the bi-annual FY 15/16 Operating and Capital Program Budget which will be published in June, 2015. Illustrated below in Figure 4 is a brief summary of the TYCIP’s capital expenditures by fund, and funding sources.

Major driving costs are regional treatment plant expansions within the ten-year window, and the development of water resource development/demand management programs to ensure that the region is resilient and has reliable water supplies to meet current and future demands through 2035. Approximately 66% of

FIGURE 4: FY 15/16 TYCIP BY FUND & FUNDING SOURCE



the TYCIP costs are expected to be financed through SRF Loans, grants, and cost-share agreements with beneficiaries.

## REGIONAL PROGRAMS & FACILITIES OVERVIEW

Industrial and municipal wastewater collections are provided through regional wastewater interceptors and two non-reclaimable wastewater pipeline systems. Recycled water is produced at four regional water recycling plants (RWRPs). In addition, the Agency has three facilities where the biosolids produced at the water recycling plants are handled: RP-1 Solids Handling Facility, RP-2 Solids Handling Facility, and the Inland Empire Regional Composting Facility. The Agency also has a solids handling facility at RP-5 which is leased to a private enterprise that intends to produce biogas and energy from food and dairy waste.

Although the Agency is a wholesale water provider, the Agency has very little infrastructure or assets related to potable water treatment, conveyance, or use. Water resources-related assets are connected to the recycled water, drought-proofing, and demand management programs. In addition to recycled water and wastewater services, the Agency operates a network of groundwater recharge facilities in partnership with Chino Basin Watermaster (CBWM), San Bernardino County Flood Control District (SBCFCD), and Chino Basin Water Conservation District (CBWCD). The Chino Desalter I facility is operated by the Agency in coordination with the Chino Desalter Authority to manage the salinity of the Chino Basin. The Agency also manages an extensive regional water use efficiency program, and collaborates with Santa Ana Watershed Project Authority (SAWPA), MWD, and RWQCB to develop regional planning documents.

### *Regional Wastewater Facilities*

The Agency has four RWRPs which produce recycled water that meets Title 22 standards for indirect reuse and groundwater recharge. All of the RWRPs have primary, secondary, and tertiary treatment and recycled water pumping facilities and are interconnected in a regional network. Agency staff routinely use the Agency's bypass and diversion facilities, such as the San Bernardino Lift Station, Montclair Diversion Structure, Etiwanda Trunk Line, and Carbon Canyon bypass, to optimize the Agency's flows and capacity utilization. In general, flows are routed between regional plants in order to maximize recycled water deliveries while minimizing overall pumping and treatment costs. Figure 5 illustrates the service

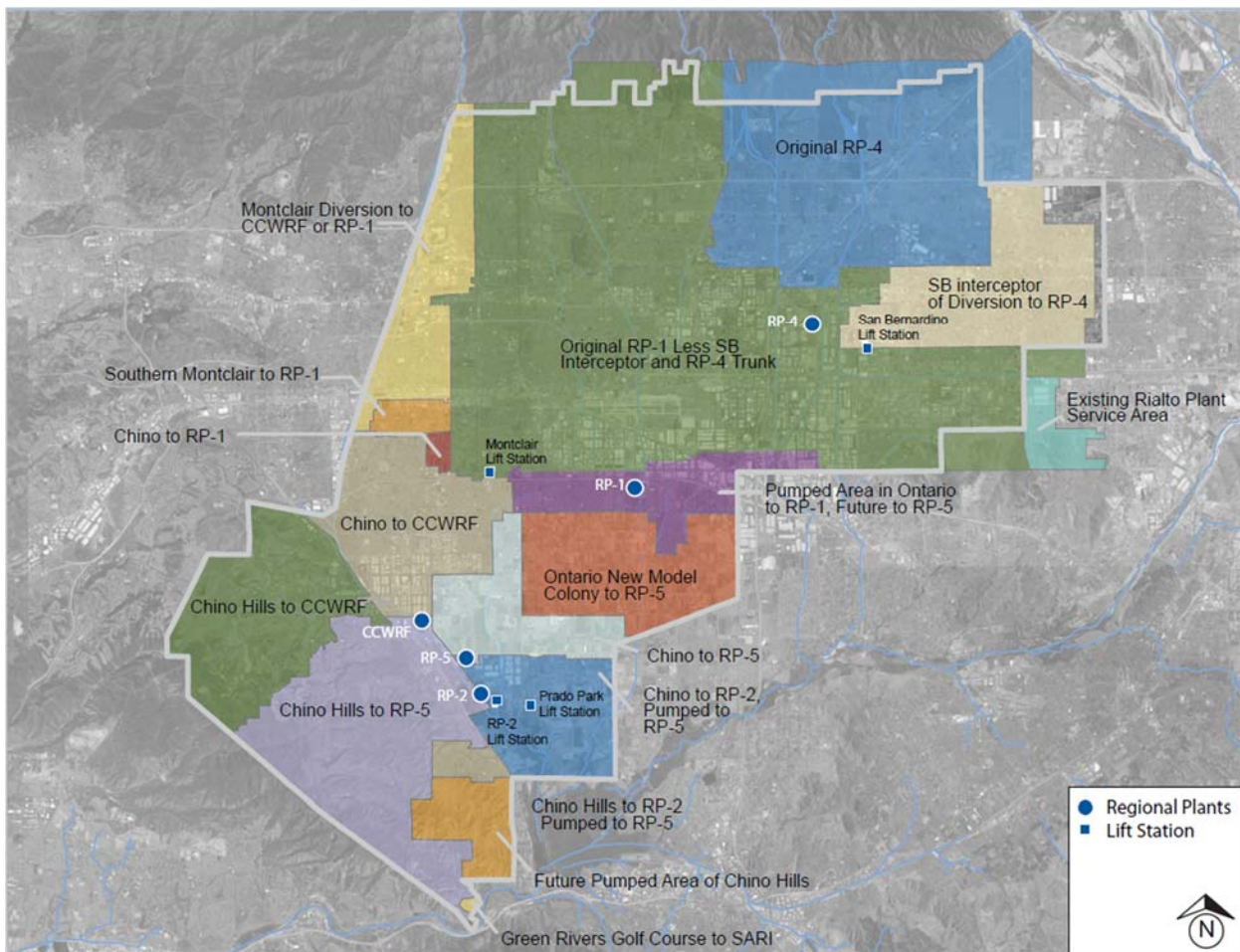


area boundaries for the Agency's four RWRPs

The four Regional facilities are: Regional Water Recycling Plant No. 1 (RP-1), Regional Water Recycling Plant No. 4 (RP-4), Regional Water Recycling Plant No. 5 (RP-5), and Carbon Canyon Wastewater Recycling Facility (CCWRF). The biosolids produced at RP-4 and RP-1 are thickened, digested, and dewatered at solids handling facilities located at RP-1. Similarly, the CCWRF and RP-5 biosolids are treated at Regional Water Recycling Plant No. 2 (RP-2). The stabilized and dewatered solids are then transported to the Inland Empire Regional Composting Facility for processing into soil amendment.

RP-5 began treating and discharging wastewater in March 2004. At that time, the RP-2 wastewater influent was diverted to RP-5 for treatment. Since portions of RP-2 are located in the 100-year flood plain, liquid wastewater processing at RP-2 was discontinued and the plant is currently used only for processing solids from RP-5

FIGURE 5: REGIONAL PLANT SERVICE AREA BOUNDARIES



and CCWRF. Biosolids will continue to be processed at RP-2 until solids handling facilities are constructed at RP-5 around 2022.

The Agency has a network of regional interceptor sewers that can be used to bypass flow from one water recycling plant to another to balance and optimize the use of treatment capacity. Currently, the regional interceptors can bypass flow from RP-4 to RP-1 and from CCWRF to RP-5. In addition, primary effluent can be bypassed from the RP-1 equalization basins to RP-5.

The main routes for bypassing/diverting flow are:

- Up to approximately 6 million gallons per day (MGD) can be bypassed from RP-4 to RP-1 through the Etiwanda Interceptor.
- 1 to 2 MGD is typically bypassed from CCWRF to RP-5 through the Chino Interceptor.
- A portion of the flow from the Cities of Upland and Montclair (approximately 4 MGD) can be diverted either to CCWRF, through the Westside Interceptor, or to RP-1, via the Montclair Lift Station and Montclair Interceptor. To optimize groundwater recharge in the northern service area, all of the flow will be diverted to RP-1 for treatment and distribution as discussed in the WFMP.
- Primary effluent and sludge can be diverted from the RP-1 equalization basins into the Eastern Trunk Sewer where it then flows by gravity to RP-5. Up to 9 MGD could potentially be bypassed; however, operational experience has shown that typically 1 to 2 MGD is bypassed.

The Agency also has four wastewater lift stations, as shown on Figure 6. These are used to shift flows that would naturally flow from one portion of the service area to a different treatment plant, to balance flows and keep water in the northern portion of the service area to maximize potential recycled water use. The lift stations are as follows:

- Montclair Lift Station– pumps wastewater from portions of Montclair, Upland, and Chino to RP-1.
- Prado Park Lift Station– pumps wastewater from the Prado Regional Park in the City of Chino to the RP-2 Lift Station
- RP-2 Lift Station– pumps wastewater from the southeastern portions of the cities of Chino and Chino Hills, and the solids treatment side streams from RP-2 to RP-5.
- San Bernardino Avenue Pump Station– pumps a portion of the flow from



the City of Fontana to RP-4.

### ***Recycled Water Distribution System***

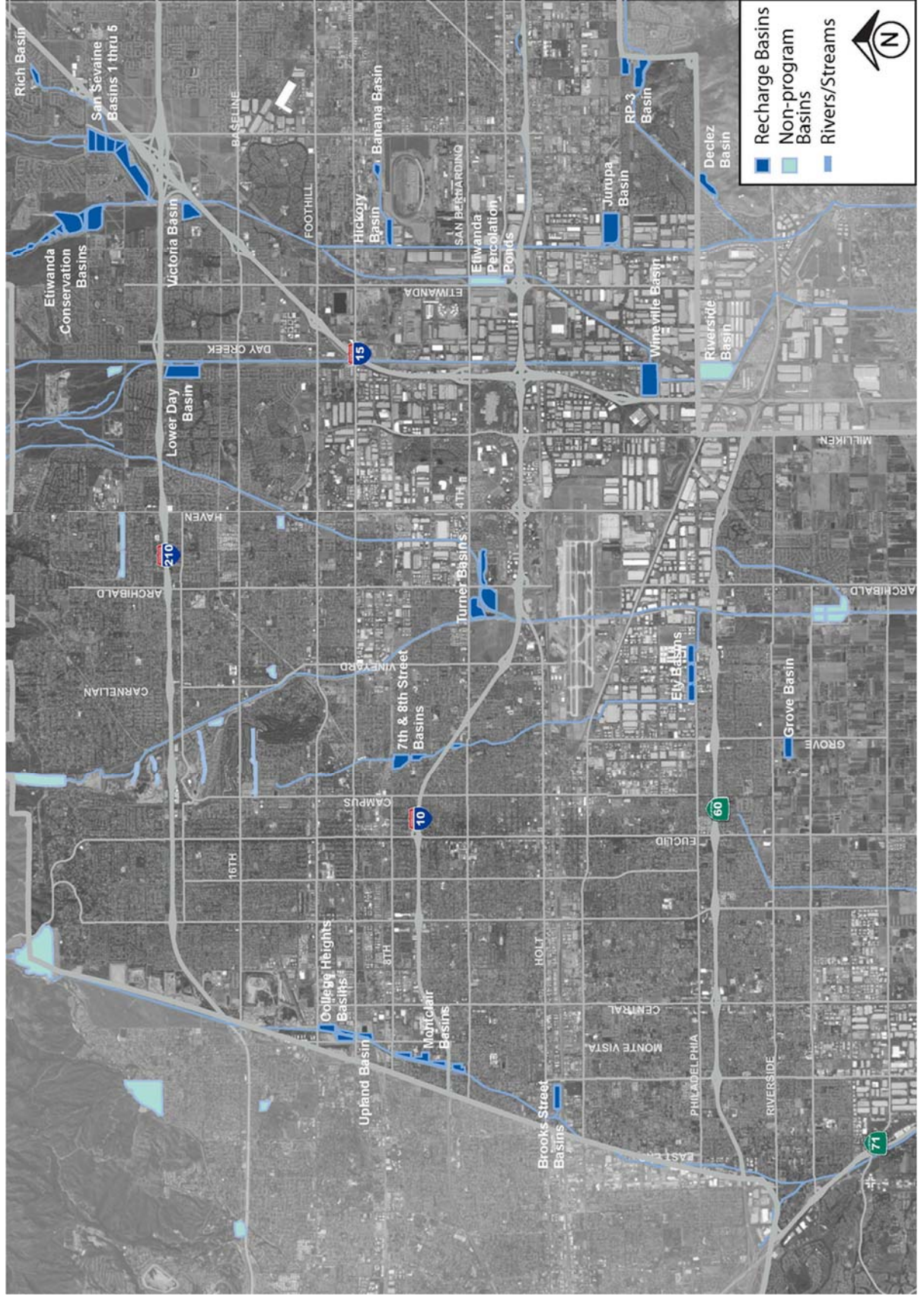
The Agency has served recycled water to its member agencies since formation of the Regional Sewage Service Contract in 1972. The Agency currently receives over 50 million gallons per day (MGD) of wastewater from its member agencies. The wastewater is treated to Title 22 regulations set forth by the California Department of Health Services and supplied to the recycled water distribution system.

Recycled water was originally delivered to Whispering Lakes Golf Course and Westwind Park in the city of Ontario, as well as to Prado Regional Park and El Prado Golf Course in San Bernardino County. In the early 1990's, the Agency built the first phase of the Carbon Canyon Recycled Water Project, which now serves customers in Chino and Chino Hills. In 2000 the region identified recycled water as a critical component in providing water supply resiliency for the region, including providing relief from drought, and maintaining economic growth. With imported water rates increasing and long-term imported supply reliability in decline, the Agency committed to develop local water supplies to offset these impacts. This set the path for the development of a regional recycled water program. By 2014 over \$250 million has been invested into the regional recycled water program. The region has been successful at obtaining grant funding and reduced interest loans to help subsidize capital costs for the Agency and its member agencies.

Since the early 2000's, recycled water and groundwater recharge sales increased to approximately 30,000 acre-feet per year (AFY). During the fiscal year 2013-14, the Agency delivered over 35,000 acre-feet of this reliable local water supply to the region. On average, the program has been able to utilize approximately 90% of the regions recycled water supply. Major benefits of the regional recycled water program include:

- New Water Supply – delivery of over 35,000 AFY of a local water supply
- Enhances Water Quality – improves the quality of the Chino Basin aquifer
- Reliable supply – is not directly impacted by drought or climate change and helps mitigate the impacts of regional and statewide water supply limitations
- Reduces dependence on imported supplies – increases local water supply reliability and decreases water imports from the Sacramento Bay Delta
- Reduces greenhouse gas emissions – requires significantly less energy to deliver to customers than imported water

FIGURE 6: CHINO BASIN RECHARGE PROGRAM SITES



The regional recycled water program is committed to maximizing the beneficial use of recycled water. The Agency will continue to develop, expand, and provide flexibility to the program to allow the region to utilize of all available recycled water supplies. Expansion of the program relies upon the treatment capacities at the four regional treatment facilities and wastewater flow projections. These constraints must be considered and coordinated with future expansion needs for the regional recycled water program. The next phase of capital improvements and priorities will be developed as part of the Recycled Water Program Strategy, scheduled for completion March 2015.

