Fiscal Year 2011/12



Operating and Capital Program Budget

Ten Year Capital Improvement Plan

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT
Chino, California

Striving to enhance the quality of life in the Inland Empire by providing the optimum water resources management for the area's customers while promoting conservation and environmental protection.



Volume 2

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INLAND EMPIRE UTILITIES AGENCY

OPERATING AND CAPITAL PROGRAM BUDGET FISCAL YEAR 2011/12, VOLUME II

TEN-YEAR CAPITAL IMPROVEMENT PLAN

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Executive Summary I E U A	TYCIP

TEN-YEAR CAPITAL IMPROVEMENT PLAN

INTRODUCTION

Each year, the IEUA Board of Directors adopts a Ten-Year Capital Improvement Plan (TYCIP) based on the comments and recommendations of the Regional Technical and Policy Committees. Pursuant to the terms of the Regional Sewerage Service Contract, the TYCIP includes wastewater flow forecasts, a description of the capital improvement projects planned to meet those forecasts, a summary of the costs associated with the program, and a description of the financing plan to implement the program. This year's TYCIP covers fiscal year (FY) 2011/12 through FY 2020/21.

Despite some positive signs of economic recovery, recent forecasts indicate the economy will remain sluggish, particularly in the Inland Empire. The TYCIP growth forecast assumes the local housing slump will continue for the next four fiscal years, consistent with local economists' forecasts. The slow growth and high number of foreclosures in the area continues to affect the Agency's revenue and cost projections as well as plans for new facilities or capital expansions.

Over the years, the Agency has been proactive in implementing fiscal and operational cost cutting measures and leveraging its resources and technology to enhance efficiencies across the organization. Even before implementing a focused cost containment plan in FY 2008/09, Agency management had been:

- Reducing staffing levels;
- Using key performance indicators to more efficiently monitor chemical and energy consumption;
- Cross-training staff and implementing enhanced technology to achieve a single shift in all of its facilities;
- Implementing renewable energy technology with no capital outlay or ongoing maintenance costs;
- Applying for federal and state grants to support major capital projects;
- Securing low-interest State Revolving Fund (SRF) loans to finance major capital projects;
- Deferring non-essential capital projects;
- Implementing condition-based policies for fleet vehicles, computer and operations equipment; and
- Reducing debt service costs by refinancing existing debt obligations.

Such efforts have resulted in the Agency's sewage rates being ranked as the lowest in the southern California. This TYCIP reflects the Agency's commitment to diligently continue to pursue cost reduction measures without impacting the quality and level of services to its customers.

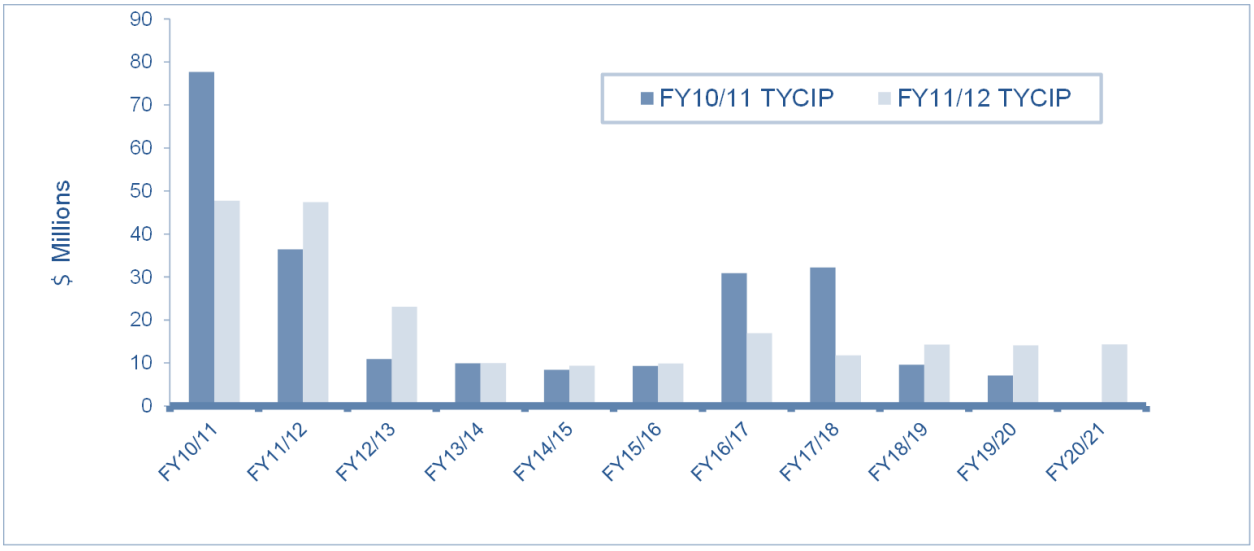
The highlights of the TYCIP include:

- The capital program and budget are a continuation of the FY 2007/08 through FY 2010/11 budgets, which deferred over $218 million of non-essential capital projects due to the economic recession and the need for cost containment;
- No substantive new projects are proposed compared to last year's budget and TYCIP;
- No new major facilities or expansions needed due to declining wastewater flow rates;
- No adjustment in FY 2011/12 to the Equivalent Dwelling Unit (EDU) connection fee rate of $4,766 per EDU;
- No adjustment in FY 2011/12 to the current monthly sewage rate of $11.14 per EDU;
- Property tax revenues (which are used primarily to fund debt service) are anticipated to drop by an additional 1.0% in FY 2011/12, after a decline of 5.5% in FY 2009/10 and an anticipated drop of 3% in FY 2010/11;
- Aggregate capital expenses are expected to be $170 million; and
- Adequate funding sources are projected to fund the capital program, including low-interest SRF loans, unexpended bond proceeds, system revenues (primarily connection fees, user charges, and property taxes not needed for debt service), and federal and state grants.

Compared to last year's TYCIP, which included proposed capital spending of $232 million, the current TYCIP proposes $171 million in capital costs. The reduction of $61 million is due mainly to four factors: completion of projects, deferral of projects, reduced engineering costs due to the use of Agency staff for in-house design, and reduced construction costs due to the impact of the economic recession on the construction industry. In addition, the use of power purchase agreements (PPAs) to finance renewable energy projects, as with the Agency's solar, wind and fuel cell power projects, transfers the financing and other risks to the contractor and has enabled the Agency to avoid $45 million in capital costs.

The proposed TYCIP costs are spread over the ten years as follows:

Figure ES-1: Projected TYCIP Costs by Fiscal Year



Note: For FY10/11, light-colored bar represents estimated actual cost.

Although non-essential capital spending has been deferred, the TYCIP continues with implementation of the following major Board-approved program initiatives which are supported by business case analyses, environmental documentation, and identified, approved funding sources:

- *Recycled Water Business Plan*, developed in 2007 to guide the construction of a fully-integrated recycled water distribution system and to supply major municipal, industrial, and agricultural users as well as groundwater recharge basins;
- *Strategic Energy Management Plan*, developed this year to formalize the already ongoing efforts to increase energy use efficiency and on-site generation of renewable energy, with the goal of providing independence from purchased energy during peak periods ("Go Gridless") by 2020;
- *Agency-wide Asset Management Program*, developed for the regional wastewater system in 2005 by Metcalf and Eddy , and for the non-reclaimable waste system in 2006 by PBS&J, and modified each year in the TYCIP to reflect work completed, current priorities and current condition assessment as determined by engineering and operations staff;
- *Recharge Master Plan*, developed in 2001 as part of Chino Basin Watermaster's Optimum Basin Management Program (and updated in 2010) to provide a comprehensive program to increase the recharge of stormwater, recycled water, and imported water into the Chino Basin groundwater aquifer; and
- *Long Range Plan of Finance*, developed in 2007 to implement the goal of having programs that are self-supported by user charges and fees, minimize borrowing costs, maintain moderate rate increases, maintain adequate reserves, and minimize the reliance on property taxes to support operating costs.

All of the above programs have been presented to the Regional Technical and Policy Committees and the Board and are several years into the implementation phase.

INTEGRATED CAPITAL PROGRAM PLANNING

The TYCIP is developed each year to be consistent with the Agency's annual operating budget and long-term programs described in the 2002 Facilities Master Plans Program Environmental Impact Report (FMP PEIR), which encompassed the Wastewater Facilities Master Plan (Board-adopted in August 2002), the Recycled Water Feasibility Study (2002), and the Organics Management Business Strategy (2002). The TYCIP reflects the integration of the Agency's planning activities into the Chino Basin Watermaster (CBWM) overall water supply management strategy, commonly called the Optimum Basin Management Program (OBMP). The Agency is also continuing to work closely with the Santa Ana Watershed Project Authority (SAWPA), the Metropolitan Water District of Southern California (MWD) and the California State Water Resources Control Board—Santa Ana Region (SWRCB) to enhance and expand existing programs that improve local water supply availability and water quality.

Since the Facilities Master Plans were developed in 2002, there have been dramatic changes in the region's energy, water supply, and economic conditions. IEUA's original planning documents and implementation plans have been expanded and updated to address the changed local water supply

and energy conditions and provide cost-containment benefits. Several important new regional planning documents were completed in 2009 and 2010, including:

- CBWM 2010 Recharge Master Plan Update
- SAWPA One Water, One Watershed (OWOW) Integrated Regional Water Management Plan
- MWD Integrated Resources Plan (IRP)
- IEUA Strategic Energy Management Plan (EMP)
- IEUA Urban Water Management Plan 2010 Update
- OBMP Peace II CEQA Document
- SWRCB Recycled Water Policy

IEUA's resource planning efforts will continue to be coordinated with other local, regional and state planning activities that may have a significant impact on the Agency's operations and capital programs.

TEN-YEAR FLOW FORECASTS AND CAPACITY UTILIZATION

A survey of IEUA's member agencies is conducted in September of each year to determine the projected growth rate for the next ten years, in terms of Equivalent Dwelling Units (EDUs). The projections are used to predict building activity and to develop the Ten-Year Capacity Demand Forecast for Regional Sewerage System. In addition, IEUA makes internal growth estimates for the overall service area which are used for budgetary purposes such as forecasting connection fee revenues and developing TYCIP financing plans. The results of the September 2010 member agency survey are summarized below and compared to the Agency's budgetary forecast:

TABLE ES-1

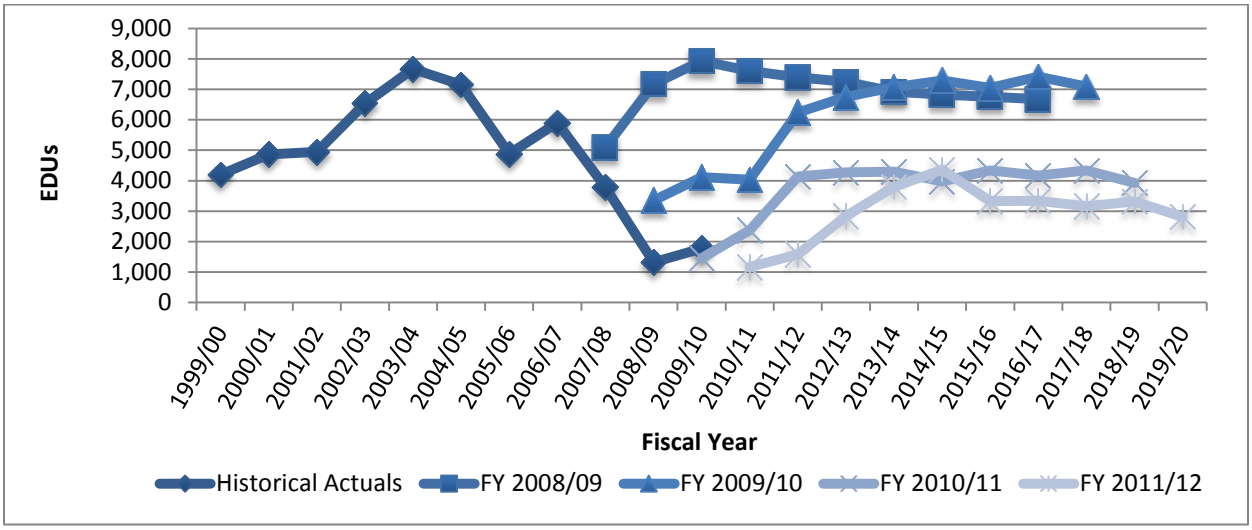
Projected EDU Connections & Fees

FY	Member Agencies*	IEUA	Difference
2011/12	1,585	1,200	-385
2012/13	2,833	1,400	-1,433
2013/14	3,804	1,600	-2,204
2014/15	4,360	1,800	-2,560
2015/16	3,327	2,000	-1,327
2016/17	3,333	2,200	-1,133
2017/18	3,160	2,400	-760
2018/19	3,315	2,200	-1,115
2019/20	2,809	2,000	-809
2020/21	2,809	2,000	-809
FY 2012– 2021	31,335	18,800	-12,535

*Member Agency projections in September 2010 survey.

Over the next ten years, the member agencies projected a ten-year capacity demand on the Regional Sewerage Facilities of 31,335 EDUs. As shown in the figure below, the member agency building activity forecasts for FY 2009/10 and beyond have dropped for the third consecutive year.