### *Groundwater Recharge Basins*

In conjunction with the CBWM,CBWCD, and SBCFCD the Agency conducts the groundwater recharge program within Chino Basin to increase groundwater recharge using stormwater, recycled water, and imported water. By enhancing the

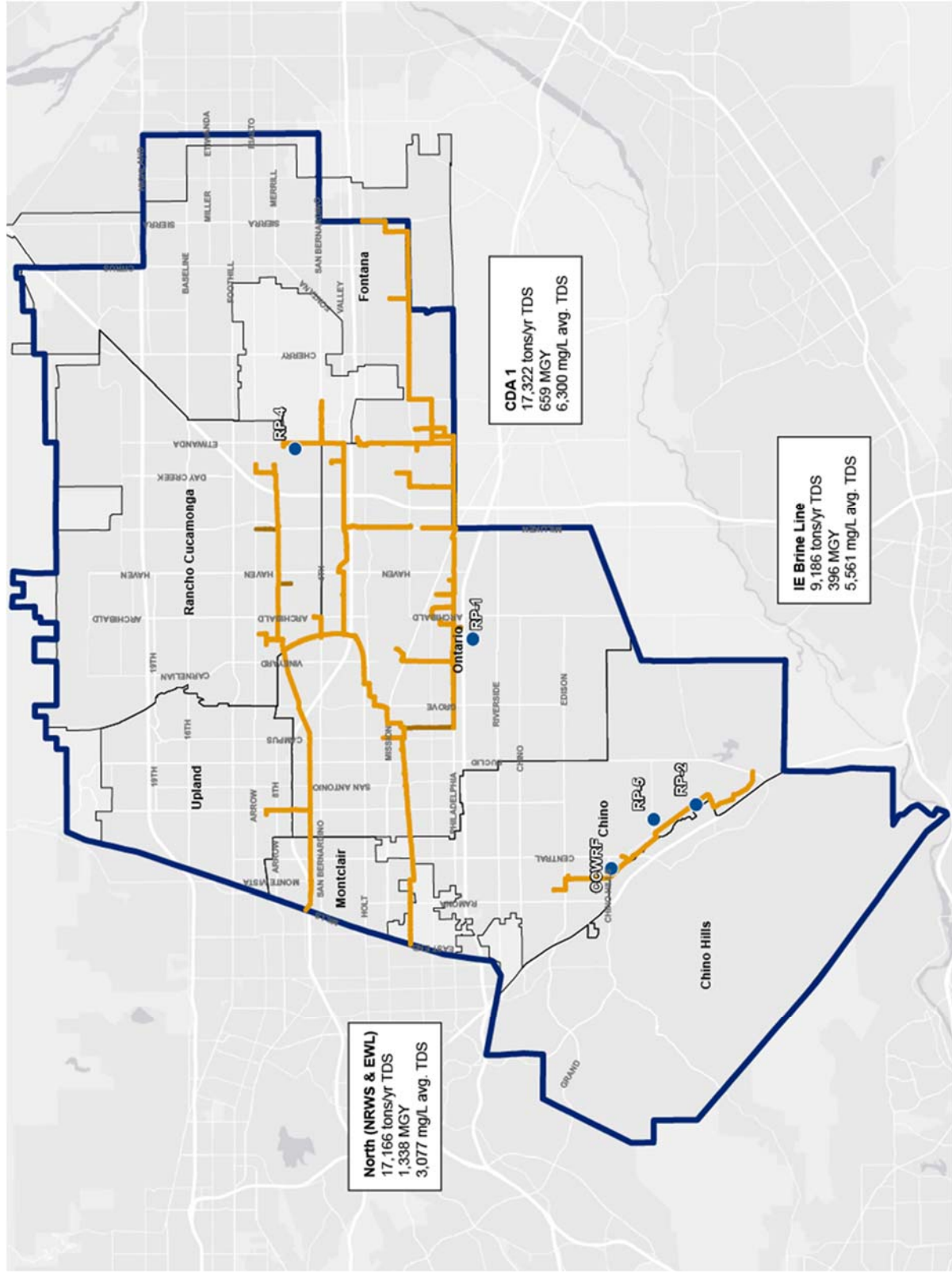
TABLE 1: ESTIMATED MONTHLY RECHARGE CAPACITY

Recharge Site	Recycled Water Recharge Capacity (Acre-Feet per Month)
7th and 8th St. Basins	170
Banana Basin	117
Brooks Basin	188
College Heights Basins**	457
Declez Basin	151
Ely Basins	193
Etiwanda Debris Basin*	263
Grove Basin**	38
Hickory Basin	136
Lower Day Basin	340
Montclair Basins**	559
RP3 Basin	760
San Sevaine Basins	108
Turner Basins	161
Upland Basin**	187
Victoria Basin	160
Wineville Basin**	**
<b>Total</b>	<b>3,988</b>

\*\* Basin not permitted for recycled water recharge



FIGURE 7: SALT EXPORT FROM CHINO BASIN 60 MILE NON-RECLAIMABLE WASTEWATER SYSTEM (NRWS)



The NRWS removes a total of 43,674 tons of TDS each year from the Agency's service area.

recharge capacity in the Chino Basin, larger volumes of high-quality stormwater can be captured and stored during wet years. The stored water can subsequently be withdrawn from the groundwater basin during droughts and imported water shortages. Figure 6 is a map of the 18 recharge sites that are an active part of the recharge program. Annual recharge varies due to weather patterns and the availability of supplemental water supplies (imported water and recycled water). Potential monthly recharge capacities for the recharge sites are listed in Table 1.

The Agency, CBWM, CBWCD, and their respective member agencies completed the 2013 Recharge Master Plan Update (Update) to the 2010 Recharge Master Plan. The Update evaluated 27 yield enhancing capital projects for the Chino Basin. The Agency has agreed to finance three of these projects and has included them in the TYCIP project lists. The remaining 24 projects require additional investigation to evaluate their feasibility and cost-effectiveness for incorporation into the recharge program. The Agency will continue to work with CBWM and CBWCD toward this end.

### ***Salinity Management***

Maintaining a low salinity (total dissolved solids, TDS) level in recycled water is critical to ensure that recycled water can be used for groundwater recharge and other uses. To reduce the salinity, the Agency operates a Non-Reclaimable Wastewater System (NRWS) of pipelines and pump stations which export high-salinity industrial wastewater generated within the Agency's service area to the Pacific Ocean (see Figure 7). This system also ensures that the Regional Water Recycling Plants do not exceed the TDS discharge limits established by the Regional Water Quality Control Board. In addition, the Agency is implementing other salt management activities, including the implementation of a water softener ordinance and by offering a water softener rebate to remove salt-based water softeners in order to reduce salt from being introduced into the treatment process.

The NRWS is comprised of a north and a south system. The north system conveys the non-reclaimable wastewater to County Sanitation Districts of Los Angeles County (CSDLAC) for treatment and disposal. The south system conveys wastewater through the Brine Line (owned by Santa Ana Watershed Project Authority, SAWPA), to the Orange County Sanitation District (OCSD).

Wastewater discharged to the NRWS consists mainly of industrial and groundwater

treatment brines. The Agency also discharges centrate resulting from the dewatering of the biosolids generated within the Agency's water recycling treatment facilities and some domestic wastewater from non-sewered areas. The NRWS is physically separated from the Regional Wastewater System and provides a means for segregating non-reclaimable wastewater and exporting it out of the Agency's service area. By maximizing the use of the NRWS, the quality of recycled water is improved for local use and helps ensure that the Agency can comply with the final effluent TDS and total nitrogen limits listed in the National Pollutant Discharge Elimination System (NPDES) permit.

The CSDLAC and Agency entered into agreements dating back to 1966 under which the CSDLAC agreed to accept a portion of the Agency's industrial wastewater flows from the NRWS. In 2013, Agency and CSDLAC executed a new NRWS Agreement, effective July 1, 2014. The new Agreement includes a 30 year term with up to four additional five year extensions and provides 15,000 initial Baseline Capacity Units (BCU) for allocation amongst the existing NRWS customers. Additional Capacity Units may be purchased or leased, and payment of remaining 4R Capital Charges funded by SRF loans, will be paid in full over a 6 year term.

### *Inland Empire Regional Composting Facility*

Inland Empire Regional Composting Facility (IERCF) was constructed in 2007 under a Joint Powers Authority agreement between the Agency and the CSDLAC. The IERCF, located in Rancho Cucamonga, is completely enclosed to control odors to meet stringent air quality regulations and is the nation's largest indoor biosolids composting facility.

The IERCF uses the Aerated Static Pile composting process to recycle approximately 150,000 wet tons/year of dewatered and stabilized biosolids from the Agency and CSDLAC's wastewater treatment processes as well as wood waste from local communities. It produces over 230,000 cubic yards of high quality compost each year for local landscaping and horticultural use. The composted product, which is marketed as SoilPro® Premium Compost, is sold as a soil conditioner which helps improve water retention, resulting in better plant growth and water savings.

The facility is currently operating at its design capacity, receiving nearly 600 tons per day of biosolids and recycled waste products. The RP-1 Dewatering Facility, listed in the capital projects list in the following section, which will use centrifuges to dry

solids to a higher percentage, has the potential of freeing up 50 wet tons per day of additional capacity at the IERCF.

### *Renewable Energy*

The Agency has made significant strides in decreasing energy costs, enhancing the Agency's ability to help achieve the State's goals of improving the reliability of the energy grid, and reduce green house gasses by investing in renewable energy. In an effort to diversify and maximize renewable energy generation, the Agency installed 3.5 megawatts (MW) of solar power in 2008, a 1 MW wind turbine in 2011 and a 2.8 MW biogas fuel cell in 2012. Combined, these projects have provided more than 50% of peak energy demand Agency wide, zero net consumption at RP-1 during winter months, the potential of zero net energy consumption at RP-4 during winter months, and net energy export at RP-2.

The Agency is continually evaluating new technologies that can increase sustainability. Full utilization of renewable digester gas to support sustainability and minimize gas flaring is a primary goal. Regular third party audits will also be conducted to assess equipment performance and identify opportunities for increased efficiency. Agency personnel will assess operational processes and strive for optimization to reduce energy wherever possible.

To continue towards the goal of increasing the Agency's use of renewable energy by 2020, the Agency developing an Energy Management Plan (EMP) that will be completed in 2015. The EMP will focus on energy conservation and sustainable operations of the regional facilities. To do this, past performance, new technologies, and anticipated regional needs will be evaluated to construct a blueprint for continued reliability and enhanced efficiency for the Agency.



# Wastewater Flow Projections

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Wastewater flow forecasts are conducted annually based on three components: (1) historical wastewater flow trends; (2) per dwelling unit wastewater generation factors; and (3) expected future growth numbers provided by Contracting Agencies. Projections are used to determine future demands on the Agency's facilities in order to anticipate the need for modifications to Regional Water Recycling Plants (RWRP) and Solids Handling facilities.

Based on analyses of the components, ten-year flow projections have been made for each of the Agency's RWRPs, and for the Agency's service area as a whole. The projected flows are then compared to current and future planned plant capacities. For these forecasts, the "tributary area flow" is defined as raw sewage flow from the service area that is naturally tributary to a particular RWRP without pumping, diversion or bypassing. In contrast, the "treated influent flow" is the actual flow that is received and treated at the RWRP. The treated influent flow is different than the tributary area flow because the RWRPs are interconnected, allowing some of the tributary flow to be re-routed between plants. In addition, treated influent flow includes the recycle streams generated during solids processing that are sent back to the plant headworks for additional treatment.

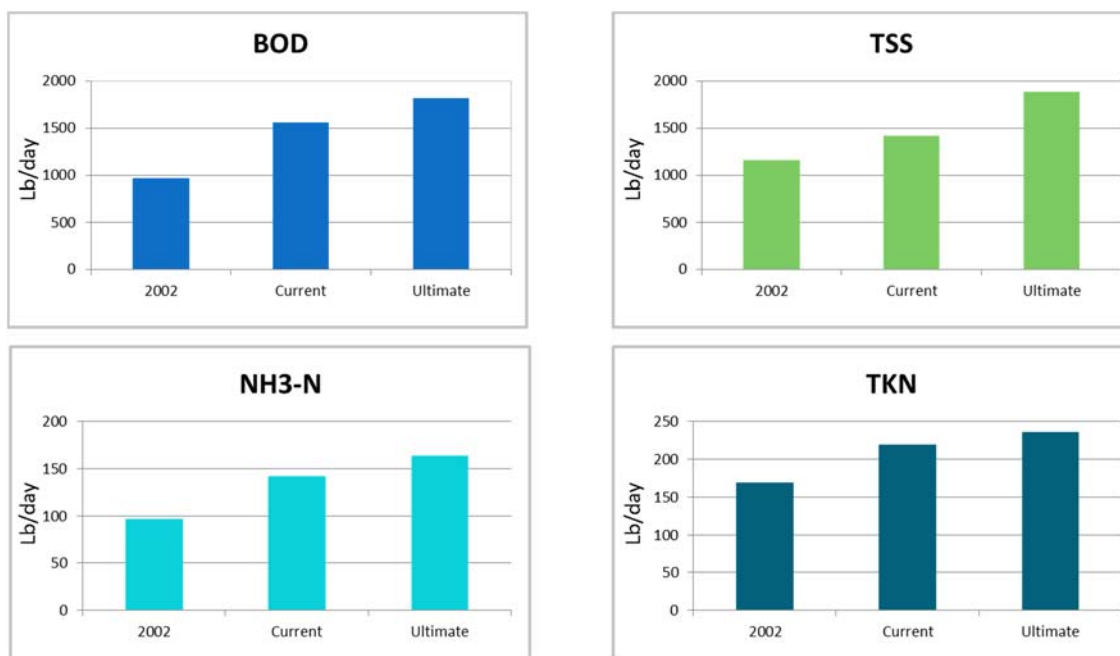
Member Agency's ten-year flow forecast for FY14/15 indicated that the total system capacity would exceed 75% of regional capacity. This initiated the in-development Wastewater Facilities Master Plan Update (WWFMPU) to conduct treatment plant flow monitoring, strength loading, evaluate treatment plant capacities and identify expansion needs, through ultimate build-out based on city master plans and SCAG data.

## WASTEWATER FLOW TRENDS

Since FY 2006/07, the Agency's wastewater flows have declined by approximately 10 percent, but strength has increased. This is believed to reflect the effects of water conservation, the recession, and drought conditions. As part of the WWFMPU, wastewater flow monitoring of influent flows show that loading has significantly



FIGURE 8: INFLUENT WASTEWATER LOADINGS



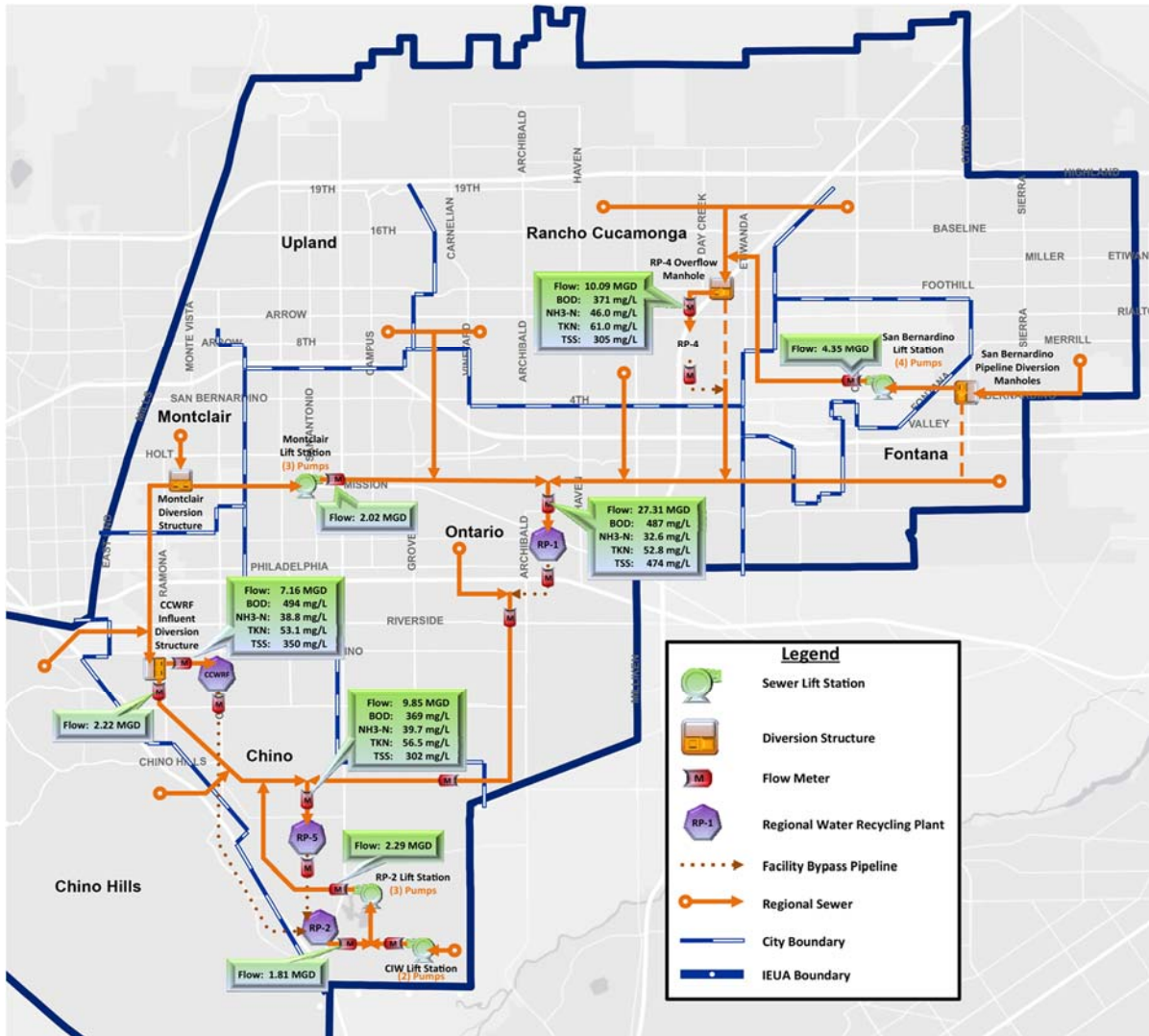
Source: draft 2015 Wastewater Facilities Master Plan

increased from the 2002 Wastewater Facilities Master Plan, and are projected to increase due to a continued reduction of flows per EDU (see Figure 8).

Although wastewater flows have reduced, the Agency has been able to increase the amount of recycled water supplied to users by using the San Bernardino Avenue Lift Station and the Montclair Lift Station to route additional raw wastewater to the recycling plants in the northern service area where the system has been expanded and where groundwater recharge basins are located.

Figure 9 illustrates the wastewater flow pattern within the Agency in FY13/14 and the current flows being treated at each of the Agency’s RWRPs. For FY 2013/14, the average raw wastewater flow treated was 52.2 MGD and the treated influent flow was 54.4 MGD. The difference was due to 2.2 MGD of solids processing recycle flow sent from RP-2 to the RP-5 headworks for additional treatment. Figure 10 shows the projected flows to the treatments plants in 2035 and 2060 or ultimate based on the WWFMPU. By 2035 the WWFMPU estimates that there will be a regional flow of 73.5 MGD by 2035 and an ultimate/build-out flow of 87.9 MGD by 2060. Although these periods are beyond they ten-year window of the current TYCIP, this implies that there will be a number of facilities expansions over the next 20 years. A rough timeline based on the WWFMPU findings for plant expansions is shown in Table 2.

FIGURE 9: FY 13/14 ACTUAL REGIONAL WASTEWATER FLOW SCHEMATIC



Expansions at RP-5, and the relocation of RP-2 solids handling to RP-5, and RP-1 Liquid Treatment Expansion are included in the ten-year window.