Figure ES-2: Historical Building Activity and Successive Year Growth Forecasts

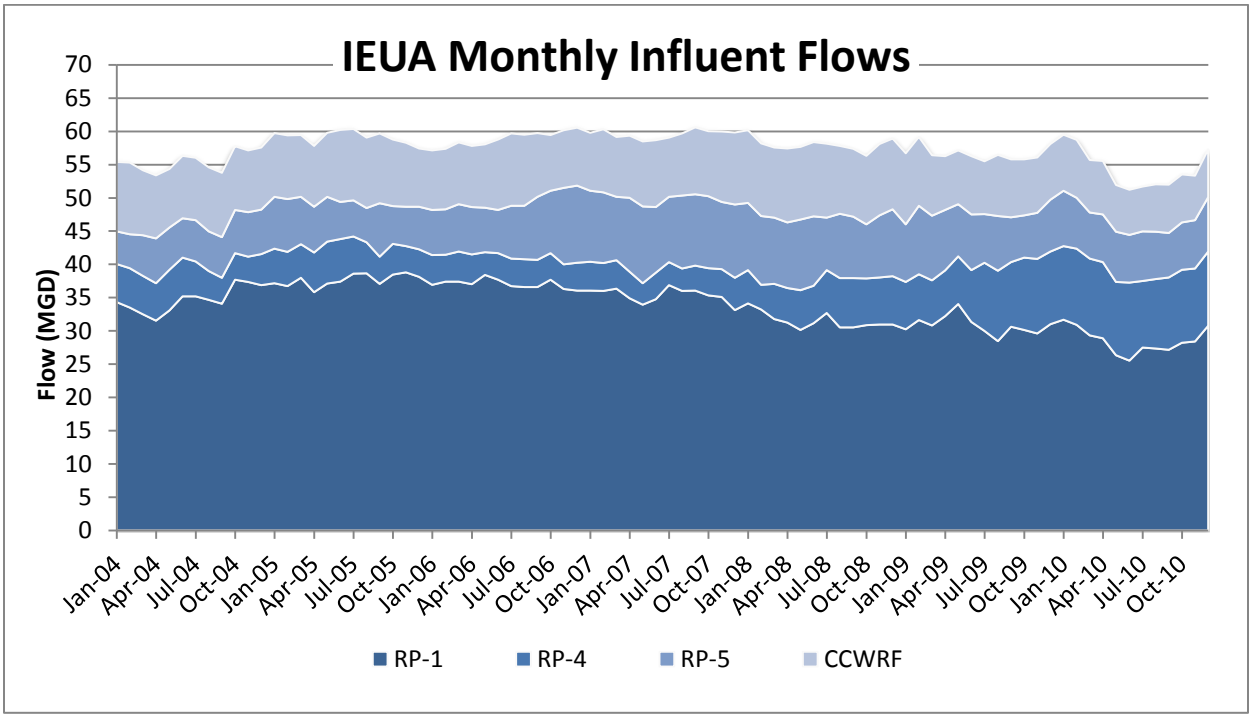


The reduced growth projections are primarily a result of the current economic downturn which has slowed development. The City of Ontario is anticipating growth from the New Model Colony to begin increasing in FY 2012/13, although, with the housing market in flux, it is difficult to predict exactly when the increase in building activity will occur. Total building activity is projected by the member agencies to peak in FY 2014/15 at 4,360 EDUs**.** IEUA projects a very moderate growth from 1,200 EDUs in FY 2011/12 to 2,400 EDUs by FY 2017/18. The assumption of conservative EDU growth is based on the prior two years (1,318 EDUs for FY 2008/09 and 1,767 EDUs for FY 2009/10) and the current year-to-date as of January 2011 (583 EDUs), as well as the recent forecasts by local economists for a continued weak housing market and lagging construction activities. (The Inland Empire Center of Claremont-McKenna College and Dr. John Husing of Economics and Politics, Inc. provided regional economic forecasts.)

The effects of the economic recession and the high foreclosure rate in the Inland Empire are also reflected in the wastewater flow rates coming into IEUA's treatment plants. Since FY 2007/08, both water consumption and wastewater generation in IEUA's service area have been trending downward. FY 2007/08 coincided with both the beginning of the recession and the beginning of a three-year drought that cut water supplies to the region. IEUA's member agencies' overall water use has decreased approximately 32,000 acre-feet over the past three years. This can be largely attributed to IEUA and its member agencies' public education, water use efficiency programs, ordinance enforcement and the vacancies caused by the economic downturn.

The downward wastewater flow trend seen at IEUA is consistent with Orange County Sanitation District, LA County Sanitation Districts, and the City of San Bernardino, all of which have reported 5% to 15% reductions in flows. IEUA's historical wastewater flow trend is shown below.

Figure ES-3: Regional Plant Service Area Wastewater Flows



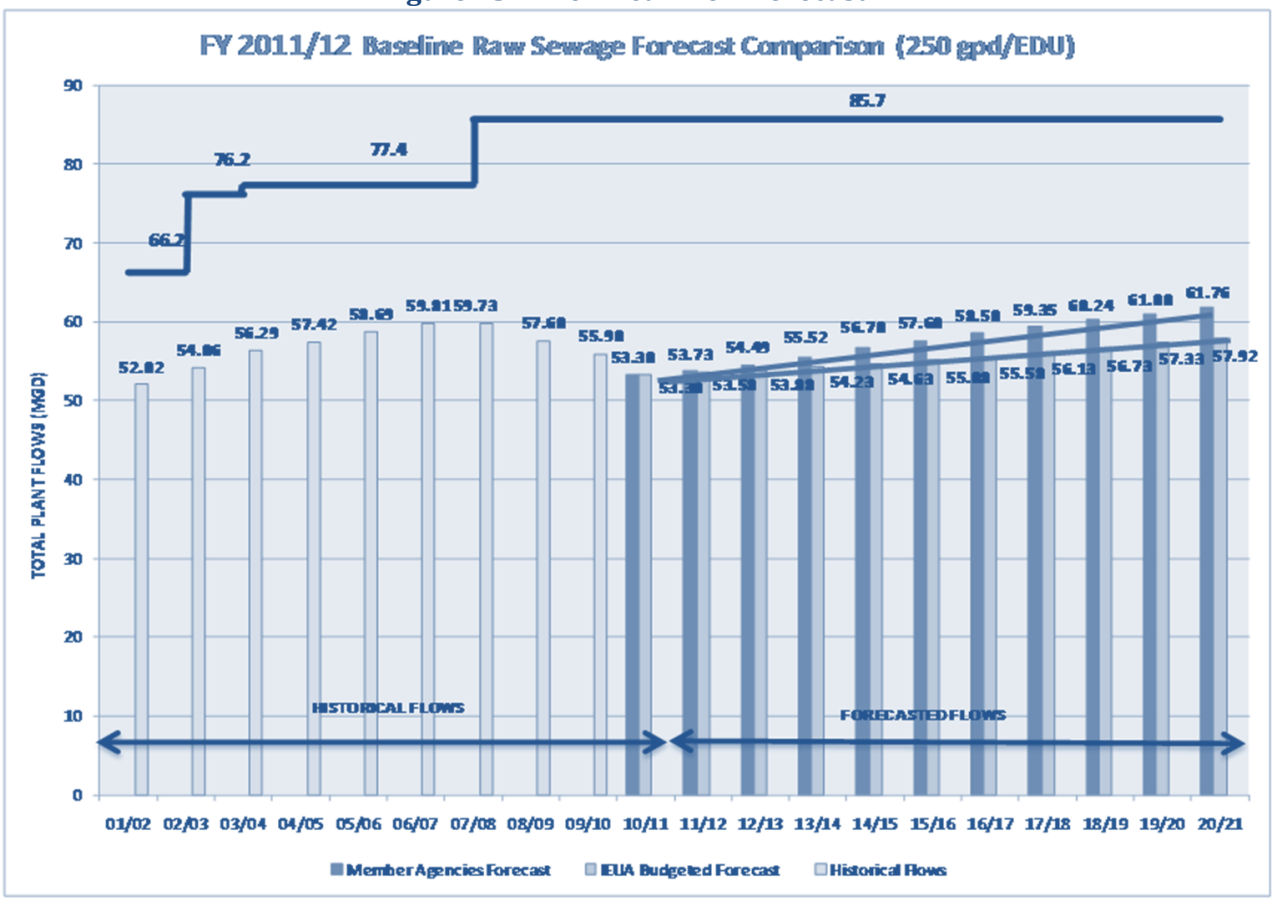
Current wastewater flows at all four facilities combined averages about 53 MGD. The current and projected flows at each plant are shown in the table below. Compared to the existing treatment capacity of 85.7 MGD, the flows in ten years are expected to total 68% of IEUA's treatment capacity.

TABLE ES-2
REGIONAL SYSTEM FLOW AND CAPACITY UTILIZATION SUMMARY
(MG)

	FY2010/11 Projected				FY2020/2021 Forecast			
Water Recycling Facility	**Raw Service Area Flow**	**Plant Influent Flow**	**Plant Rated Capacity**	**Percent Capacity Utilization**	**Raw Service Area Flow**	**Plant Influent Flow**	**Plant Rated Capacity**	**Percent Capacity Utilization**
RP-1	28.65	28.38	44.0	65%	29.68	29.40	44.0	67%
RP-4	6.95	10.72	14.0	77%	7.62	11.39	14.0	81%
CCWRF	10.96	7.01	11.4	62%	11.30	7.35	11.4	65%
RP-5	6.74	8.78	16.3	54%	8.40	10.45	16.3	64%
IEUA Total	53.29	54.90	85.7	64%	56.99	58.60	85.7	68%

The figure below shows that, no matter which growth forecast is used, the member agencies' or IEUA's budgetary forecast, and assuming a conservative wastewater generation rate of 250 gallons per day per EDU (gpd/EDU) there will be adequate treatment capacity at the end of ten years.

Figure ES-4: Ten-Year Flow Forecast



TEN-YEAR CAPITAL IMPROVEMENT PROGRAMS

The Agency's budget and capital program are divided into several different program areas:

- Regional Wastewater Program, consisting of Regional Capital and Regional Operations Programs (RC and RO Funds)
- Recycled Water Program (WC Fund)
- Recharge Water Program (RW Fund)
- Non-Reclaimable Wastewater System Program (NC Fund)
- Administrative Services (GG Fund)

These funds account for all of the costs and revenues associated with acquisition or construction of facilities and improvements.

The Agency's capital program breakdown by fund is shown in Table ES-3. The Regional Wastewater Program and Recycled Water Programs consist of the greatest capital investment

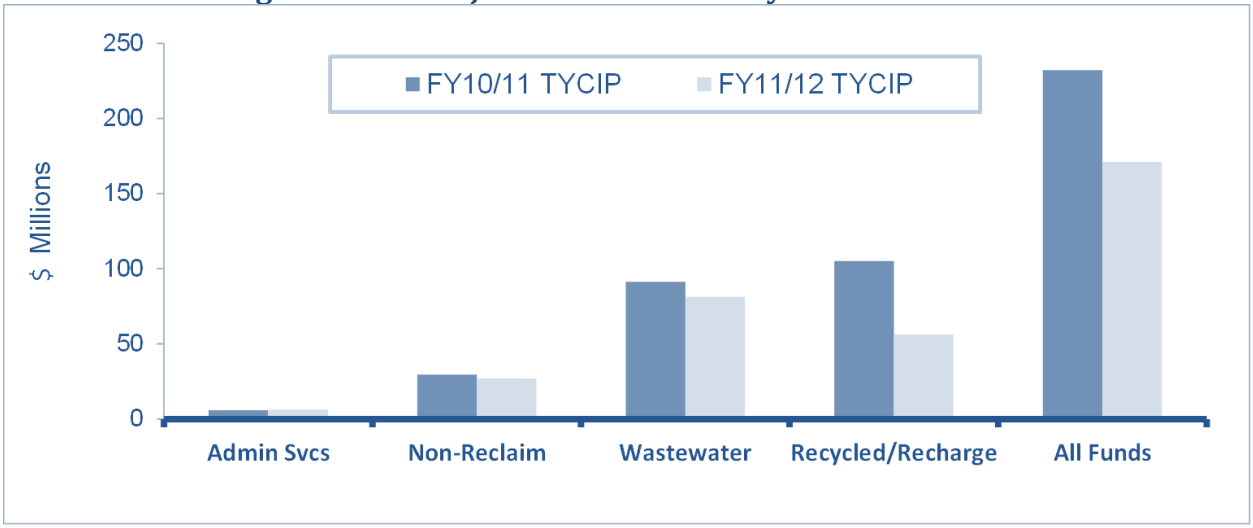
within the Agency and comprise 80% of Agency's total expected capital cost outlay through FY 2020/21.

TABLE ES-3
TYCIP CAPITAL PROGRAM ALLOCATION

Capital Program	Ten-Year Cost (FY 11/12 to FY 20/21) ($ Millions)	Percentage
Regional Wastewater Program (RC + RO)	$ 81	47%
Recycled Water and Recharge Water (WC + RW)	$ 56	33%
Non-Reclaimable Wastewater System (NC)	$ 27	16%
Administrative Services (GG)	$ 6	4%
All Capital Programs	**$171**	**100%**

Compared to the FY 2010/11 TYCIP, this year's TYCIP shows cost reductions in all major program areas (Figure ES-5).

Figure ES-5: Projected TYCIP Costs by Functional Area



REGIONAL WASTEWATER PROGRAM

The current Regional Wastewater Program emphasis is on repair and replacement of existing equipment and structures, providing system redundancy where needed to guarantee performance and compliance, and achieving energy sustainability. The largest Regional Program projects (in terms of costs over the coming ten years) are listed in Table ES-4.