TABLE 2: PRELIMINARY TREATMENT PLANT EXPANSION SCHEDULE

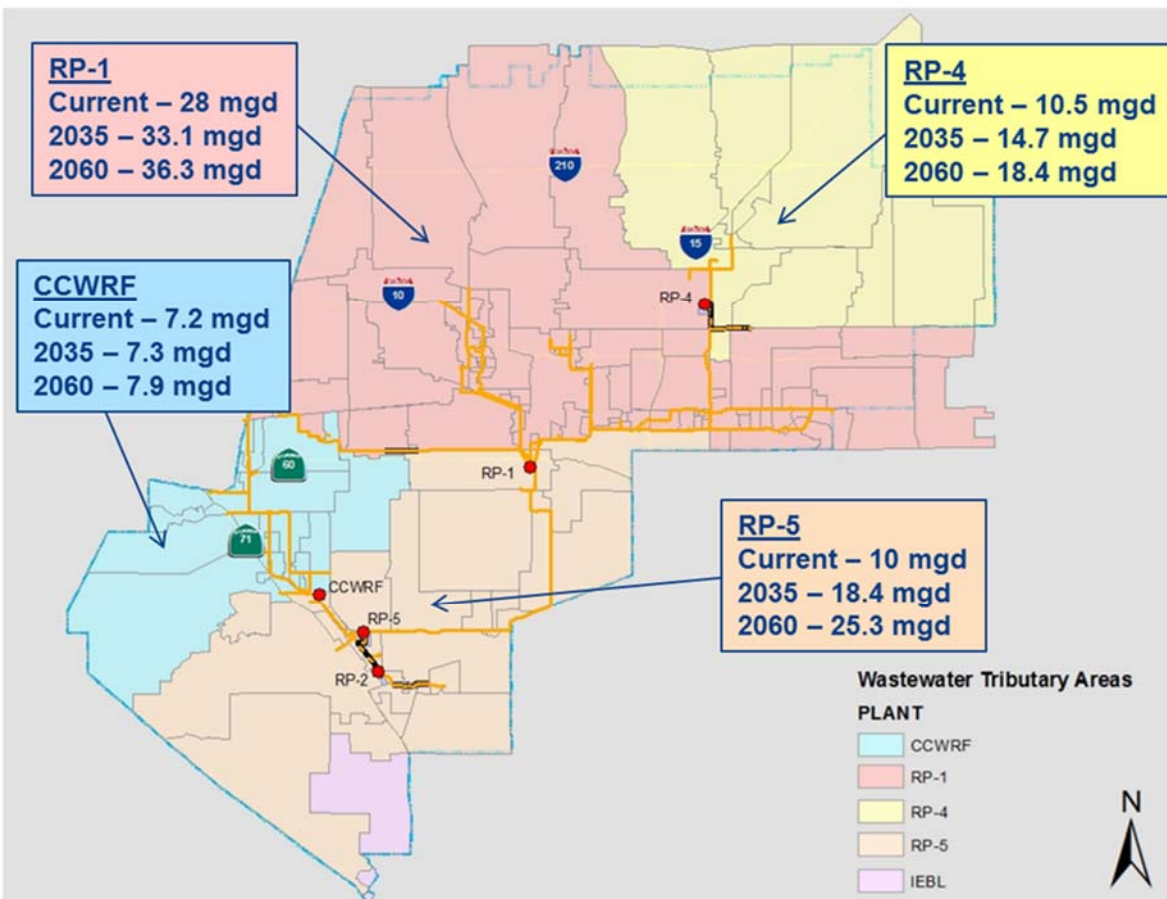
Description	15/20	20/25	25/30	30/35	Total Cost
RP-1 Liquid Treatment Expansion					\$83.0M
RP-1 Solids Treatment Expansion					\$25.0M
RP-2 Decommissioning					\$30.0M
RP-4 Tertiary Expansion					\$25.0M
RP-5 Liquid Treatment Expansion					\$125.0M
RP-5 Solids Treatment Facility					\$136.0M

The Agency’s historical wastewater flow trend through FY13/14 is shown in Figure 11. This figure depicts the raw sewage from each RWRP’s tributary area (i.e. the natural flow) for all of the Agency’s facilities.

### WASTEWATER FLOW GENERATION FACTORS

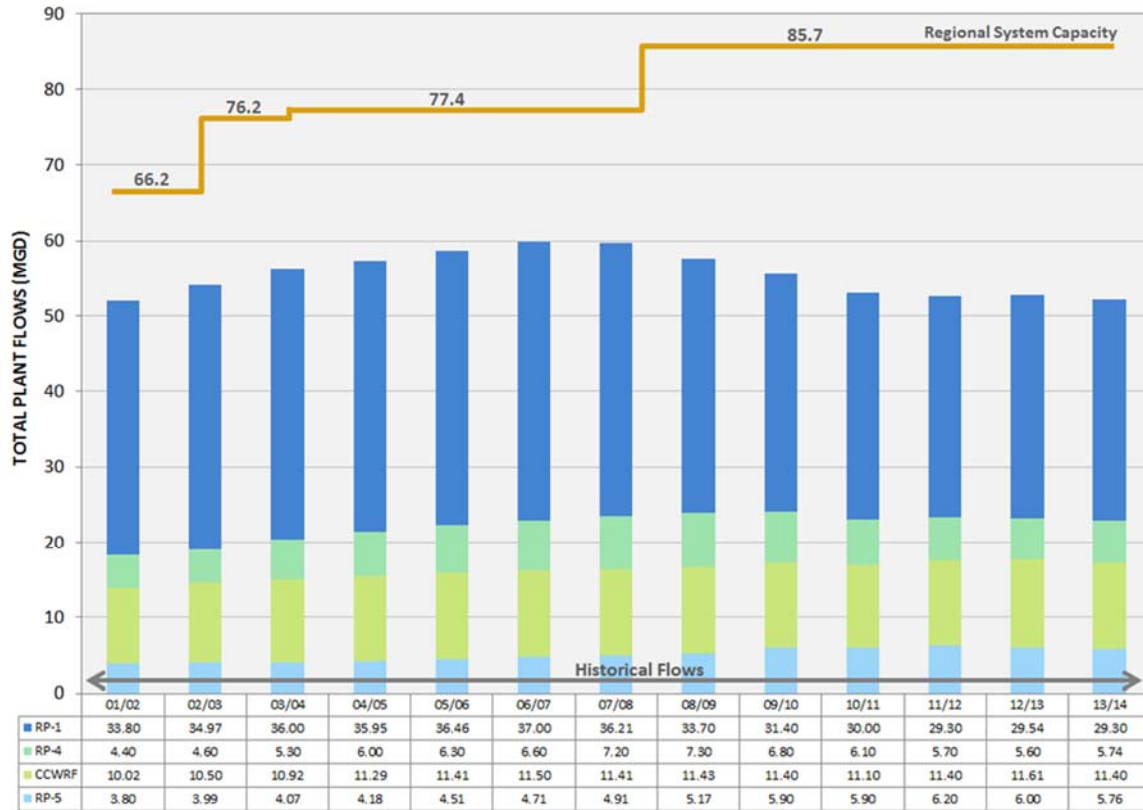
The regional collection system and RWRPs were planned and designed using the raw wastewater generation factor of 270 gallons per day per equivalent dwelling unit (GPD/EDU), as specified in the Regional Sewerage Service Contract, Exhibit J. Although the Agency still plans its regional system around Exhibit J, new developments are using less water due to water-conserving devices and new water use efficiency laws. The Agency expects average flows throughout the service area to remain well below the 270 GPD/EDU, even as the economy improves, due to the rising water costs, reduced imported water supply availability, and increased water conservation measures.

FIGURE 10: PROJECTED TRIBUTARY SEWER FLOWS



Areas developed by IRP Wastewater Flows Projections TM (RMC 2013)

FIGURE 11: HISTORICAL TRIBUTARY AREA FLOWS



Recent flow monitoring conducted by the Agency as part of the Wastewater Facilities Master Plan Update suggests that the current average flow rate is 200 GPD/EDU, although long-term the flow may decrease to 195 GPD/EDU. As a result, the future flow projections for the RWRPs illustrated on the following pages were calculated using both 200 and 270 GPD/EDU. However, when combined with the increased wastewater loading strength of BOD, TSS, NH3-N, and TKN relative to amount of flow, it may translate to increased treatment capacity needs or require investments in new treatment processes.

### ANTICIPATED SERVICE AREA GROWTH

The results of the ten-year capacity demand forecast based on the August 2013 member agency survey are summarized by Contracting Agency in Table 3. For FY15/16, the forecasted activity was 5,849 EDUs. Over the next ten years, activity was projected to total 40,523 EDUs. Approximately 60% of this activity was projected to occur in the cities of Ontario and Fontana as the result of new

**TABLE 3: TEN YEAR CAPACITY DEMAND FORECAST BY AGENCY**

Fiscal Year	Chino EDUs	Chino Hills EDUs	CVWD EDUs	Fontana EDUs	Montclair EDUs	Ontario EDUs	Upland EDUs	Total EDUs
2015/16	842	691	364	445	154	3000	353	5849
2016/17	862	955	364	685	32	2900	387	6185
2017/18	592	358	364	1148	29	2250	304	5045
2018/19	411	339	364	1669	29	1500	158	4470
2019/20	311	177	364	2009	29	1450	113	4453
2020/21	311	173	364	1889	29	850	80	3696
2021/22	311	81	364	1630	29	850	40	3305
2022/23	311	24	322	1516	29	850	0	3052
2023/24	311	16	250	1604	29	850	0	3060
2024/25	311	3	215	0	29	850	0	1408
<b>Totals</b>	<b>4,573</b>	<b>2,817</b>	<b>3,335</b>	<b>125,95</b>	<b>418</b>	<b>15,350</b>	<b>1,435</b>	<b>40,523</b>

development. Over the next ten years, building activity is projected to be approximately 78% residential and 22% commercial/industrial (see Table 4).

Individual baseline forecast exhibits for each treatment plant at 200 and 270 GPD/EDU are located at the end of this section. These tables represent typical operational flow scenarios, based on current operating procedures. This includes the following assumptions:

- Assumes that actual flow is approximately 200 GPD/EDU
- Uses the contracting agencies projected EDU growth as a basis
- Former Ontario Lift Station flow (2.5 MGD) is considered part of RP-5 raw service area flow
- San Bernardino Lift Station routes 4.5 MGD which would otherwise naturally flow to RP-1 to RP-4

**TABLE 4: TEN YEAR DEMAND FORECAST BY CUSTOMER TYPE**

Fiscal Year	Residential (EDUs)	Commercial/ Industrial (EDUs)	Total (EDUs)
2015/16	4,599	1,250	5,849
2016/17	5,140	1,045	6,185
2017/18	3,877	1,168	5,045
2018/19	3,339	1,131	4,470
2019/20	3,384	1,069	4,453
2020/21	2,730	966	3,696
2021/22	2,439	866	3,305
2022/23	2,245	807	3,052
2023/24	2,262	798	3,060
2024/25	1,031	377	1,408
<b>TOTALS</b>	<b>31,046</b>	<b>9,477</b>	<b>40,523</b>

- 2.2 MGD of Montclair Interceptor flows are routed to RP-1
- 2.3 MGD is bypassed from CCWRF to RP-5
- SARI flows from (0.7 MGD) will be diverted to RP-5 starting in FY 14/15

**TABLE 5: TEN YEAR DEMAND FORECAST BY REGIONAL PLANT**

Table 5 indicates the EDUs by plant over 10 years. regional capacity are in Figure

Fiscal Year	RP-1 EDUs	RP-4 EDUs	CCWRF EDUs	RP-5 EDUs	TOTAL EDUs
<b>2015/16</b>	1153	573	562	3561	<b>5849</b>
<b>2016/17</b>	1095	806	953	3331	<b>6185</b>
<b>2017/18</b>	935	1271	363	2476	<b>5045</b>
<b>2018/19</b>	704	1812	313	1641	<b>4470</b>
<b>2019/20</b>	507	2167	228	1551	<b>4453</b>
<b>2020/21</b>	490	2049	230	927	<b>3696</b>
<b>2021/22</b>	465	1800	154	886	<b>3305</b>
<b>2022/23</b>	409	1685	71	887	<b>3052</b>
<b>2023/24</b>	381	1729	62	888	<b>3060</b>
<b>2024/25</b>	341	130	53	884	<b>1408</b>
<b>TOTAL</b>	<b>6480</b>	<b>14022</b>	<b>2989</b>	<b>17032</b>	<b>40523</b>

indicates projected treatment the next Total system utilization projections illustrated 12 and 13.

**TABLE 6: WWFMPU PROJECTED AVERAGE INFLUENT WASTEWATER FLOW**

Year	RP-1 (MGD)	RP-4 (MGD)	CCWRF (MGD)	RP-5 (MGD)	Total (MGD)
<b>2020</b>	30.4	11.7	6.9	10.2	<b>59.2</b>
<b>2030</b>	32.2	14.0	7.1	15.9	<b>69.2</b>
<b>2035</b>	31.1	14.7	7.3	18.4	<b>73.5</b>
<b>2040</b>	34.0	15.4	7.4	20.9	<b>77.7</b>
<b>2050</b>	36.1	16.8	7.7	24.8	<b>85.4</b>
<b>2060</b>	36.3	18.4	7.9	25.3	<b>87.9</b>

Source: TM No.4, WWFMPU (CH2M Hill 2014)



FIGURE 11: REGIONAL SYSTEM TREATED INFLUENT FLOW FORECAST  
(200 GPD/EDU)