TABLE ES-4
REGIONAL WASTEWATER SYSTEM CAPITAL PROGRAM—MAJOR PROJECTS

Project Title	FY10/11 Projected Actual	FY11/12	FY12/13	FY13/14	FY14/15-FY20/21	Total TYCIP FY11/12-FY20/21
Capital Upgrades: RP-1, RP-2, CCWRF, RP-4, and RP-5	$4.0 M	$ 3.7 M	$2.1 M	$1.9 M	$18.4 M	$26.1 M
RP-1 Dewatering Facility Expansion Project	$13.5 M	$5.8 M	-	-	-	$5.8 M
Plant Equipment Improvement Project (All Facilities)	$0.2 M	$0.4 M	$0.6 M	$1.0 M	$8.5 M	$10.5 M
RP-1 Asset Replacement	$0.4 M	$0.9 M	$0.9 M	$0.7 M	$6.8 M	$9.3 M
All RC/RO Projects	**$22.7 M**	**$18.7 M**	**$6.4 M**	**$5.7 M**	**$50.7 M**	**$81.4 M**

There are no plans in the next ten years to expand the flow capacity of any of the Agency's Regional Wastewater Facilities. The RP-1 Dewatering Facility Expansion Project is slated for completion in FY 2011/12 and has a remaining cost of $5.8 million out of a $27 million total budget since project inception. Other capital projects in the Regional Program TYCIP relate to essential system and equipment repair, replacement and upgrade.

Examples of each type of project are given below:

- Capital Upgrades at RP-1, RP-2, CCWRF, RP-4 and RP-5
  - Regulatory, safety, or redundancy for essential systems at Regional Wastewater Facilities, agency-wide.
  - Examples: HVAC Improvements for RP-1 Motor Control Center, Lab, and Control Rooms; CCWRF Tertiary Filter Media Replacement.
- Plant Equipment Improvements
  - Replacement of wastewater equipment or processes at any of the Regional Wastewater Facilities upon failure to perform or at end of useful life. Provides engineering support to the operations and maintenance departments by preparing final construction documents for complex projects.
  - Examples: RP-4 Headworks Improvements (new bar screens and gates); CCWRF Blower Line Replacement and Blower Control Upgrades.
- RP-1 Asset Replacement
  - Planned improvements to critical facilities or processes at RP-1. Includes phased repair or replacement of essential equipment and major processes based on the priorities and schedule identified during the detailed 2005 RP-1 Condition Assessment Study.

- Examples: Primary Clarifier Rehabilitation; Headworks Gate Replacment; Chemical pumps; Air diffusers.

RECYCLED WATER AND RECHARGE PROGRAMS

In response to potential reduction in imported water supplies, the Recycled Water Business Plan was adopted by the Agency Board of Directors in December 2007. The ultimate goal of the Recycled Water Business Plan is to provide 20% of the Agency's water requirement by 2025 by extending the use of recycled water in place of more costly imported water for industrial, irrigation, landscaping, and replenishment of groundwater basins.

The estimated cost of the facilities planned for the next ten years is $56 million with the majority of those expenditures occurring in the first three years. The program is to be funded by a combination of state and federal grants, State Revolving Fund (SRF) loans and MWD rebates. The actual schedule of implementation will depend on the availability of grant funding and changing recycled water facility needs. The major Recycled Water and Recharge Program projects, in terms of the expected costs over the next ten years, are shown in Table ES-3 below.

TABLE ES-5
RECYCLED WATER AND RECHARGE PROGRAMS MAJOR CAPITAL PROJECTS

Project Title	FY10/11 Projected Actual	FY11/12	FY12/13	FY13/14	FY14/15-FY20/21	Total TYCIP FY11/12-FY20/21
Northwest Area Projects:						
1630 W. Reservoir & Pipeline, Seg. A , B & C	$11.4 M	$ 5.2 M	-	-	-	$5.2 M
1630 W. Pump Sta.	$2.4 M	$ 1.3 M	-	-	-	$ 1.3 M
Northeast Area Projects:						
1630 E. Pipeline, Segment B	-	-	-	-	$5.4 M	$5.4 M
Southern Area Projects:						
930 W. Reservoir & Pipeline	$1.2 M	$7.6 M	$9.2 M	$0.4 M	$0.4 M	$17.6 M
800 Zone Reservoir	-	-	-	-	$3.4 M	$3.4 M
Central Area Projects:						
Wineville Extension Recycle Water Pipeline	$0.5 M	$8.4 M	$3.2 M	-	-	$11.6 M
RP-1 Parallel Outfall	-	-	-	-	$5.7 M	$5.7 M
Recharge Projects:	$0.07 M	$0.1 M	$0.05 M	-	-	$0.15 M
All WC/RW Projects	**$23.1 M**	**$24.3 M**	**$13.2 M**	**$0.9 M**	**$18.1 M**	**$56.3 M**

The Three-Year Recycled Water Business Plan as originally conceived was estimated to cost over $188 million. With the current construction environment, economy, and effective IEUA program management, the projects and goals are anticipated to be achieved at fifty percent of the original estimate ($93 million).

Since the inception of the Business Plan, the Recycled Water Program has made significant improvements in recycled water usage and connected demand. The connected demand and recycled water sales have more than tripled since FY 2006/07.

Use of recycled water for groundwater recharge is a critical component of the basin management and water supply plans for the region. It has greatly increased the reliability of water supplies during dry years and has saved up to $4 million per year in imported water costs. The recharge of high-quality recycled water and high-quality imported and stormwater sources are key components in ensuring that Chino Basin groundwater quality objectives are met. In addition, improvements in groundwater quality through recharge will ultimately lower the cost of the Chino Basin Desalter groundwater treatment process.

The capital project costs identified in the current TYCIP for the Groundwater Recharge Capital Fund mainly involve capacity improvements and refurbishment at selected basins (e.g., Turner Basins) and total less than $0.5 million. IEUA staff is evaluating the effectiveness of the constructed Phase II Chino Basin Facilities Improvement Program (CBFIP) basin improvements towards increasing overall basin recharge capacity. Within this TYCIP, the existing groundwater recharge basins are assumed to be sufficient to provide adequate stormwater, recycled water and imported water recharge capacity for the foreseeable future. Some modifications for maintenance will be required.

Additional future capital improvements to the recharge program (Phase III CBFIP) may be identified following stakeholder evaluation of the recommendations of the Chino Basin Recharge Master Plan, 2010 Update. The determination of what is needed and when to implement any capital changes will be the subject of a future review and collaborative effort of IEUA and CBWM and depends on the availability of future funding sources. The financial impact of any significant capital requirements for the groundwater recharge basins will be addressed in revisions and updates to this TYCIP.