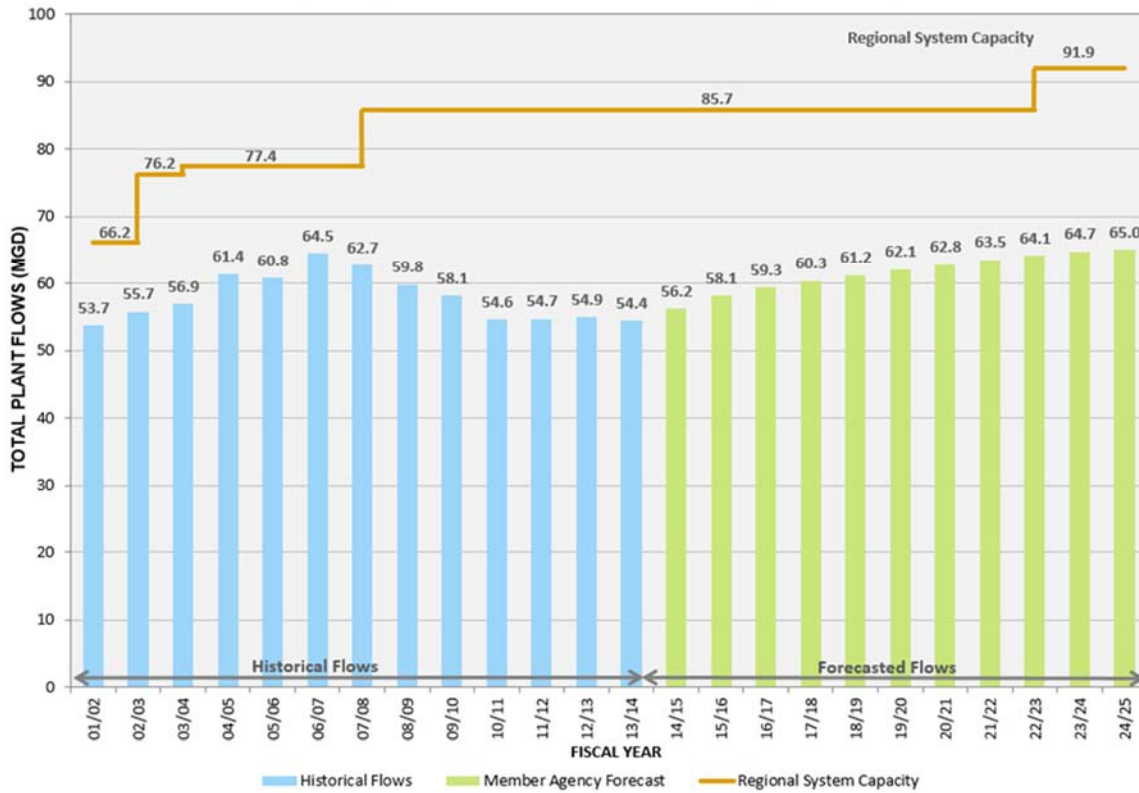
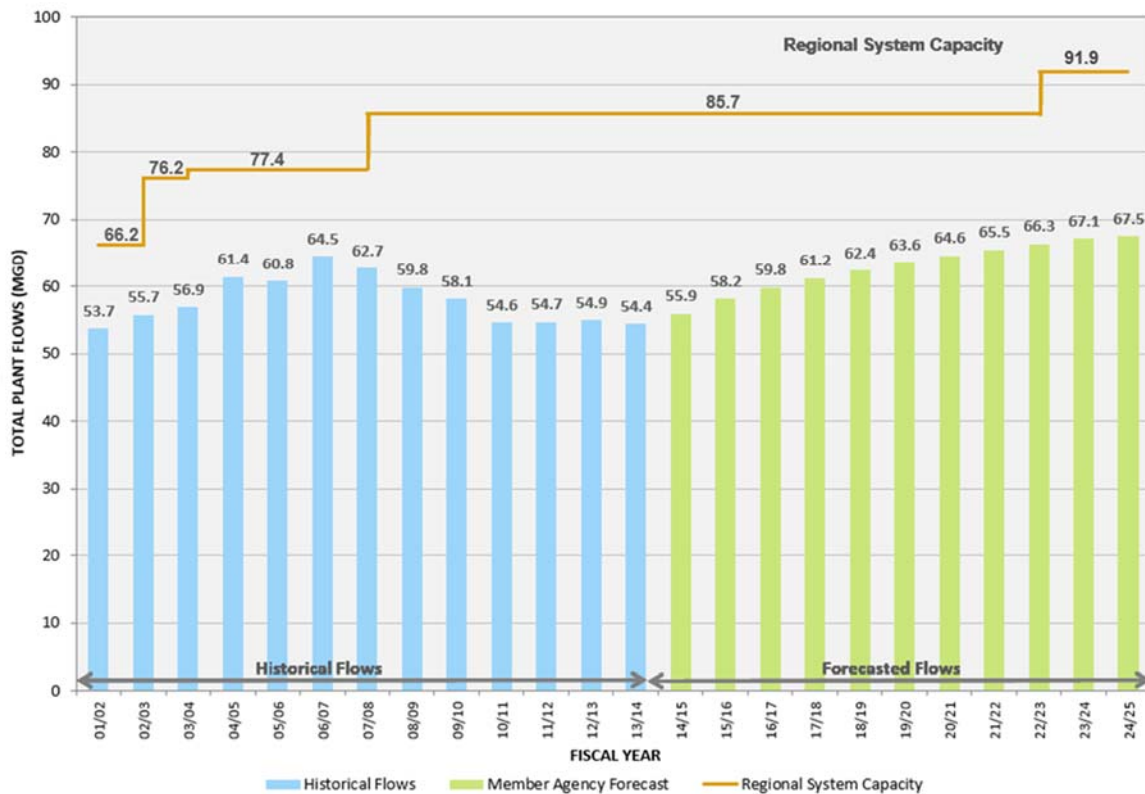
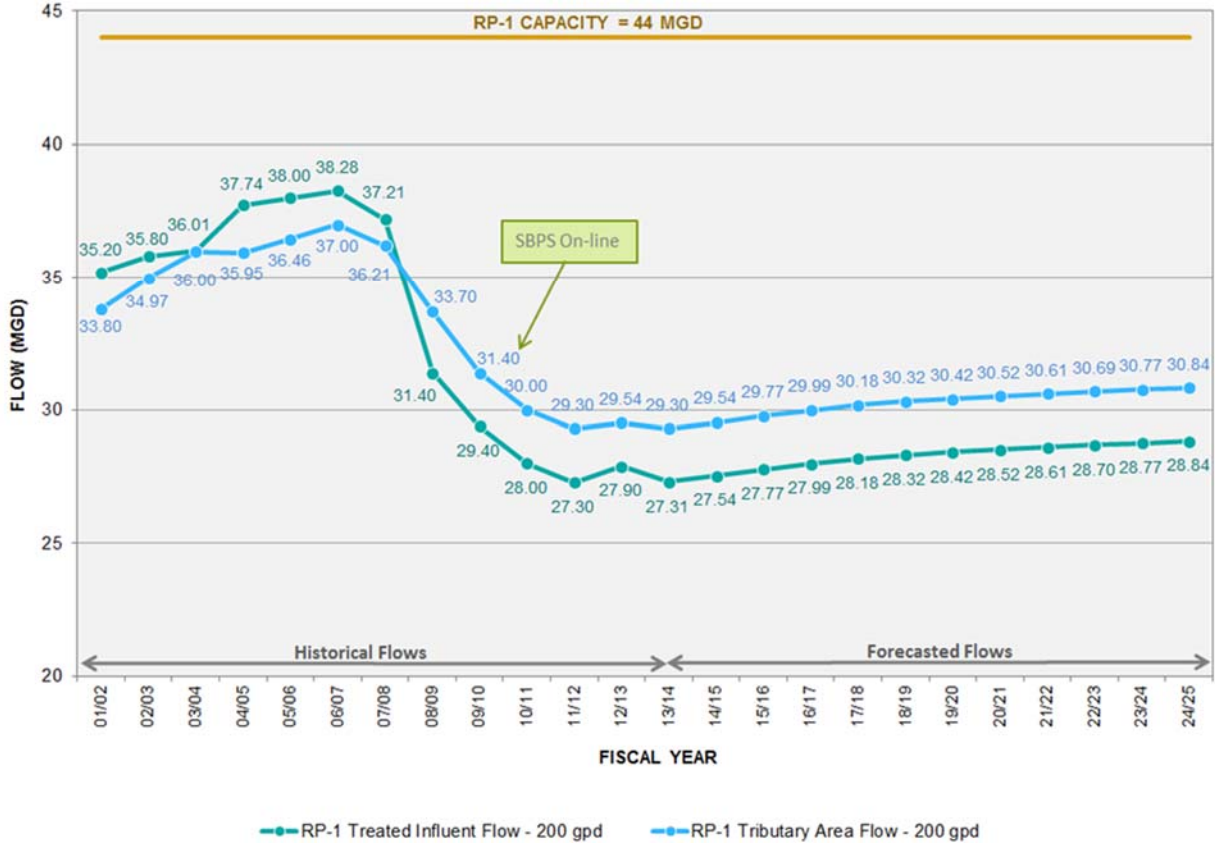


FIGURE 12: REGIONAL SYSTEM TREATED INFLUENT FLOW FORECAST  
(270 GPD/EDU)

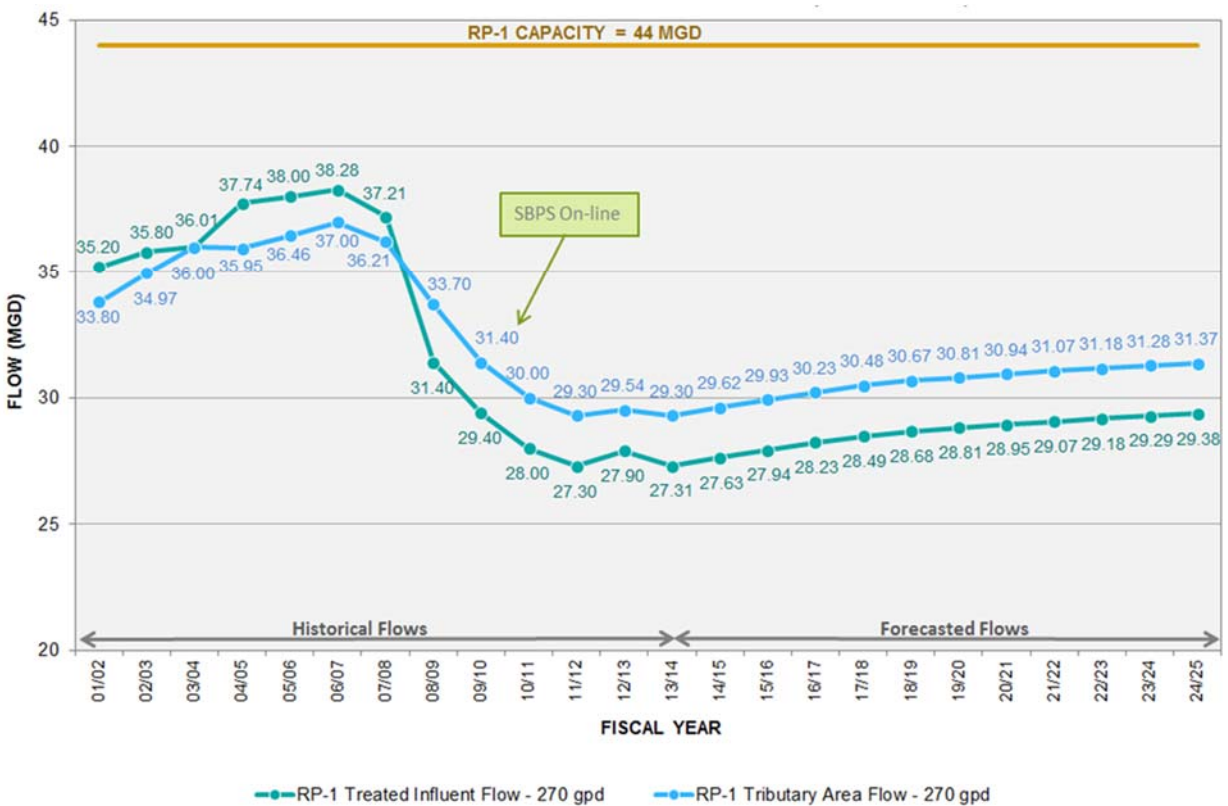


# EXHIBIT A: RP-1

## RP-1 Member Agency Flow Forecast (200 GPD/EDU)



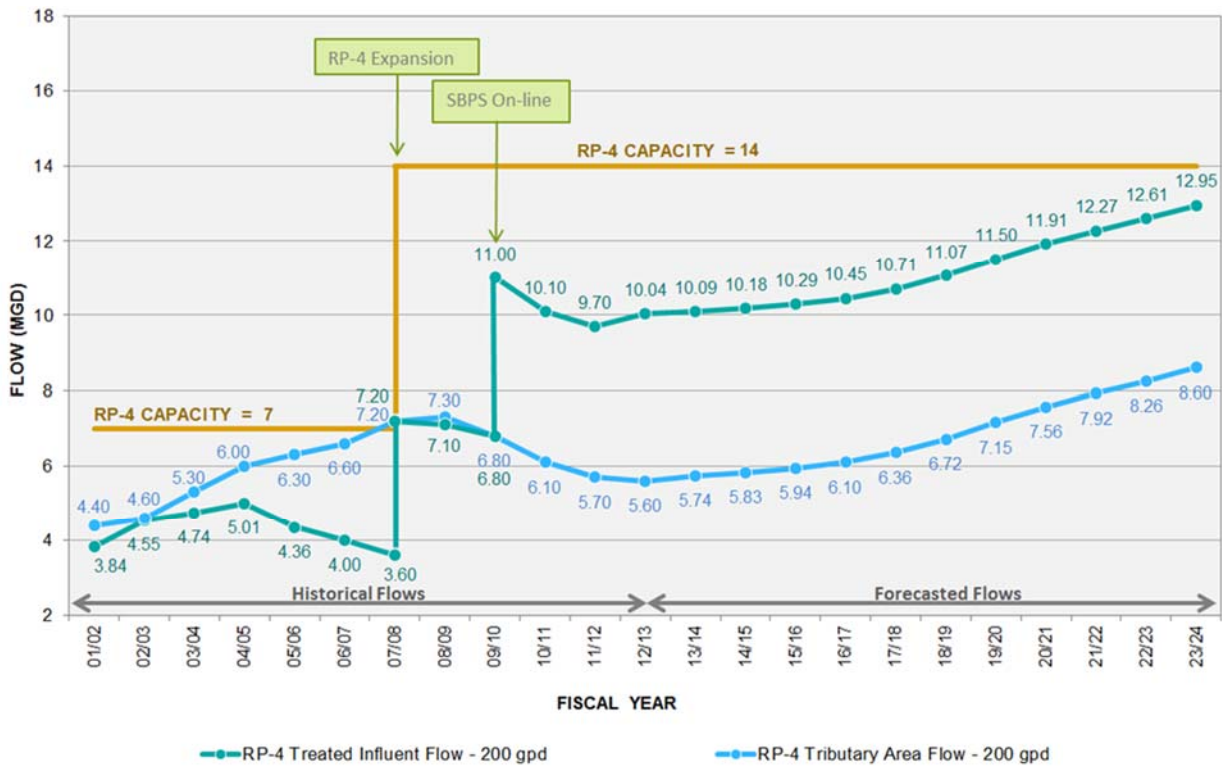
## RP-1 Member Agency Flow Forecast (270 GPD/EDU)