NON-RECLAIMABLE WASTEWATER PROGRAM

The long range capital improvement projects for the existing Non-Reclaimable Wastewater System (NRWS) are directed toward increasing the economic value and improving and retaining the integrity of the NRWS. IEUA anticipates spending $12 million during the next ten years on repairs and replacement of the NRWS pipelines and pump station as part of the IEUA Asset Management Program and $15 million for County Sanitation Districts of Los Angeles County (CSDLAC) Capital Replacement charges. These capital improvements will increase the reliability of the NRWS and allow the Agency to comply with the state-adopted requirements to implement a Sanitary Sewer Management Plan (SSMP).

ADMINISTRATIVE SERVICES PROGRAM

The capital purchases in the Administrative Services Program are primarily for furniture, vehicles, office equipment (defined by Agency policy as greater than $5,000), computers and software (greater than $1,000) and other administrative purchases commonly used for general Agency purposes. These capital expenses are supported by the Regional Wastewater (93%), NRWS (3.5%) and Recycled Water (3.5%) Programs. The total ten-year capital project costs for this program are projected at $6 million, which includes system upgrades, computer equipment replacement, network infrastructure replacement, software purchases, and capital improvements to the Agency's headquarters. Principal projects are:

- Main Office and Central Plant Heating and Cooling Improvements—Improvements to current HVAC system in order to be more efficient and redundant. In addition, the project will automate the controls in order to optimize energy use and reduce labor operating the system
- Operations Data Management System--Develop an integrated, coordinated system for collection, summary, storage, retrieval and analysis of daily and monthly operations data to replace the manual spreadsheets developed over time by different individuals at different plants.
- SAP Upgrade—Upgrade Agency's Enterprise System to Version 6.0 in FY 2013/14.
- Future Information Technology Initiatives—Provides budget for future information technology initiatives as yet to be determined, starting in FY 2014/15
- Replacement Computers—Provides budget for replacement of computer equipment at end of useful life.

As part of the Agency's cost-containment plan, a run-to-failure strategy has been imposed for computers and peripheral equipment.

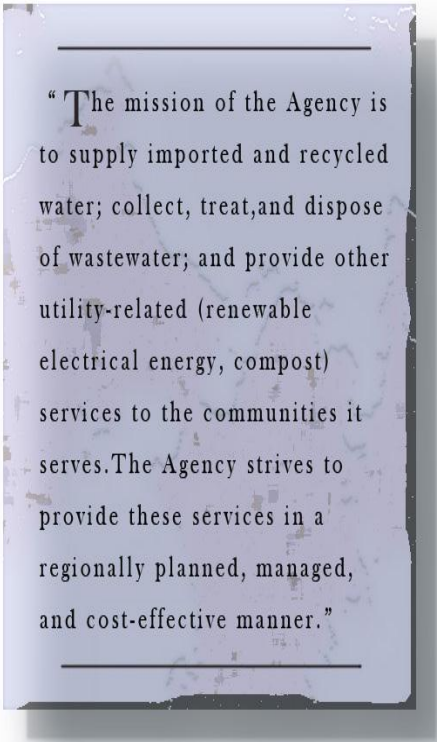
1.0 INTRODUCTION

1.1 Background

The Inland Empire Utilities Agency (IEUA) is a wholesale distributor of water and recycled water and provides regional wastewater treatment services for a 242-square-mile area of western San Bernardino County. IEUA provides industrial and municipal wastewater collection through regional wastewater interceptors and two non-reclaimable waste pipeline systems, and produces recycled water at four regional treatment plants. IEUA also produces energy from biogas and solar generation at its regional facilities and produces biosolids compost at its state-of-the-art composting facility. IEUA provides these utility services to seven Contracting Agencies:

1. City of Chino
2. City of Chino Hills
3. Cucamonga Valley Water District (CVWD)
4. City of Fontana
5. City of Montclair
6. City of Ontario
7. City of Upland

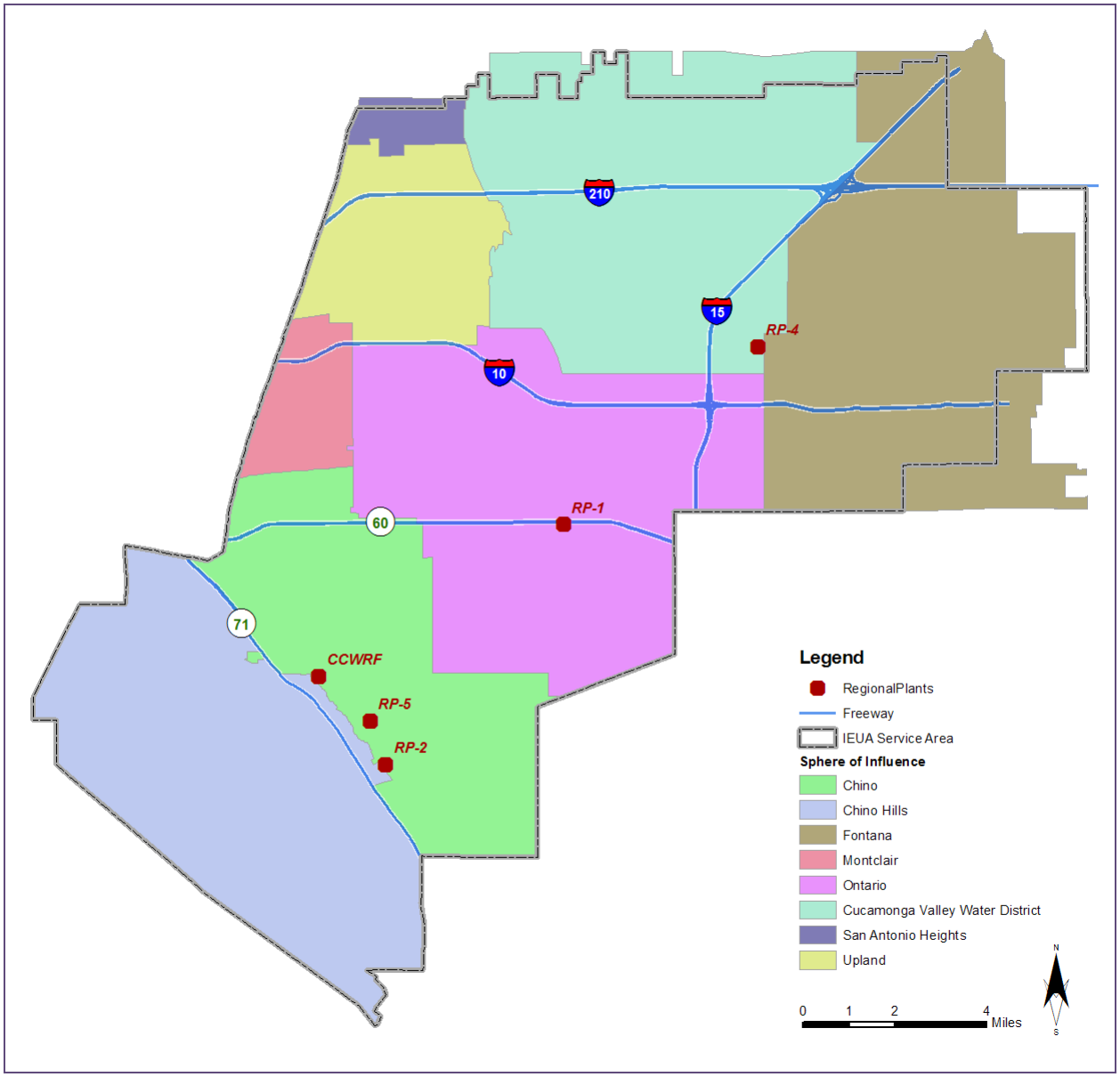
Figure 1-1 depicts the IEUA service area, each Contracting Agency's sphere of influence, and IEUA's regional water recycling facilities.