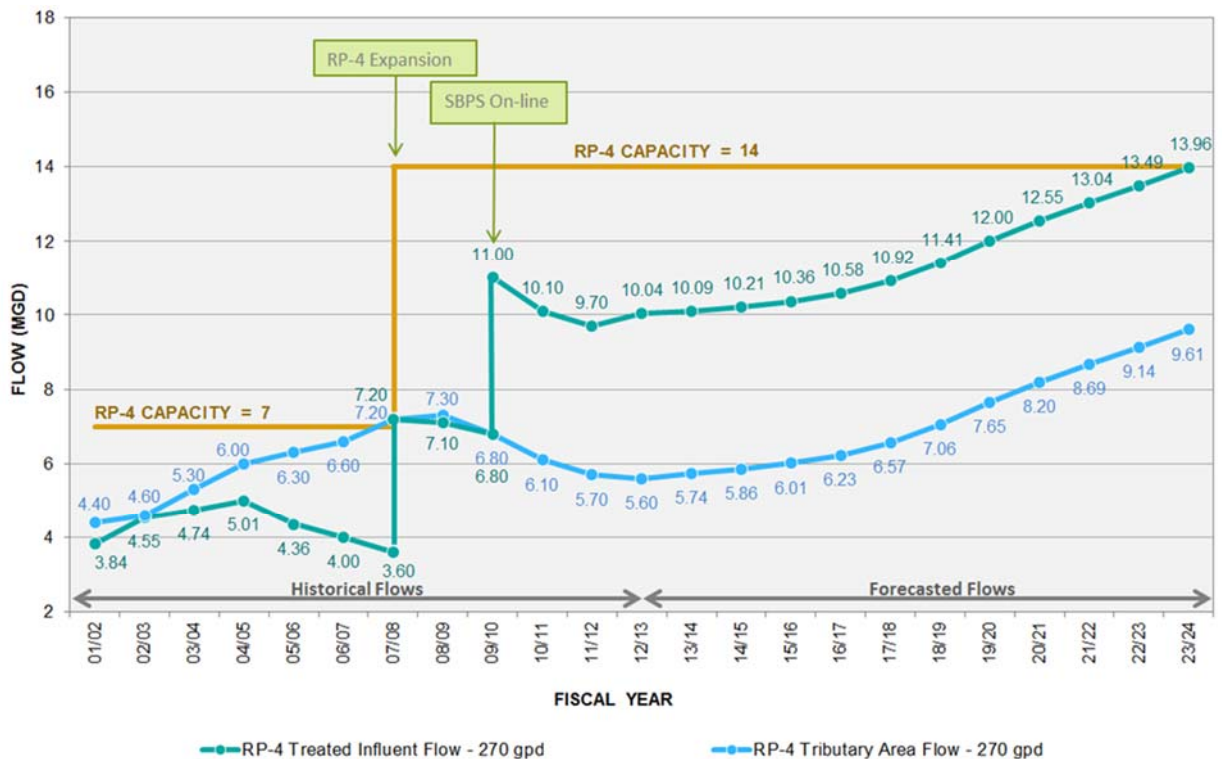


# EXHIBIT B: RP-4

## RP-4 Member Agency Flow Forecast (200 GPD/EDU)

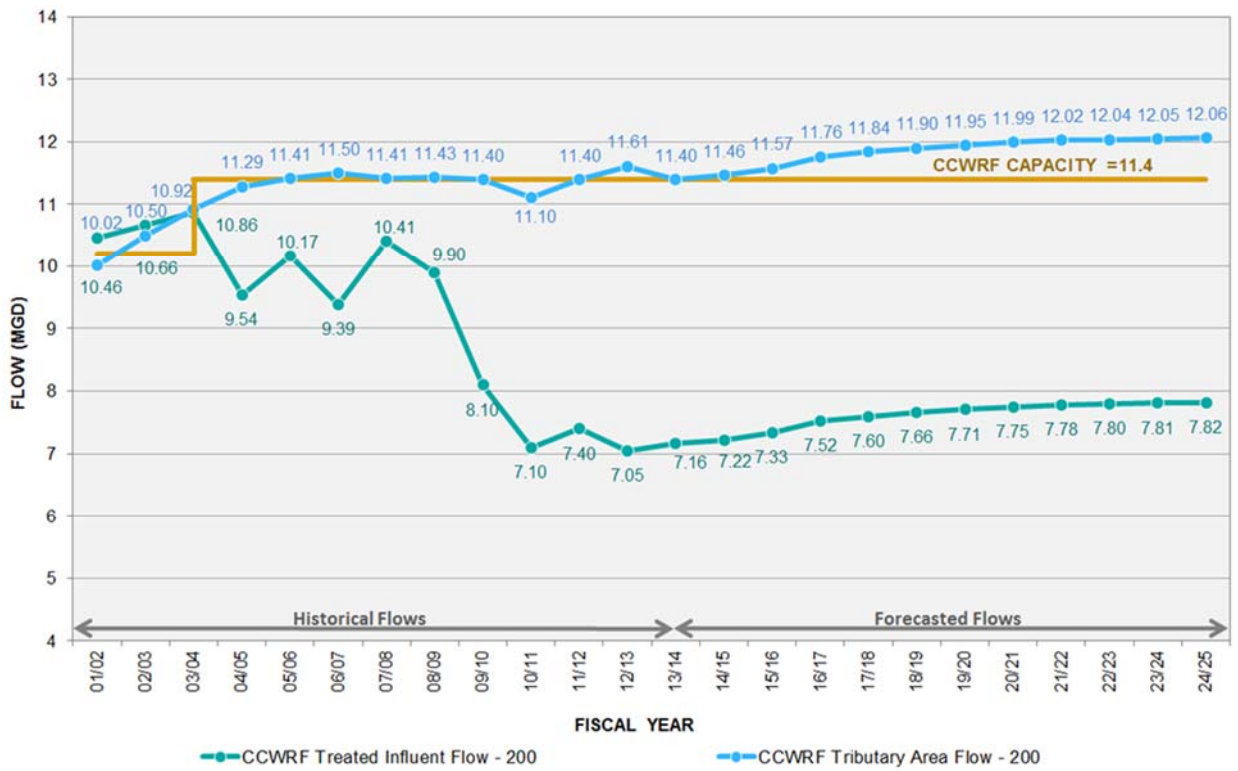


## RP-4 Member Agency Flow Forecast (270 GPD/EDU)

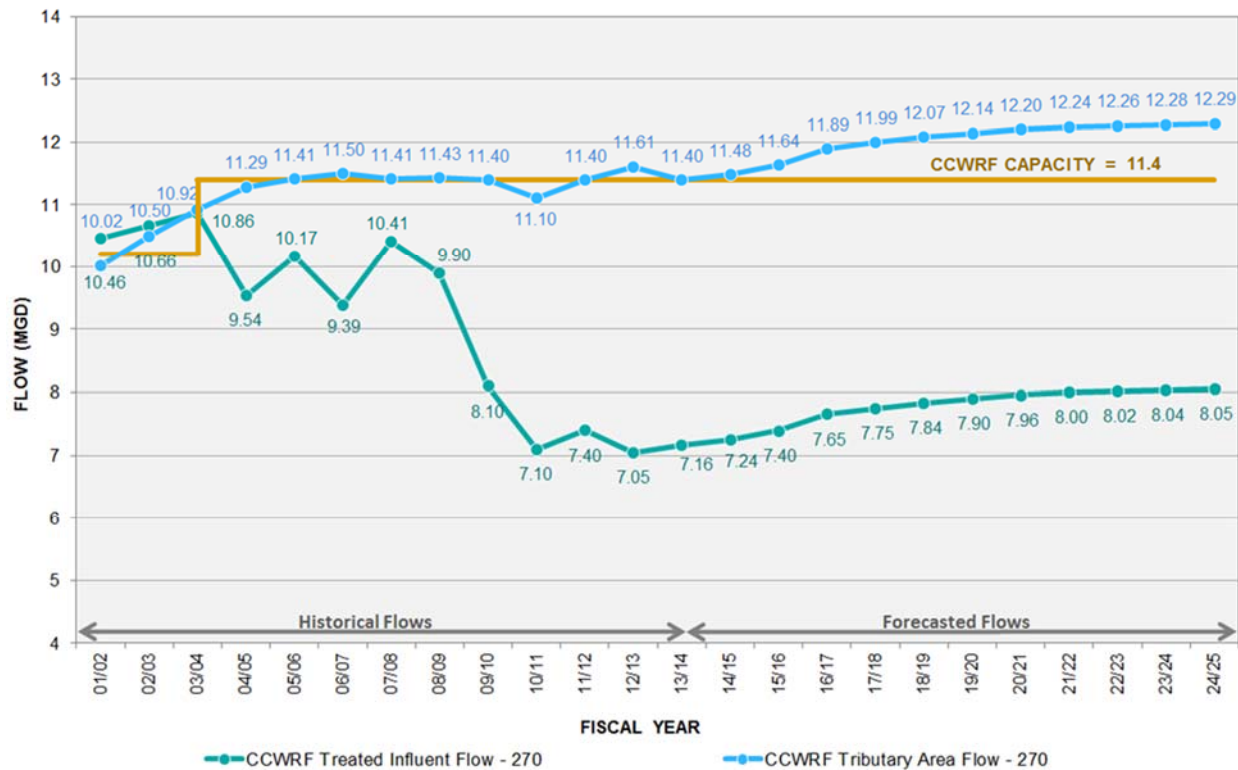


# EXHIBIT C: CCWRF

## CCWRF Member Agency Flow Forecast (200 GPD/EDU)

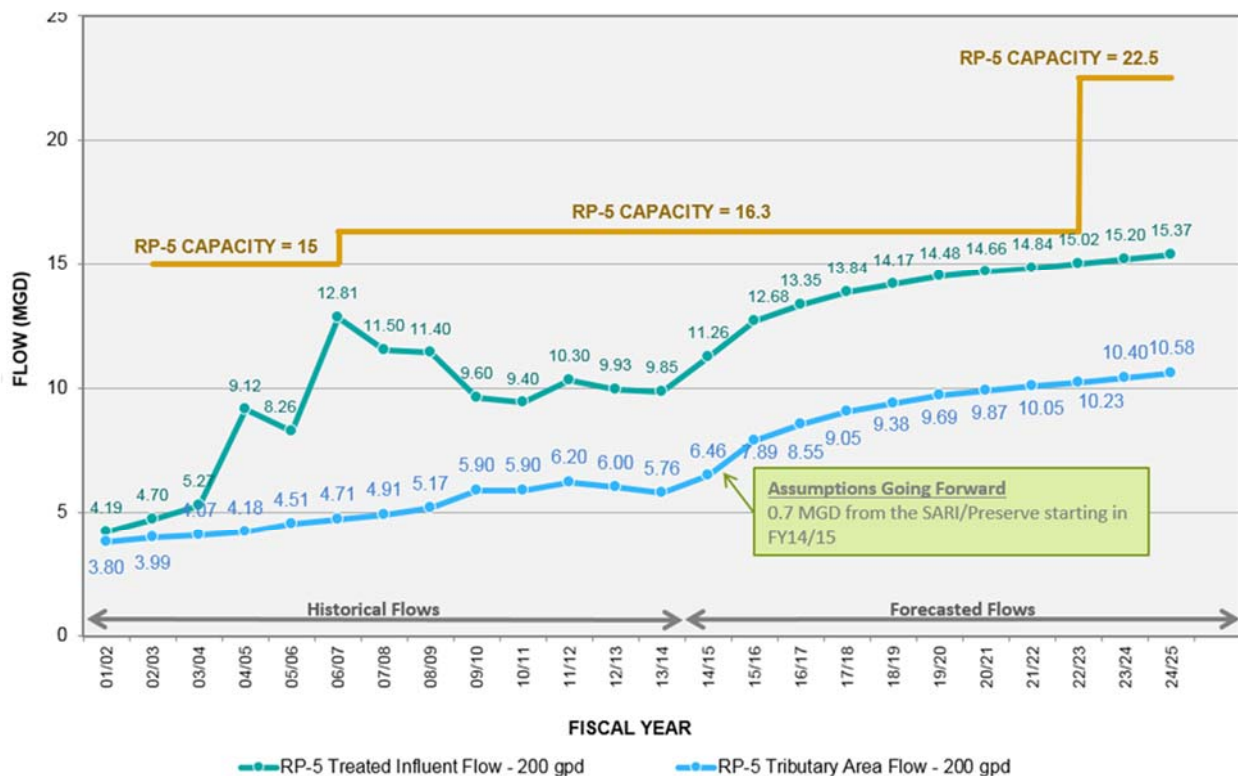


## CCWRF Member Agency Flow Forecast (270 GPD/EDU)

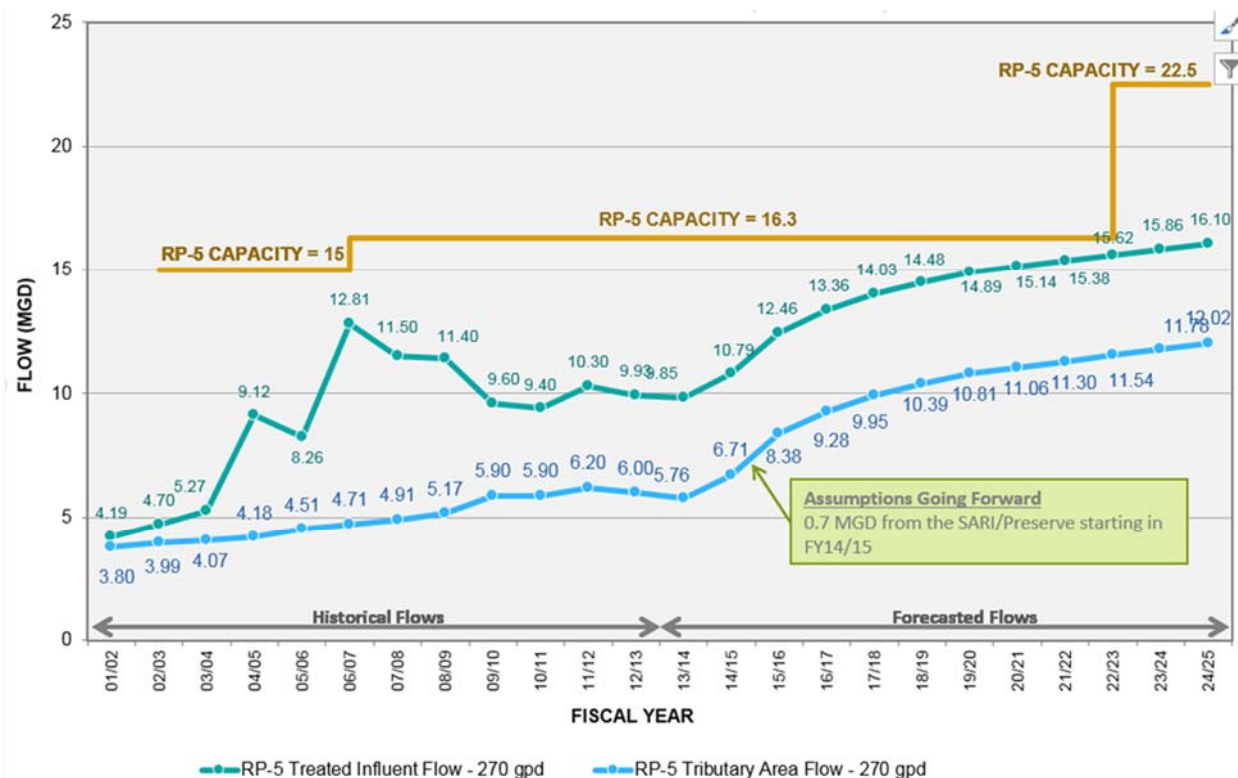


# EXHIBIT D: RP-5

## RP-5 Member Agency Flow Forecast (200 GPD/EDU)



## RP-5 Member Agency Flow Forecast (270 GPD/EDU)



# Capital Improvement Projects

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## PROJECT IDENTIFICATION PROCESS

The TYCIP contains projects which were identified by the Maintenance, Operations, Engineering, and Planning departments. The two main project types are 1) repair and rehabilitation project for existing facilities; and 2) expansion projects to provide additional capacity.

## PROJECT PRIORITIZATION CRITERIA

Projects listed in the TYCIP are prioritized by timing and criticality. Drivers used to determine the timeframe and criticality during which a project would be undertaken include the regulatory and permitting requirements, wastewater flow projections, asset age, performance, efficiency, grant or funding availability. Project prioritization levels are assigned based on the following criteria:

### *Timing*

Immediate: projects that are in process, must or will be completed in the next 1 to 2 year timeframe

Intermediate: projects that will be completed within the next 3 to 5 years

Long-Term: projects that will occur within the next 6 to 10 years

### *Criticality:*

Critical: the project is necessary to correct an imminent existing or foreseen health hazard, or to meet or maintain new regulatory requirements

High: the project will to meet new regulatory requirements, affect significant cost savings, or be performance enhancing

Medium: the project will increase efficiency and generate cost savings, or the project is necessary to maintain current levels of processing capacity and efficiency (annually recurring projects)

Grant Dependent: the project will provide a benefit to the Agency but it is not

essential for the management and operation of the Agency; such projects are contingent on the availability of outside funding.

The ten-year project list in Appendix D represents the Agency’s best assessment of what projects will occur based on existing planning documents; the list will be refined regularly as planning documents are updated (see Figure 1 on page 5 for the current planning documents timeline). An estimated ten-year budget by fund, based on currently identified projects is summarized below in Table 7.

**TABLE 7: TEN-YEAR BUDGET ESTIMATE, BY FUND**

<b>Fund</b>	<b>Description</b>	<b>FY 15/16</b>	<b>FY16/17</b>	<b>FY17-25</b>	<b>TYCIP Total</b>
<b>GG</b>	Administrative Services	\$2.4	\$1.7	\$7.9	\$12.2
<b>NC</b>	Non-Reclaimable Wastewater	\$0.8	\$0.6	\$12.2	\$13.6
<b>RC</b>	Regional Capital Improvement	\$19.8	\$13.2	\$257.8	\$290.8
<b>RO</b>	Regional Operations & Maintenance	\$14.1	\$18.7	\$156.2	\$189.0
<b>RW</b>	Recharge Water	\$1.5	\$3.6	\$28.8	\$33.9
<b>WC</b>	Recycled Water	\$12.6	\$11.0	\$57.3	\$80.9
<b>WW</b>	Water Resources	\$29.3	\$28.5	\$224.5	\$282.3
<b>RM/ RCA</b>	Organics Management/ IERCA	\$1.1	\$1.2	\$4.7	\$7.0
<b>TOTAL</b>		<b>\$81.6</b>	<b>\$78.5</b>	<b>\$749.4</b>	<b>\$909.7</b>





TABLE 8: REGIONAL PROGRAM

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
EN13028	Preserve Lift Station	immediate	H	\$100,000	\$100,000	\$2.4M	\$2.6M
EN16011	Whispering Lakes LS Improvements	long-term	C	0	0	\$5.0M	\$5.0M
EN19005	Haven LS Improvements	intermediate	C	0	0	\$1.0M	\$1.0M
TBD-23	Philadelphia Lift Station Force Main Improvements	long-term	H	0	0	\$6.0M	\$6.0M
EN15032	Agency-Wide HVAC Improvements- Pckg No. 3	immediate	H	\$1.0M	\$100,000	0	\$1.1M
EN17003	Aeration System Improvements	intermediate	M	0	0	\$6.3M	\$6.3M
TBD	Agencywide Energy Efficiency Improvements	annually recurring	M	\$300,000	\$500,000	\$4.0M	\$4.8M
EP15002	Major Equipment Rehab/Replace	annually recurring	M	\$500,000	\$400,000	\$3.2M	\$4.1M
PA15001	Underground Piping Rehab Assessments	annually recurring	M	\$200,000	\$200,000	\$850,000	\$1.3M
PA15002	Agency Wide Coatings and Paving	annually recurring	M	\$200,000	\$200,000	\$800,000	\$1.2M
PA15008	Major Asset Rehab/Replace	annually recurring	M	\$150,000	\$50,000	\$600,000	\$800,000
TBD	CEQA document for implementation of WWFMP, IRP, RWPS, etc.	immediate	C	\$500,000	\$250,000	0	\$750,000
TBD	NRWS Emergency O&M Projects	annually recurring		\$200,000	\$200,000	\$1.6M	\$2.0M
TBD	WC Emergency O&M Projects	annually recurring	M	\$500,000	\$500,000	\$4.0M	\$5.0M
TBD	RC Emergency O&M Projects	annually recurring	M	\$600,000	\$600,000	\$4.8M	\$6.0M
TBD	RO Emergency O&M Projects	annually recurring	M	\$600,000	\$600,000	\$4.8M	\$6.0M
TBD	Agencywide Digester Cleaning and Rehab	annually recurring	M	\$500,000	\$500,000	\$4.0M	\$5.0M
TBD	Agency Bypass Pumping Project	immediate	H	\$1.0M	\$1.0M	0	\$2.0M
TBD	Regional Wastewater Projects AMP	immediate	H	0	0	\$50.0M	\$50.0M
EN13018	Montclair Diversion Structure Rehabilitation	immediate	H	\$850,000	0	0	\$850,000
TBD	NRWS Manhole Upgrades	annually recurring	M	0	\$350,000	\$4.2M	\$4.6M



Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
TBD	Collection System Up-grades	annually recurring	M	0	\$500,000	\$4.0M	\$4.5M
TBD	Chino Basin Groundwater Supply Wells and Raw Water Pipeline	immediate	C	\$9.0M	\$3.0M	0	\$12.0M
<b>TOTAL</b>				<b>\$16.2M</b>	<b>\$9.1M</b>	<b>\$107.5M</b>	<b>\$132.8M</b>

## WASTEWATER FACILITIES

### *Regional Program*

The Agency’s Regional Program encompasses the activities associated with repair and replacement (R&R) of the Agency’s wastewater, energy generation, and solids handling facilities. The Regional Sewerage System connects several regional water recycling plants. Waste biogas produced by the RWRPs is used to produce energy and the tertiary treated water is used as recycled water. The biosolids waste from the RWRPs is further treated to produce grade A compost, which is used as a fertilizer.

The Regional Sewerage System includes 90 miles of regional sewage interceptors. The sewage lateral pipelines are owned and maintained by the individual contracting agencies. Table 8 lists key projects over \$500,000 that are located throughout the region and includes lift stations, regional sewerage system, and general improvements to regional assets/facilities not associated with a particular location. The major upcoming projects for the Regional Sewerage System are related to R&R. For example, manhole rehabilitation and the Montclair Diversion Structure rehabilitation. Beyond ten years, major projects include upgrading the capacity of the Montclair Interceptor and R&R projects for manholes and pipelines. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents are completed. Individual projects associated with a specific treatment plant are listed in the subsequent sections.

### *RP-1 (Northern Service Area)*

Regional Water Recycling Plant No. 1 (RP-1) is located in the City of Ontario near the intersection of Highway 60 and Archibald Avenue. This facility was originally commissioned in 1948 and has undergone several expansions to increase the design wastewater treatment capacity to approximately 44 MGD, based on the wastewater characteristics at the time of the expansions. Although the projected influent wastewater flows do not show a significant increase from current to build-out but

reflect higher loading characteristics, specific treatment process expansions will be required to meet effluent discharge regulations. RP-1 serves areas of Ontario, Upland, Fontana, Chino, Montclair and Cucamonga Valley Water District, treating approximately 27.9 MGD.

RP-1 also has biosolids treatment, designed at a capacity of approximately 60 MGD. Treatment consists of gravity thickening and dissolved air flotation thickening, anaerobic digestion, and dewatering by centrifuges. The stabilized, dewatered solids are trucked to the IERCF in the City of Rancho Cucamonga for further treatment to produce grade A compost. RP-1 handles solids from both RP-1 and RP-4. Based on wastewater flow projection surveys by member agencies, plant flows are expected to reach between 28.8 and 29.4MGD by FY 24/25 (see Exhibit A).

Table 9 lists key projects over \$500,000 at RP-1. Some major projects in the next ten years are the installation of mixed liquor return pumps, rehabilitation of the east primary effluent piping, migration of the control system, and flare system improvements. Beyond ten years, major projects include rehabilitation of the headworks, upgrades to sludge thickening, and expansion of the liquid and solids treatment capacity. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents and baseline studies are completed.