1.2 IEUA's Mission

IEUA, its Board and staff, strive to provide reliable, cost-effective water utility services which protect and enhance the environment while fostering economic development. The Agency is focused on providing three key products at its wastewater facilities: recycled water to drought-proof our service area; organic compost made from recycled materials; and electrical energy generated from renewable sources. The Agency provides these services in close coordination with its Contracting Agencies and strives to maintain a high level of public awareness. This Ten-Year Capital Improvement Plan, beyond being a requirement of the Regional Sewerage Service Contract between IEUA and our member agencies, is an additional means of communicating with the public concerning priorities for future projects and capital spending requirements needed to meet future demands in the service area.

Figure 1-1: Contracting Agencies



The residents of the Chino Basin area voted to form IEUA (originally incorporated as the Chino Basin Municipal Water District) in June 1950. The Agency is governed by a five-member Board of Directors (Board), elected to represent individual areas or Divisions. IEUA became a member of the Metropolitan Water District of Southern California (MWD) in 1950 and the Santa Ana Watershed Project Authority (SAWPA) in 1972. IEUA is a member of the MWD, SAWPA and CBWM Board of Directors.

IEUA closely coordinates its water resources management program in the Chino Groundwater Basin with the CBWM, the San Bernardino County Flood Control District, the Chino Basin Water Conservation District, and local water and wastewater retail agencies.

1.3 IEUA Regional Facilities

IEUA's Regional Wastewater System includes 90 miles of regional sewage interceptors. The sewage lateral pipelines are owned and maintained by the individual contracting agencies. All of the wastewater is treated at one of IEUA's water recycling plants, which provide advanced tertiary treatment that meets or exceeds all California Department of Public Health Services (Title 22 regulations) and California Regional Water Quality Control Board waste discharge permit requirements.

1.3.1 Regional Water Recycling Plants

Figure 1-2 illustrates the service area boundaries for IEUA's four water recycling plants. The four Regional facilities are: Regional Plant No. 1 (RP-1), Regional Plant No. 4 (RP-4), Regional Plant No. 5 (RP-5), and Carbon Canyon Wastewater Reclamation 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 Plant No. 2 (RP-2). The stabilized and dewatered solids are 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 being used only for processing solids from RP-5 and CCWRF. Biosolids processing at RP-2 will continue until the plant reaches the end of its useful life or until the RP-2 land can no longer be leased from the U.S. Army Corps of Engineers. Some land at RP-5 has been reserved for future solids processing facilities.

1.3.2 Regional Interceptor System

IEUA has a network of regional interceptor sewers that can be used to bypass flow from one treatment 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. Figure 1-3 illustrates the existing regional trunk wastewater system and tributary areas. The main routes for bypassing/diverting flow are:

- Operators can bypass up to 6 million gallons per day (MGD) from RP-4 to RP-1 through the Etiwanda Interceptor.
- Operators can bypass flow from CCWRF to RP-5 through the Chino Interceptor-- typically 1 to 2 MGD.
- A portion of the flow from the Cities of Upland and Montclair (about 4 MGD) can be diverted either to CCWRF, through the Westside Interceptor, or to RP-1, via the Montclair Lift Station and Montclair Interceptor. Typically, most of the flow is routed to CCWRF to avoid pumping costs.
- Primary effluent and sludge can be diverted from the RP-1 equalization basins into the Eastside Interceptor and then it flows by gravity to RP-5. Up to 9 MGD could potentially be

bypassed; however, operational experience has shown that 1 to 2 MGD is currently the optimum in terms of wastewater treatment plant performance.

As shown on Figure 1-3, IEUA has four wastewater lift stations:

- The Montclair Lift Station pumps wastewater from portions of Montclair, Upland, and Chino to RP-1.
- The Prado Park Lift Station pumps wastewater from the Prado Regional Park in the City of Chino to RP-5.
- The RP-2 Lift Station, which pumps flow from the southeastern portions of the cities of Chino and Chino Hills to RP-5.
- The San Bernardino Avenue Pump Station, which pumps a portion of the flow from the City of Fontana to RP-4.