### ***RP-4 (Northern Service Area)***

The Regional Water Recycling Plant No. 4 (RP-4) is located in the City of Rancho Cucamonga and has been in operation treating wastewater and producing recycled water since 1997. The RP-4 facility capacity expanded from 7 MGD to 14 MGD in 2009.

Waste sludge generated at RP-4 is discharged back to the sewer and flows by gravity to RP-1. RP-4 serves areas of Fontana and Cucamonga Valley Water District, treating approximately 10.0 MGD. Based on wastewater flow projection surveys by member agencies, plant flows are expected to reach between 13.0 and 14.0 MGD by FY 24/25 (see Exhibit B).

Table 10 lists key projects over \$500,000 at RP-4. Some major projects in the next ten years include improvements to the chlorination system, various process improvements, and R&R projects. There are no major expansion projects planned for RP-4 in the next 30 years. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents are completed.

TABLE 9: RP-1 CAPITAL PROJECTS

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
EN08023	RP-1 Asset Replacement	immediate	H	\$1M	0	0	\$1M
TBD	RP-1 Flare Improvements	Long-term	M	0	0	4,000,000	\$4M
EN14019	RP-1 Headworks Gate Replacement	intermediate	M	\$700,000	\$2.7M	0	\$3.4M
EN15012	RP-1 East Primary Effluent Pipe Rehab	immediate	C	\$600,000	\$1.4M	0	\$2M
EN18004	RP-1 IPS System Improvements	intermediate	M	0	0	\$1M	\$1M
EN19007	RP-1 Primary Effluent EQ Elimination	long-term	M	0	0	\$5.5M	\$5.5M
EN20006	RP-1 Digester Mixing Upgrade	long-term	M	0	0	\$750,000	\$750,000
TBD-120	RP-1 Liquid Treatment Expansion	long-term	M	0	0	\$11.4	\$11.4M
TBD	RP-1 Solids Treatment Expansion	intermediate	C	0	0	\$3.2M	\$3.2M
TBD-16	RP-1 Mixed Liquor Return Pump Improvements	immediate	C	\$1M	\$3M	0	\$4M
TBD-17	RP-1 Expansion PDR	immediate	H	\$1M	\$500,000	0	\$1.5M
TBD-05	RP-1 NGO Meters Interconnection Agreement Installation	immediate	H	\$800,000	\$100,000	0	\$900,000
<b>TOTAL</b>				<b>\$5.1M</b>	<b>\$7.7M</b>	<b>\$25.9M</b>	<b>\$38.7M</b>

TABLE 10: RP-4 CAPITAL PROJECTS

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
EN14018	RP-4 Chlorination Facility Retrofit	immediate	H	\$550,000	\$1.5M	0	\$2.1M
TBD-03	RP-4 Process Improvements	immediate	M	\$0	\$200,000	\$5.0M	\$5.2M
<b>TOTAL</b>				<b>\$550,000</b>	<b>\$1.7M</b>	<b>\$5.0M</b>	<b>\$7.3M</b>

TABLE 11: CCWRF CAPITAL PROJECTS

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
TBD-01	CCWRF Odor Control and Headworks Replacements (AMP)	Immediate	H	0	\$600,000	\$6.4M	\$7.0M
TBD	CCWRF Aeration Blower Replacement	immediate	H	0	0	\$2.5	\$2.5M
EN14018	RP-4 Chlorination Facility Retrofit	immediate	H	\$550,000	\$1.5M	0	\$2.1M
TBD-03	RP-4 Process Improvements	immediate	M	0	\$200,000	\$5.0M	\$5.2M
<b>TOTAL</b>				<b>\$550,000</b>	<b>\$2.3M</b>	<b>\$13.9M</b>	<b>\$16.8M</b>

***CCWRF (Southern Service Area)***

The Carbon Canyon Water Reclamation Facility (CCWRF) is located in the City of Chino and has been in operation since May 1992. The CCWRF works in tandem with RP-2 and RP-5 to serve the areas of Chino, Chino Hills, Montclair and Upland.

Wastewater is treated at CCWRF while the biosolids removed from the waste flow are pumped to RP-2 for processing. The CCWRF is designed to treat an annual average flow of 11.4 MGD, and treats approximately 7.1 MGD. Based on wastewater flow projection surveys by member agencies, plant flows are expected to reach between 7.8 and 8.1 MGD by FY 24/25 (see Exhibit C).

Table 11 lists key projects over \$500,000 at CCWRF. Some major projects in the next ten years include replacement of the odor control systems, rehabilitation of the headworks, and replacement of the aeration blowers. There are no major expansion projects planned for CCWRF in the next 30 years. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents and baseline studies are completed.

***RP-2 (Southern Service Area)***

The Regional Plant No. 2 (RP-2) in the City of Chino has been in operation since 1960. RP-2 was both a liquids and solids treatment facility until 2004, when RP-5 was constructed to handle the liquids portion. Since then, RP-2 treats only the solids from the CCWRF and RP-5 facilities. Biogas is a byproduct of the treatment process and utilized as a fuel source to operate an engine generator that produces electricity. The electricity is used to operate equipment, thereby reducing the Agency’s need to purchase power. RP-2 treatment processes include: gravity thickening and DAF thickening, anaerobic digestion for stabilization, and dewatering by either belt press

or centrifuge.

Once the solids are dewatered, they are transported to the IERCF. RP-2 is located on land leased from the US Army Corps of Engineers and the lease is due to expire in 2035. RP-2 is also located within the flood zone behind Prado Dam. Orange County Flood Control District and the Army Corps have plans to raise the maximum operational water level behind the dam to allow greater water storage and conservation. Since RP-2 does not have physical flood protection, IEUA is planning to relocate the solids handling from RP-2 to RP-5. The relocation of RP-2 to RP-5 will be complete around 2022.

There are no projects planned for RP-2 in the next ten years. Beyond ten years, there will be a major project to decommission RP-2.

### *RP-5 (Southern Service Area)*

The Regional Water Recycling Plant No. 5 (RP-5) is located immediately east of the Agency’s Administrative Headquarters campus in the City of Chino and began operation in March 2004. It has a capacity rating of 16.3 MGD, which includes capacity for approximately 15 MGD of raw wastewater and 1.3 MGD of solids processing return or recycled flows from RP-2. Waste sludge produced at RP-5 is pumped to the RP-2 solids handling facility, which will be relocated to RP-5 around 2022. RP-5 serves areas of Chino, Chino Hills, and Ontario, treating approximately 9.9 MGD. Based on wastewater flow projection surveys by member agencies, plant flows are expected to reach between 15.4 and 16.1 MGD by FY 24/25 (see Exhibit D).

TABLE 12: RP-5 CAPITAL PROJECTS

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
EN11031	RP-5 Flow Equalization and Effluent Monitoring	immediate	M	\$1.2M	0	0	\$1.2M
EN19001	RP-5 Liquid Treatment Expansion	intermediate	C	0	0	\$125.0M	\$125.0M
EN19006	RP-5 Solids Treatment Facility - RC	intermediate	C	0	\$4.0M	\$132.0M	\$136.0M
TBD-27	RP-5 Process Improvements	intermediate	M	0	0	\$6.3M	\$6.3M
TBD-21	RP-5 Expansion PDR	immediate	H	\$1.0M	\$500,000	0	\$1.5M
<b>TOTAL</b>				<b>\$2.2M</b>	<b>\$4.5M</b>	<b>\$263.3M</b>	<b>\$270.0M</b>

The Regional Plant No. 5 Solids Handling Facility (RP-5 SHF) was operated by IEUA from 2001 to 2009 as a regional facility accepting dairy manure for recycling and generating biogas. In 2010, IEUA entered into a lease agreement with Environ Strategies, and in 2012, they began utilizing the facility for digestion of primarily food wastes with minor amounts of dairy manure. RP-5 SHF can process 705 wet tons/day of food and dairy waste through an anaerobic digestion process and can generate electricity from the biogas produced. Due to the regional benefits of such a waste handling facility, the Agency plans to keep RP-5 SHF available for the processing of food and dairy waste.

Table 12 lists key projects over \$500,000 at RP-5. Major projects in the next ten years include improvements to flow equalization and flow monitoring, various process improvements, expansion of the liquid treatment capacity, and construction of solids handling facilities. Beyond ten years, there are no major expansion projects planned for RP-5. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents and baseline studies are completed.

### ***Salinity Management Program***

The salinity management program consists of the NRWS system. Although the Agency operates the Chino Desalter I facility, it is managed by the Chino Basin Desalter Authority and so there are no capital projects associated with the Desalter.

The NRWS collection system includes 75 miles of pipeline and is comprised of a north and a south system. The north system, which serves approximately 42 industries, conveys wastewater to sewer lines owned and operated by the CSDLAC. From there, it is conveyed to CSDLAC's treatment facility in Carson, where it is treated and discharged to the ocean.

The south system, which serves approximately 12 industries (including five wastewater haulers), conveys wastewater to the Inland Empire Brine Line owned by SAWPA, and from there it is carried to the OCSD facility in Fountain Valley for treatment and ocean discharge. The combined northern and southern NRWS system removed 43,674 tons of salt in FY 2013/14 from the service area, reducing the region's salinity and enhancing the opportunities for beneficial use of recycled water.

In addition to the NRWS system, the salinity management program includes a residential Self-Regenerating Water Softener Removal Rebate Program. This program incentivizes the removal of self-regenerating salt-based devices which increase the salinity of recycled water supplies. As of December 2014, the program



has removed 669 devices, removing approximately 154 tons per year of salt from the Regional system, saving approximately 12.73 acre-feet of water each year. However, there are no identified capital projects in the salinity management program over \$500,000 in the ten year period. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents are completed.

## WATER SUPPLY

### *Recycled Water*

The Recycled Water Distribution Facilities consists of a network of pipelines, pump stations and reservoirs that allow the Agency to deliver recycled water throughout the service area. The facilities allow recycled water to be distributed into six pressure zones (see Figure 14), and be used for direct use and groundwater recharge.

Recycled water projects fall into distribution improvements, groundwater recharge expansion (see the following section on groundwater recharge for a more detailed discussion), operational flexibility, rehabilitation and replacement, and program administration. Project prioritization is based on the ability of projects to increase recycled water deliveries and unit costs. Projects that are listed were identified in the Recycled Water Implementation Plan, draft Recycled Water Program Strategy, Chino Basin Recharge Master Plan Update and the Agency's Asset Management Plan, and use projections from Member Agencies. These projects will enable the region to utilize 100% of the region's projected recycled water supplies, increasing recycled water deliveries from approximately 37,000 to 55,000 by 2025.

Once the regional recycled water distribution pipeline in the central-east service area has been completed, projects are focused on capacity improvements and operational upgrades. Capacity improvements include the RP-1 outfall parallel pipeline, the 800 Pressure Zone upgrades near RP-5, and measures to maximize operational flexibility to meet fluctuating direct use and groundwater recharge demands. The Agency also included projects to evaluate the potential of an intertie for external recycled water supplies into the Chino Basin.

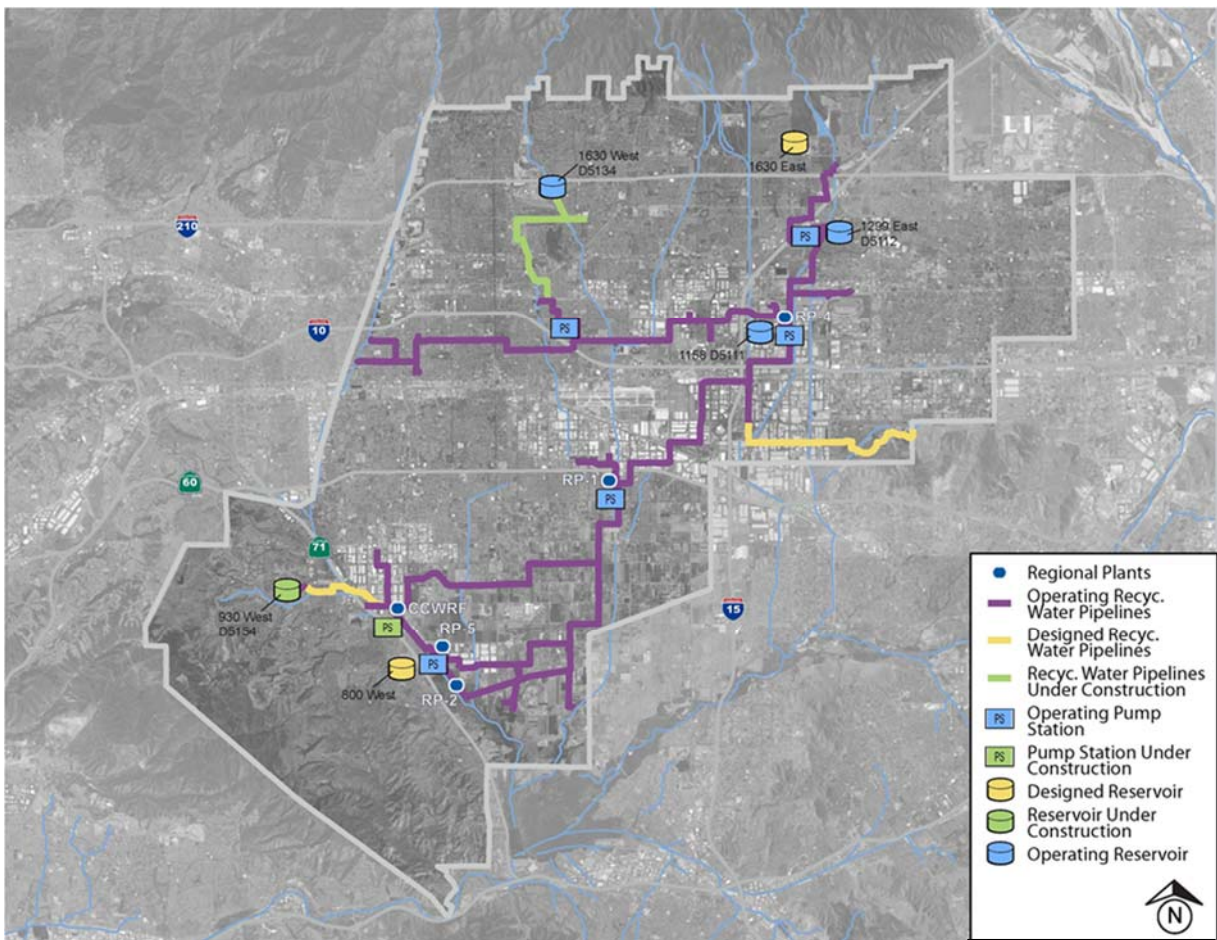
Table 13 lists key projects over \$500,000 in the recycled water program. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents are completed.

## Groundwater Recharge

The capital projects for the groundwater recharge program mainly involve capacity improvements and refurbishment at selected basins to increase the reliability and the recharge capabilities of the basins. Three such enhancement projects were identified by the 2013 Recharge Master Plan Update. Other potential projects identified in the Update require additional investigation and may be added to future TYCIPs.

Recycled water recharge has become a key component of the region’s water supply portfolio. The more recycled water that is recharged into the Chino Groundwater Basin, the region becomes more self-reliant and less dependent on imported water supplies. To maximize past investments, several of the projects are primarily focused on environmental and permitting issues that will allow continued the basin maintenance to sustain optimal infiltration rates. Others improve the program asset management and recharge site communications. These are comparably lower-cost

**FIGURE 14: IEUA REGIONAL RECYCLED WATER CAPITAL PROJECT PRIORITIES**



projects than new construction. These and other investigative projects will be explored and funded in the future years as a means to diversify the water supply for the region and maximize the beneficial reuse of recycled water.

Groundwater recharge program projects that are greater than \$500,000 are listed in Table 13. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents are completed.

### *Water Resources Projects*

The Agency has established an aggressive goal to increase regional resiliency against droughts, reduce dependence on imported water and develop programs for long-term water efficiency. These measures include development of a water use efficiency data infrastructure with and for Member Agencies. The development of a wide range of programs will enable agencies to identify efficient and inefficient water users, track water use efficiency, effectively target conservation programs for the greatest cost-benefit and transforming landscapes from water-intensive turf to climate appropriate plantings. In an age of decreasing water demand IEUA will also seek to help member agencies meet their financial needs by building a water rate modeling tool that would assist with evaluating the use of water-budget based rates and their impact on financial structures. Water budget rate structures have been specifically noted in State drought regulations and legislation as a proven method to stabilize agency revenues, drive customer water use efficiency and maintain efficiency levels over the long-term. The Agency seeks to provide the water efficiency infrastructure that includes financial, water use efficiency and public outreach tools.

Approximately \$250,000,000 of local supply resiliency projects that can provide relief from drought or other water shortages were identified by Member Agencies in 2014 in response to the on-going drought. The Agency committed to assist agencies secure funding for these projects. While the full \$250,000,000 estimated project cost is included in the TYCIP for cash-flow reasons, all projects would be cost-shared with the Agency investing 5% of the cost and the remainder funded through a combination of Member Agency contributions, SRF loans, and grants. Likewise, conservation programming to decrease the region's reliance on imported water supplies, assumes a 50% cost share through MWD reimbursable conservation programs and grant funds. As an example, the Agency will utilize a Proposition 84 Drought Emergency Grant, awarded through SAWPA, to develop the initial set of customer level data and member agency accessible tools. The grant will provide for

TABLE 13: WATER RESOURCES CAPITAL PROJECTS (RECYCLED WATER, GROUND-WATER RECHARGE, WATER USE EFFICIENCY, LOCAL SUPPLY RESILIENCY)

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
EN06025	Wineville Extension Pipeline Segment A	immediate	M	\$2.1M	\$50,000	0	\$2.2M
EN13001	San Sevaine Improvements	immediate	H	\$3.5M	\$3.0M	0	\$6.5M
EN13045	Wineville Extension Pipeline Segment B	immediate	M	\$1.6M	\$50,000	0	\$1.7M
EN13048	Second 12kV Feeder to TP-1	immediate	H	\$1.0M	\$500,000	0	\$1.5M
EN14042	RP-1 1158 Pump Station Improvements	immediate	H	0	\$500,000	\$3.4M	\$3.9M
EN14043	800 Zone Capacity Implementation	immediate	H	\$300,000	\$600,000	\$100,000	\$1.0M
EN15050	1630 W PS Improvements (Surge Protection & VFD Replacement)	immediate	H	\$400,000	\$650,000	\$350,000	\$1.4M
EN19003	RP-1 Parallel Outfall Pipeline from RP-1 to Riverside Dr	immediate	M	0	\$1.0M	\$4.0M	\$5.0M
RW15003	RMPU Soft Costs	immediate	M	\$820,000	\$1.6M	\$1.2M	\$3.6M
RW15004	Lower Day RMPU Project	immediate	M	\$215,000	\$1.3M	\$910,000	\$2.4M
WR15019	RP-3 Basin Improvements	immediate	M	0	0	\$3.3M	\$3.3M
WR15021	Napa Lateral/SB Speedway	immediate	M	\$200,000	\$1.0M	\$4.8M	\$6M
TBD	RMPU Construction Costs	intermediate	M	0	0	\$25.0M	\$25.0M
TBD	Ely Basin Turnout Remote Control Upgrades	immediate	M	\$200,000	\$400,000	0	\$600,000
TBD	930 to 800 West CCWRF PRV	intermediate	M	0	\$100,000	\$500,000	\$600,000
TBD	RW Pressure Sustaining Valve	immediate	H	\$350,000	\$500,000	0	\$850,000
TBD	Prado Basin Adaptive Management Plan Monitoring & Report	annually recurring	H	\$150,000	\$150,000	\$675,000	\$975,000
TBD	WC Planning Documents	immediate	H	\$500,000	\$500,000	0	\$1.0M

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
TBD	RW Asset Management	annually recurring	M	\$125,000	\$125,000	\$1.0M	\$1.3M
TBD	RC Planning Documents	immediate	H	\$1.0M	\$1.0M	0	\$2.0M
TBD	WC Asset Management	annually recurring	M	\$250,000	\$250,000	\$2.0M	\$2.5M
TBD	WRCWRA	immediate	H	\$500,000	\$500,000	0	\$1.0M
TBD	UWMP	immediate	H	\$750,000	0	\$500,000	\$1.3M
TBD	Water Softener Rebate	Annually recurring	M	\$125,000	\$125,000	\$1M	\$1.3M
TBD	WW Planning Documents	immediate	H	\$500,000	\$500,000	0	\$1.0M
TBD	RW AMP	long-term	M	0	0	\$25.0M	\$25.0M
TBD	Recycled Water Pump Station Emergency Generation Upgrade	long-term	M	0	0	\$6.0M	\$6.0M
TBD	Wineville Basin Pipeline	long-term	M	0	0	\$1.0M	\$1.0M
TBD	Conservation Programing	immediate	H	\$3.0M	\$3.0M	\$24.0M	\$30.0M
TBD	Local Supply Resilience Projects	intermediate	M	\$25.0M	\$25.0M	\$200.0M	\$250.0M
<b>TOTAL</b>				<b>\$42.6M</b>	<b>\$42.4M</b>	<b>\$304.7M</b>	<b>\$389.7M</b>

collecting landscape square footage for residential and select commercial sites and localized daily evapotranspiration data for identifying conservation program targets, public outreach and populating water rate modeling tools.

Water use efficiency and resiliency projects that are greater than \$500,000 are listed in Table 13. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents are completed.

### ADDITIONAL AGENCY FACILITIES

#### *Headquarters & Chino Creek Wetlands and Educational Park*

The Agency headquarters, located in the City of Chino, opened in the summer of 2003. It was constructed to meet the Platinum rating from the United States Green Building Council’s Leadership in Energy and Environmental Design (LEED) 2004. The headquarter facilities demonstrate how using recycled building materials and state-of-the-art energy efficient technologies can be used to incorporate environmental sensibilities in an urban setting while creating a better environment, saving water, improving staff productivity, and contributing to the restoration of native landscapes. The headquarters’ complex is one of the largest public landscapes in Southern California to use native plants and to have integrated stormwater management, including the restoration of natural drainage and the creation of wetlands and riparian habitat known as the Chino Creek Wetlands and Educational Park.

The Chino Creek Wetlands and Educational Park (Park) is located adjacent to the Inland Empire Utilities Agency headquarters in Chino. The 22 acre Park opened in 2004 and was partially funded by a state grant from the State Water Resources Control Board. It was designed to restore native habitat and natural drainage,

TABLE 14: HEADQUARTERS & PARK CAPITAL PROJECTS

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
EN21002	Chino Creek Park Upgrades	grant dependent	L	0	0	\$1.9M	\$1.9M
TBD-06	HQ Parking Lot	immediate	H	\$300,000	0	\$500,000	\$800,000
<b>TOTAL</b>				<b>\$300,000</b>	<b>-</b>	<b>\$2.4M</b>	<b>\$2.7M</b>



showcasing the environmental values of the Prado Basin, the largest freshwater habitat remaining in Southern California. The Prado Basin, within which the park resides, provides a critical link for biological and trail networks between the extensive riparian open space of the Prado Flood Control Basin and the Chino Hills State Park to the west, and is home to endangered species, including the Least Bell's Vireo and Southwestern Willow Flycatcher.

The Park facilities include an outdoor classroom, 1.7 miles of trails, and educational stations and signage. Local and regional school programs are held at the park, including the Water Discovery educational program, funded by the State Parks and Recreation. The park is open to the public seven days a week throughout the year, with special programs about water quality, conservation, and local ecosystems provided by the Agency.

Table 14 lists key projects over \$500,000 at the Headquarters and Park. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents are completed.

### ***Laboratory***

The Laboratory consists of two buildings, the original facility built in 1979, and the expansion building built in 1997. At present, the Laboratory facilities are insufficient. Current facilities are crowded, the ventilation system needs improvement, the sample receiving area is small and not easily accessible, the heating and cooling system present challenges for the temperature controls required in a modern lab, and the overall layout of the laboratory is inefficient.

In addition, laboratory testing technologies continue to advance and regulations continue to change, requiring laboratories to detect constituents at lower levels and test for additional chemicals of emerging concern. Since the current laboratory facilities will be unable to accommodate these changes, and more testing will need to be sent to contract laboratories at additional cost to the Agency if the Laboratory facility is not updated to current and future lab standards it is essential that the Agency construct a new laboratory .

In 2006 the Agency hired the Austin Company to assist in conducting a comprehensive Needs Assessment and Feasibility Study for a new laboratory to be located either at the existing laboratory site at RP-1 or at RP-5. At that time it was determined a new laboratory should be built at RP-5. The design portion of the new laboratory began in 2010, and then put on hold in late 2010 after 50% of the design

TABLE 15: LABORATORY CAPITAL PROJECTS

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
EN08009	New Operations Laboratory	immediate	medium	\$1.8M	\$7M	\$12.1M	\$20.9M
<b>TOTAL</b>				<b>\$1.8M</b>	<b>\$7M</b>	<b>\$12.1M</b>	<b>\$20.9M</b>



had been completed. Budget for laboratory improvements or a new facility is currently included in the TYCIP.

Table 15 lists key projects over \$500,000 at the laboratory. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents are completed.

***Inland Empire Regional Composting Authority***

The Inland Empire Regional Composting Authority (IERCA) is a joint powers authority between the Inland Empire Utilities Agency and the Los Angeles County Sanitation District. Together, these agencies have shared the costs and resources to develop a state-of-the-art biosolids compost manufacturing facility in Rancho

Cucamonga called the Inland Empire Regional Composting Facility (IERCF). The facility is completely enclosed to control odors and to meet stringent air quality regulations.

The IERCF is designed to process and recycle the dewatered and stabilized biosolids from the Agency and SDLAC’s wastewater treatment processes as well as wood waste from local communities. It produces over 230,000 cubic yards of high-quality compost each year for local landscaping and horticultural use. The composted product, which is marketed as SoilPro® Premium Compost, is sold as a soil conditioner which helps improve water retention resulting in better plant growth and water savings.

The facility is currently operating at its design capacity, receiving nearly 600 tons per day of biosolids and recycled green waste products. The RP-1 Dewatering Facility uses centrifuges to dry solids to a higher percentage. This has the potential of freeing up 50 wet tons per day of additional capacity at the IERCF.

Capital projects for the RCA include replacement and upgrade projects. Ongoing projects include emergency lighting, amendment hopper improvements, belt conveyor modifications to match actual process flow, door widening for improved truck access, belt conveyor catwalks improvement, and lighting and structure protection evaluations. The lighting and structural evaluations may result in future projects for improvements in both areas. Future demands and operational issues will determine what specific future capital projects are needed. Any capital maintenance, enhancement, or replacement projects will be jointly analyzed and determined with the CSDLAC.

Table 16 lists key projects over \$500,000 at the IERCF. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents are completed.

**TABLE 16: IERCF CAPITAL PROJECTS**

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
RA11001	IERCF Capital Replacement	annually recurring	M	\$500,000	\$500,000	\$4.0M	\$5.0M
<b>TOTAL</b>				<b>\$500,000</b>	<b>\$500,000</b>	<b>\$4.0M</b>	<b>\$5.0M</b>

## ***Business Network and Process Automation Control Network***

The capital purchases in the Business Network and Process Automation Control Network are primarily for computers and software. The capital projects for this program include system upgrades, computer equipment replacement, network infrastructure replacement, software purchases, and capital improvements to the Agency’s headquarters and include capital projects identified in the draft Technology Master Plan.

Table 18 lists key projects in the Business Network and Process Automation Control Network over \$500,000. Projects under \$500,000 are listed in the ten-year project list in Appendix A and will be further refined as the planning documents are completed

**TABLE 18: BUSINESS NETWORK & PROCESS AUTOMATION CONTROL NETWORK CAPITAL PROJECTS**

Project #	Description	Prioritization		FY 15/16	FY 16/17	FY 17-25	Total
		Timing	Criticality				
EN13016	SCADA Enterprise System	immediate	M	\$4.2M	\$1M	\$3.5	\$8.7M
IS15012	Business Network IT Improvements (TMP)	annually recurring	M	\$500,000	\$200,000	\$1.4	\$2.1M
IS15020	Process Automation Controls IT Improvements	annually recurring	M	\$300,000	\$300,000	\$2.4	\$3M
TBD	SAP Strategy and Roadmap (TMP)	immediate	M	\$300,000	\$300,000	\$2.3M	\$2.9M
TBD	Conference Rooms AV (Agencywide)	immediate	H	\$200,000	\$300,000	\$200,000	\$700,000
TBD	IS Improvement Projects (TMP)	annually recurring	M	\$200,000	\$200,000	\$1.6	\$2M
<b>TOTAL</b>				<b>\$5.7M</b>	<b>\$2.3M</b>	<b>\$11.4M</b>	<b>\$19.4M</b>







# Appendix A

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## CIP Proposed Project List



Agency Headquarters															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
1	EN13012	Magnolia Channel Monitoring & Maintenance	10,000	10,000	10,000	0	0	0	0	0			30,000	immediate	H
2	EN14002	CIPO Enhancements	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	150,000	immediate	H
3	EN21002	Chino Creek Wetlands and Educational Park Upgrades	0	0	0	0	0	900,000	958,000	0	0	0	1,858,000	long-term	L
4	TBD	HQ Parking Lot	300,000	0	0	0	250,000	0	0	0	250,000		800,000	intermediate	M
5	EN15052	Upgrades to Existing P6 Application	100,000	0	0	0	0	0	0	0	0	0	100,000	long-term	M
		<b>Agency Headquarters Total</b>	<b>425,000</b>	<b>25,000</b>	<b>25,000</b>	<b>15,000</b>	<b>265,000</b>	<b>915,000</b>	<b>973,000</b>	<b>15,000</b>	<b>265,000</b>	<b>15,000</b>	<b>2,938,000</b>		

Agency Laboratory															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
6	EN15008	New Water Quality Laboratory	1,800,000	7,000,000	7,000,000	5,000,000	100,000	0	0	0	0	0	20,900,000	immediate	M
		<b>Agency Laboratory Total</b>	<b>1,800,000</b>	<b>7,000,000</b>	<b>7,000,000</b>	<b>5,000,000</b>	<b>100,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20,900,000</b>		

Agency Lift Stations															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
7	EN11035	Philadelphia Pump Station Upgrades	50,000	0	0	0	0	0	0	0	0	0	50,000	immediate	M
8	EN13028	Preserve Lift Station	100,000	100,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	2,600,000	immediate	H
9	EN13054	Montclair Lift Station Upgrades	50,000	0	0	0	0	0	0	0	0	0	50,000	immediate	M
10	EN16011	Whispering Lakes LS Improvements	0	0	0	0	0	0	0	500,000	2,500,000	2,000,000	5,000,000	long-term	C
11	EN19005	Haven LS Improvements	0	0	0	300,000	500,000	200,000	0	0	0	0	1,000,000	intermediate	C
12	TBD	Philadelphia Lift Station Force Main Improvements	0	0	0	0	0	0	0	500,000	2,500,000	3,000,000	6,000,000	long-term	H
		<b>Agency Lift Stations Total</b>	<b>200,000</b>	<b>100,000</b>	<b>300,000</b>	<b>600,000</b>	<b>800,000</b>	<b>500,000</b>	<b>300,000</b>	<b>1,300,000</b>	<b>5,300,000</b>	<b>5,300,000</b>	<b>14,700,000</b>		

Agencywide															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
13	EN12020	Chino Creek Invert Repair	375,000	0	0	0	0	0	0	0	0	0	375,000	Immediate	M
14	EN13056	Agency-Wide HVAC Improvements - Pckg No. 2	50,000	0	0	0	0	0	0	0	0	0	50,000	Immediate	M
15	EN15032	Agency-Wide HVAC Improvements- Pckg No. 3	1,000,000	100,000	0	0	0	0	0	0	0	0	1,100,000	immediate	H
16	EN17003	Aeration System Improvements	0	0	0	0	0	0	0	250,000	3,000,000	3,000,000	6,250,000	intermediate	M
17	EN17004	Agencywide Energy Efficiency Study	200,000	0	0	0	0	0	0	0	0	0	200,000	annually recurring	M
18	TBD	Agencywide Energy Efficiency Improvements	300,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	4,800,000	annually recurring	M
19	EP15002	Major Equipment Rehab/Replace	500,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	4,100,000	annually recurring	M
20	PA15001	Underground Piping Rehab Assessments	200,000	200,000	200,000	200,000	200,000	50,000	50,000	50,000	50,000	50,000	1,250,000	annually recurring	M
21	PA15002	Agency Wide Coatings and Paving	200,000	200,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,200,000	annually recurring	M
22	PA15008	Major Asset Rehab/Replace	150,000	50,000	50,000	50,000	150,000	50,000	50,000	50,000	150,000	50,000	800,000	annually recurring	M
23	SR12001	Agencywide Security Equipment Upgrade	0	0	50,000	0	0	0	0	0	0	0	50,000	immediate	M
24	TBD	CEQA document for implementation of WWFMP, IRP, RWPS, etc.	500,000	250,000	0	0	0	0	0	0	0	0	750,000	immediate	C
25	TBD	As Built Database Upgrades (TMP)	50,000	150,000	0	0	0	0	0	0	0	0	200,000	immediate	H
26	TBD	NRWS OE Projects	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	100,000	annually recurring	M
27	TBD	RC OE Projects	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	500,000	annually recurring	M
28	TBD	NRWS Emergency O&M Projects	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	2,000,000	annually recurring	M
29	TBD	WC Emergency O&M Projects	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	5,000,000	annually recurring	M
30	TBD	RC Emergency O&M Projects	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	6,000,000	annually recurring	M
31	TBD	RO Emergency O&M Projects	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	6,000,000	annually recurring	M
32	TBD	Agencywide Digester Cleaning and Rehab	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	5,000,000	annually recurring	M
33	TBD	Agency Bypass Pumping Project	1,000,000	1,000,000	0	0	0	0	0	0	0	0	2,000,000	immediate	H

34	TBD	Regional Wastewater Projects AMP	0	0	0	0	0	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	50,000,000	immediate	H
		<b>Agencywide Total</b>	<b>5,985,000</b>	<b>4,310,000</b>	<b>3,760,000</b>	<b>3,710,000</b>	<b>3,810,000</b>	<b>3,560,000</b>	<b>3,560,000</b>	<b>3,810,000</b>	<b>6,660,000</b>	<b>6,560,000</b>	<b>97,725,000</b>		

<b>Business Network and Process Automation Control Network</b>															
<b>ID</b>	<b>Proj #</b>	<b>Project Name</b>	<b>15/16</b>	<b>16/17</b>	<b>17/18</b>	<b>18/19</b>	<b>19/20</b>	<b>20/21</b>	<b>21/22</b>	<b>22/23</b>	<b>23/24</b>	<b>24/25</b>	<b>Total</b>	<b>Timing</b>	<b>Criticality</b>
35	EN13016	SCADA Enterprise System	4,200,000	1,000,000	3,000,000	500,000	0	0	0	0	0	0	8,700,000	immediate	M
36	EN13040	Prado Dechlor Communication System	181,735	0	0	0	0	0	0	0	0	0	181,735	immediate	M
37	EN13042	Philadelphia Pump Station Communication System	200,000	0	0	0	0	0	0	0	0	0	200,000	immediate	M
38	EN13043	Montclair Lift Station Communication System	400,000	0	0	0	0	0	0	0	0	0	400,000	immediate	M
39	IS15001	HCM Phase 2 HR Process & Automation & ESS/MSS Enhancements	50,000	50,000	100,000	0	0	0	0	0	0	0	200,000	immediate	M
40	IS15003	Document Management System - Implementation	250,000	100,000	50,000	0	0	0	0	0	0	0	400,000	immediate	M
41	IS15012	Business Network IT Improvements (TMP)	500,000	200,000	100,000	100,000	200,000	200,000	200,000	200,000	200,000	200,000	2,100,000	annually recurring	M
42	IS15015(not in SAP)	PAC- L55 Processor Replacement / Redundancy Modules	45,000	0	0	0	0	0	0	0	0	0	45,000	immediate	M
43	IS15020	Process Automation Controls IT Improvements	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	3,000,000	annually recurring	M
44	IS16001	HCM Phase 2 Position Budgeting & Control	0	0	206,000	0	0	0	0	0	0	0	206,000	immediate	M
45	IS16003	SAP Archiving	0	0	50,000	0	0	0	0	0	0	0	50,000	intermediate	M
46	TBD	SAP User Interface Improvement	125,000	100,000	0	0	0	0	0	0	0	0	225,000	immediate	M
47	TBD	GIS Master Plan (TMP)	0	50,000	0	0	0	0	0	0	0	0	50,000	intermediate	M
48	TBD	SAP Strategy and Roadmap (TMP)	300,000	300,000	300,000	300,000	400,000	250,000	250,000	250,000	250,000	250,000	2,850,000	immediate	M
49	TBD	Conference Rooms AV (Agencywide)	200,000	300,000	100,000	100,000	0	0	0	0	0	0	700,000	immediate	H
50	TBD	IS Improvement Projects (TMP)	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	2,000,000	annually recurring	M
		<b>Business Network and Process Automation Control Network Total</b>	<b>6,951,735</b>	<b>2,600,000</b>	<b>4,406,000</b>	<b>1,500,000</b>	<b>1,100,000</b>	<b>950,000</b>	<b>950,000</b>	<b>950,000</b>	<b>950,000</b>	<b>950,000</b>	<b>21,307,735</b>		

Carbon Canyon Water Recycling Facility															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
51	EN14027	CCWRF Secondary Clarifier #3 Rehabilitation	20,000	0	0	0	0	0	0	0	0	0	20,000	immediate	M
52	TBD	CCWRF Lagoon Riprap Reinforcement	50,000	0	0	0	0	0	0	0	0	0	50,000	immediate	M
53	TBD	CCWRF Odor Control and Headworks Replacements (AMP)	0	600,000	2,500,000	3,900,000	0	0	0	0	0	0	7,000,000	Immediate	H
54	TBD	CCWRF Backup Generator Control Upgrade	0	0	250,000	0	0	0	0	0	0	0	250,000	immediate	C
55	TBD	CCWRF Aeration Blower Replacement	0	0	500,000	1,500,000	500,000	0	0	0	0	0	2,500,000	immediate	H
		<b>Carbon Canyon Water Recycling Facility Total</b>	<b>70,000</b>	<b>600,000</b>	<b>3,250,000</b>	<b>5,400,000</b>	<b>500,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,820,000</b>		

Inland Empire Regional Composting Facility															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
56	RA11001	IERCF Capital Replacement	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	5,000,000	annually recurring	M
57	RA11004	IERCF Process Improvements	50,000	0	0	0	0	0	0	0	0	0	50,000	immediate	M
58	RA12009	IERCF Structure Protection	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	250,000	immediate	M
59	RA12011	IERCF Lighting Improvements	200,000	0	0	0	0	0	0	0	0	0	200,000	immediate	M
60	RA14003	IERCF Receiving Pit & Fan Corridor Drains	200,000	0	0	0	0	0	0	0	0	0	200,000	immediate	M
61	RA15001	IERCF Baghouse Improvements	50,000	0	0	0	0	0	0	0	0	0	50,000	immediate	M
62	TBD	IERCF Trommel Screen Improvements	0	0	0	300,000	0	0	0	0	0	0	300,000	immediate	M
63	TBD	IERCF Fire Sprinkler Improvements	75,000	200,000	200,000	0	0	0	0	0	0	0	475,000	immediate	C
64	TBD	IERCF Transition Air Duct Improvements	0	500,000	0	0	0	0	0	0	0	0	500,000	immediate	M
		<b>Inland Empire Regional Composting Facility Total</b>	<b>1,100,000</b>	<b>1,225,000</b>	<b>725,000</b>	<b>825,000</b>	<b>525,000</b>	<b>525,000</b>	<b>525,000</b>	<b>525,000</b>	<b>525,000</b>	<b>525,000</b>	<b>7,025,000</b>		

Regional Conveyance System															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
65	EN13018	Montclair Diversion Structure Rehabilitation	850,000	0	0	0	0	0	0	0	0	0	850,000	immediate	H
66	EN15045	Collection System Manhole Upgrades FY 15/16	500,000	0	0	0	0	0	0	0	0	0	500,000	immediate	M
67	EN15046	NRW Manhole Upgrades FY 15/16	350,000	0	0	0	0	0	0	0	0	0	350,000	immediate	M
68	TBD	NRW Manhole Upgrades	0	350,000	200,000	1,500,000	200,000	200,000	200,000	200,000	200,000	1,500,000	4,550,000	annually recurring	M
69	EN22002	NRW East End Flowmeter Replacement	0	0	0	0	0	0	0	45,000	255,000	0	300,000	long-term	C
70	TBD	Collection System Upgrades	0	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	4,500,000	annually recurring	M
		<b>Regional Conveyance System Total</b>	<b>1,700,000</b>	<b>850,000</b>	<b>700,000</b>	<b>2,000,000</b>	<b>700,000</b>	<b>700,000</b>	<b>700,000</b>	<b>745,000</b>	<b>955,000</b>	<b>2,000,000</b>	<b>11,050,000</b>		

Regional Water Recycling Plant No.1															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
71	EN08023	RP-1 Asset Replacement	1,000,000	0	0	0	0	0	0	0	0	0	1,000,000	immediate	H
72	EN11039	TP-1 Disinfection Pump Improvements	95,000	225,000	0	0	0	0	0	0	0	0	320,000	immediate	M
73	EN13046	RP-1 Flare System Improvements	400,000	0	0	0	0	0	0	0	0	0	400,000	intermediate	C
74	TBD	RP-1 Flare Improvements	0	0	600,000	2,600,000	800,000	0	0	0	0	0	4,000,000	intermediate	H
75	EN14019	RP-1 Headworks Gate Replacement	700,000	2,700,000	0	0	0	0	0	0	0	0	3,400,000	intermediate	M
76	EN15012	RP-1 East Primary Effluent Pipe Rehab	600,000	1,400,000	0	0	0	0	0	0	0	0	2,000,000	immediate	C
77	EN15013	RP-1 TWAS and Primary Effluent Piping Replacement 2014	350,000	0	0	0	0	0	0	0	0	0	350,000	immediate	C
78	EN15019	RP-1 Odor Control Improvements Evaluation	300,000	0	0	0	0	0	0	0	0	0	300,000	immediate	H
79	EN15020	RP-1 Plant 3 Primary Scum Well Upgrade	325,000	0	0	0	0	0	0	0	0	0	325,000	immediate	M
80	EN18004	RP-1 IPS System Improvements	0	0	250,000	750,000	0	0	0	0	0	0	1,000,000	intermediate	M
81	EN19007	RP-1 Primary Effluent EQ Elimination	0	0	0	0	0	0	0	0	2,750,000	2,750,000	5,500,000	long-term	M
82	EN20006	RP-1 Digester Mixing Upgrade	0	0	0	0	0	0	0	0	250,000	500,000	750,000	long-term	M

83	TBD	Chino Basin Groundwater Supply Wells and Raw Water Pipeline	9,000,000	3,000,000	-	-	-	-	-	-	-	-	-	12,000,000	immediate	C
84	TBD	RP-1 Liquid Treatment Expansion	0	0	0	0	0	0	0	0	0	5,700,000	5,700,000	11,400,000	long-term	M
85	TBD	RP-1 Solids Treatment Expansion	0	0	0	0	0	0	0	0	0	1617500	1617500	3,235,000	intermediate	C
86	TBD	RP-1 Mixed Liquor Return Pump Improvements	1,000,000	3,000,000	0	0	0	0	0	0	0	0	0	4,000,000	immediate	C
87	TBD	RP-1 Expansion PDR	1,000,000	500,000	0	0	0	0	0	0	0	0	0	1,500,000	immediate	H
88	TBD	RP-1 NGO Meters Interconnection Agreement Installation	800,000	100,000	0	0	0	0	0	0	0	0	0	900,000	immediate	H
		<b>Regional Water Recycling Plant No.1 Total</b>	<b>14,570,000</b>	<b>10,925,000</b>	<b>850,000</b>	<b>3,350,000</b>	<b>800,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,317,500</b>	<b>10,567,500</b>	<b>52,380,000</b>		

<b>Regional Water Recycling Plant No.4</b>															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
89	EN09021	RP-4 Headworks Retrofit	25,000	0	0	0	0	0	0	0	0	0	25,000	immediate	M
90	EN14018	RP-4 Chlorination Facility Retrofit	550,000	1,500,000	0	0	0	0	0	0	0	0	2,050,000	immediate	H
91	TBD	RP-4 Process Improvements	0	200,000	3,000,000	2,000,000	0	0	0	0	0	0	5,200,000	immediate	M
		<b>Regional Water Recycling Plant No.4 Total</b>	<b>575,000</b>	<b>1,700,000</b>	<b>3,000,000</b>	<b>2,000,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,275,000</b>		

<b>Regional Water Recycling Plant No. 5</b>															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
92	EN09023	RP-5 SHF/REEP Independent Evaluation	25,000										25,000	immediate	H
93	EN11031	RP-5 Flow Equalization and Effluent Monitoring	1,200,000	0	0	0	0	0	0	0	0	0	1,200,000	immediate	M
94	EN19001	RP-5 Liquid Treatment Expansion	0	0	2,000,000	10,000,000	19,000,000	29,000,000	29,000,000	29,000,000	7,000,000	0	125,000,000	intermediate	C
95	EN19006	RP-5 Solids Treatment Facility - RC	0	4,000,000	10,000,000	36,000,000	36,000,000	34,000,000	16,000,000	0	0	0	136,000,000	intermediate	C
97	TBD	RP-5 Process Improvements	0	0	0	0	300,000	3,500,000	2,500,000	0	0	0	6,300,000	intermediate	M
98	TBD	RP-5 Expansion PDR	1,000,000	500,000	0	0	0	0	0	0	0	0	1,500,000	immediate	H
		<b>Regional Water Recycling Plant No.5 Total</b>	<b>2,225,000</b>	<b>4,500,000</b>	<b>12,000,000</b>	<b>46,000,000</b>	<b>55,300,000</b>	<b>66,500,000</b>	<b>47,500,000</b>	<b>29,000,000</b>	<b>7,000,000</b>	<b>0</b>	<b>270,025,000</b>		



Recycled Water (RW) Distribution and Groundwater Recharge (GWR) System															
ID	Proj #	Project Name	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Timing	Criticality
99	TBD	WC OE Projects	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	500,000	annually recurring	M
100	EN06025	Wineville Extension Pipeline Segment A	2,100,000	50,000	0	0	0	0	0	0	0	0	2,150,000	immediate	M
101	EN12016	North CIM Lateral	0	0	0	0	210,000	0	0	0	0	0	210,000	immediate	M
102	EN12019	GWR & RW SCADA Communication System Upgrades	465,000	0	0	0	0	0	0	0	0	0	465,000	immediate	H
103	EN13001	San Sevaine Improvements	3,500,000	3,000,000	0	0	0	0	0	0	0	0	6,500,000	immediate	H
104	EN13022	930 RW Reservoir	0	0	0	0	0	0	0	0	0	0	0	immediate	H
105	EN13023	930 Pressure Zone Pipeline	50,000	0	0	0	0	0	0	0	0	0	50,000	immediate	H
106	EN13041	RP-5 RW PS Process Control Sys Migration	0	280,000	0	0	0	0	0	0	0	0	280,000	immediate	H
107	EN13045	Wineville Extension Pipeline Segment B	1,600,000	50,000	0	0	0	0	0	0	0	0	1,650,000	immediate	M
108	EN13048	Second 12kV Feeder to TP-1	1,000,000	500,000	0	0	0	0	0	0	0	0	1,500,000	immediate	H
109	EN14042	RP-1 1158 Pump Station Improvements	0	500,000	3,000,000	400,000	0	0	0	0	0	0	3,900,000	immediate	H
110	EN14043	800 Zone Capacity Implementation	300,000	600,000	100,000	0	0	0	0	0	0	0	1,000,000	immediate	H
111	EN14044	RW Hydraulic Modeling for FY 14/15	50,000	0	0	0	0	0	0	0	0	0	50,000	immediate	H
112	TBD-109	RW Hydraulic Modeling	0	25,000	25,000	25,000	100,000	25,000	25,000	25,000	25,000	25,000	300,000	annually recurring	H
113	TBD	RW Program Strategy	0	0	0	0	250,000	0	0	0	0	250,000	500,000	long-term	M
114	EN15002	1158 Reservoir Site Cleanup Project	0	500,000	0	0	0	0	0	0	0	0	500,000	immediate	H
115	EN15050	1630 W PS Improvements (Surge Protection & VFD Replacement)	400,000	650,000	350,000	0	0	0	0	0	0	0	1,400,000	immediate	H
116	EN19003	RP-1 Parallel Outfall Pipeline from RP-1 to Riverside Dr	0	1,000,000	2,000,000	2,000,000	0	0	0	0	0	0	5,000,000	immediate	M
117	RW15003	RMPU Soft Costs	820,000	1,600,000	1,200,000	0	0	0	0	0	0	0	3,620,000	immediate	M
118	RW15004	Lower Day RMPU Project	215,000	1,300,000	910,000	0	0	0	0	0	0	0	2,425,000	immediate	M
119	WR15019	RP-3 Basin Improvements	0	0	650,000	2,650,000	0	0	0	0	0	0	3,300,000	immediate	M

120	WR15020	Victoria Basin Improvements	0	0	65,000	65,000	0	0	0	0	0	0	130,000	immediate	M
121	WR15021	Napa Lateral/SB Speedway	200,000	1,000,000	2,800,000	2,000,000	0	0	0	0	0	0	6,000,000	immediate	M
122	TBD	Agencywide GWR Environmental Permits	25,000	0	0	0	0	0	0	0	0	0	25,000	immediate	C
123	TBD	Mag Channel Spillway Improvement	350,000	0	0	0	0	0	0	0	0	0	350,000	immediate	C
124	TBD	RMPU Construction Costs	0	0	5,000,000	15,000,000	5,000,000	0	0	0	0	0	25,000,000	intermediate	M
125	TBD	RP-1 Utility Water Flow Meter	300,000	0	0	0	0	0	0	0	0	0	300,000	immediate	M
126	TBD	Ely Basin Turnout Remote Control Upgrades	200,000	400,000	0	0	0	0	0	0	0	0	600,000	immediate	M
127	TBD	930 to 800 West CCWRF PRV	0	100,000	500,000	0	0	0	0	0	0	0	600,000	intermediate	M
128	TBD	1299 pressure zone pipeline surge tank	0	0	0	0	0	0	0	0	0	0	0	immediate	M
129	TBD	Energy Management system EMP	0	0	0	0	300,000	0	0	0	0	0	300,000	intermediate	L
130	TBD	RW Pressure Sustaining Valve	350,000	500,000	0	0	0	0	0	0	0	0	850,000	immediate	H
131	TBD	Prado Basin Adaptive Management Plan Monitoring & Report	150,000	150,000	150,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	975,000	annually recurring	H
132	TBD	WC Planning Documents	500,000	500,000	0	0	0	0	0	0	0	0	1,000,000	immediate	H
133	TBD	RW Asset Management	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	1,250,000	annually recurring	M
134	TBD	RC Planning Documents	1,000,000	1,000,000	0	0	0	0	0	0	0	0	2,000,000	immediate	H
135	TBD	WC Asset Management	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,500,000	annually recurring	M
136	TBD	RW Injection Pilot Study	200,000	300,000	0	0	0	0	0	0	0	0	500,000	immediate	H
137	TBD	WRCWRA	500,000	500,000	0	0	0						1,000,000	immediate	H
138	TBD	UWMP	500,000	500,000	0	0	0	0	0	0	0	0	1,000,000	immediate	H
139	TBD	Conservation Programing	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	30,000,000	immediate	H
140	TBD	WW Planning Documents	500,000	500,000	0	0	0	0	0	0	0	0	1,000,000	immediate	H
141	TBD	Local Supply Resilience Projects	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	250,000,000	intermediate	M

142		RW AMP	0	0	0	0	0	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	25,000,000	long-term	M
143	TBD	Recycled Water Pump Station Emergency Generation Upgrade	0	0	0	0	0	0	2,000,000	2,000,000	2,000,000	0	6,000,000	long-term	M
144	TBD	Wineville Basin Pipeline	0	0	0	0	0	0	0	0	100,000	900,000	1,000,000	long-term	M
145	TBD	Water Softener Rebate	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	1,250,000	annually recurring	M
		<b>RW Distribution and GWR System Total</b>	<b>43,825,000</b>	<b>44,055,000</b>	<b>45,300,000</b>	<b>50,765,000</b>	<b>34,485,000</b>	<b>33,650,000</b>	<b>35,650,000</b>	<b>35,650,000</b>	<b>35,750,000</b>	<b>34,800,000</b>	<b>393,930,000</b>		

■ I.E.U.A. FY 14/15 TEN YEAR CAPITAL IMPROVEMENT PLAN ■

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