Figure 1-2: Regional Plant Service Area Boundaries

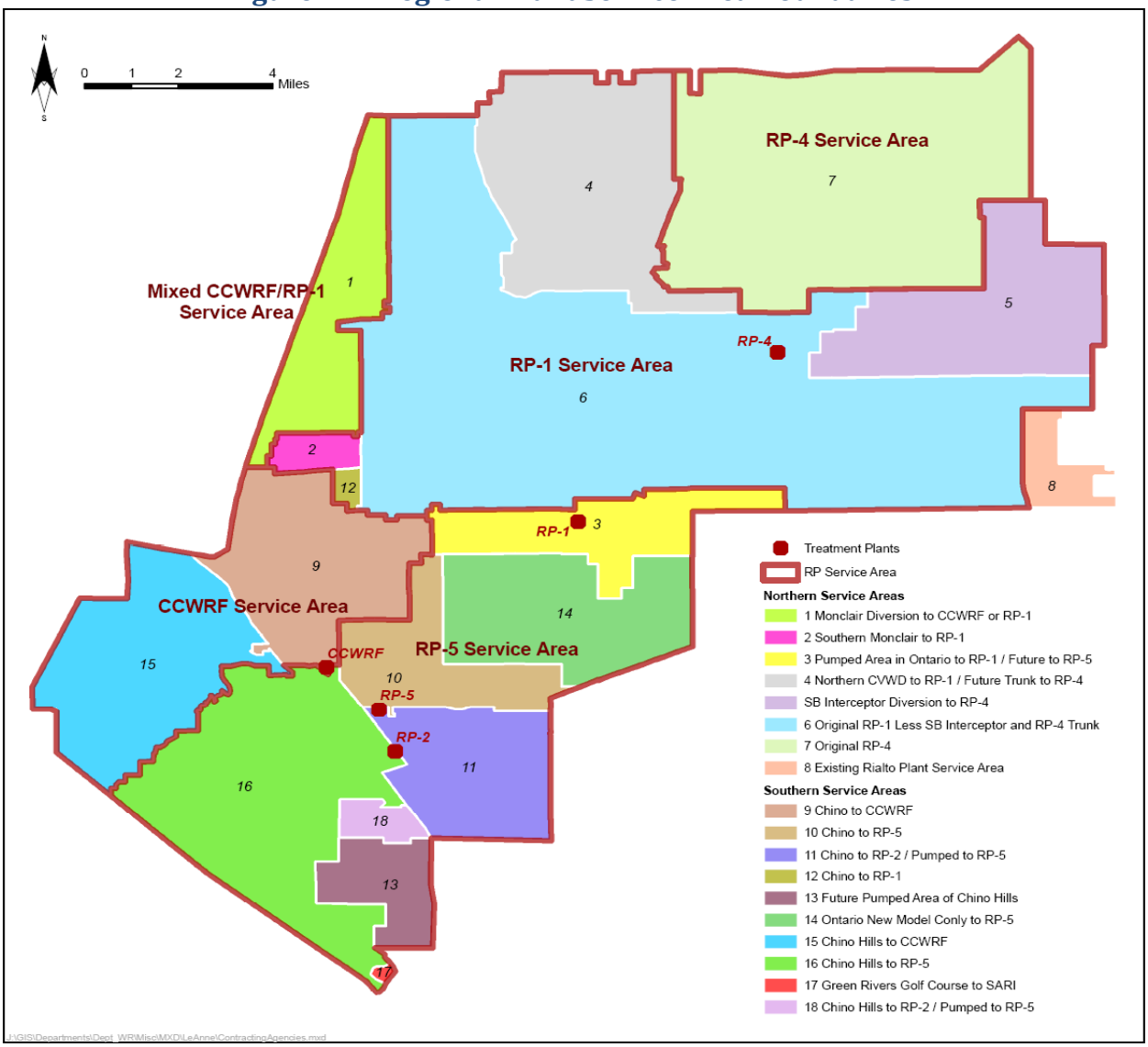
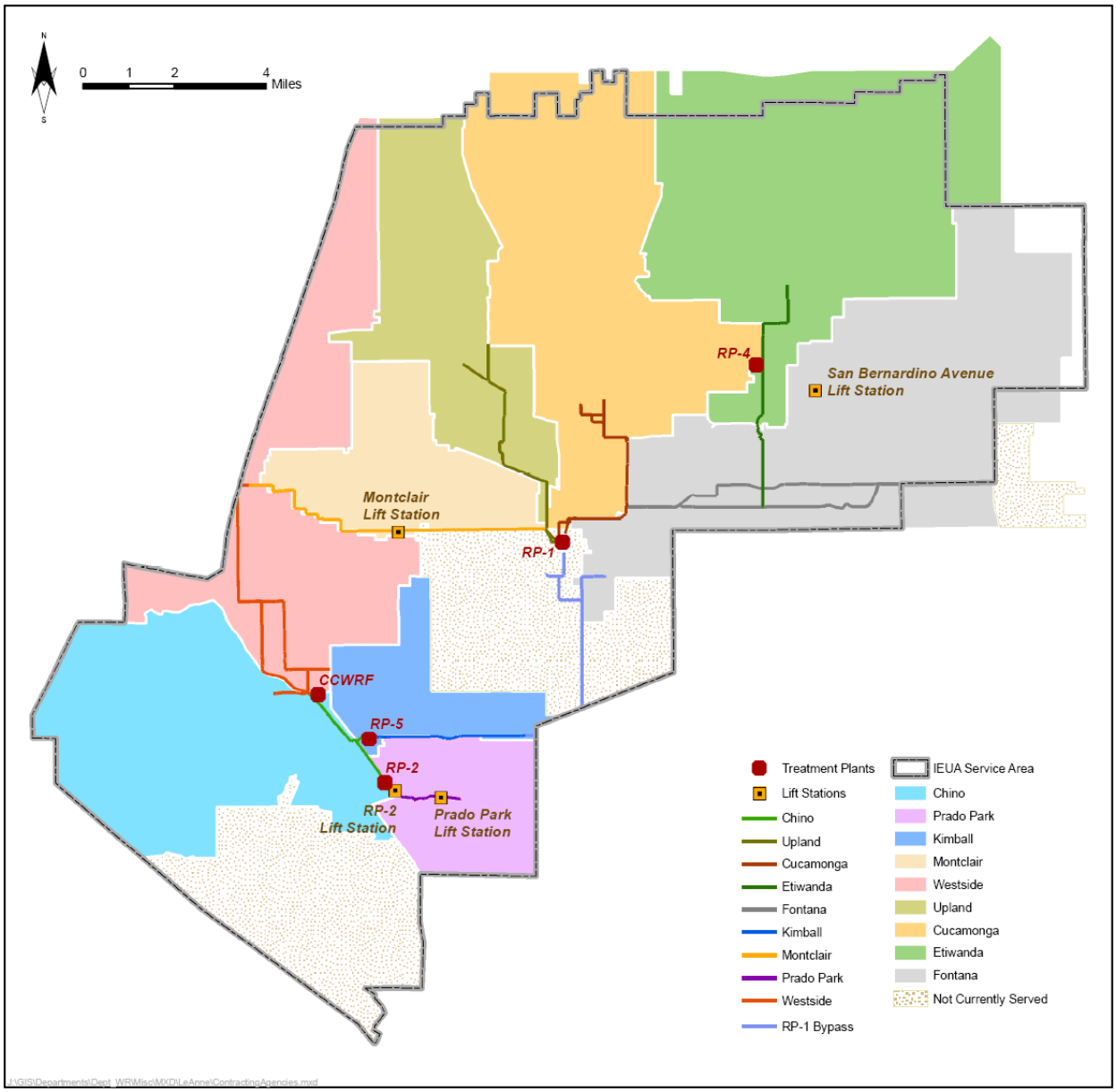


Figure 1-3: Existing Regional Trunk Wastewater System & Tributary Areas



1.4 Program Master Planning and Integrated Water Resources Management

IEUA's Wastewater Facilities Master Plan (WFMP) was adopted in August 2002 with the approval of the Regional Technical and Policy Committees. The WFMP, together with the Recycled Water Feasibility Study (2002) and the Organics Management Strategy Business Plan (2002), formed a "Program Master Plan" and were the subject of a Programmatic Environmental Impact Report (PEIR) certified on June 28, 2002. This TYCIP is consistent with the IEUA's approved WFMP and PEIR.

The PEIR integrated all of the Agency's related planning activities into one comprehensive document in order to address the environmental concerns of the overall effects of the projects contemplated by the Agency. This comprehensive planning process is illustrated in Figure 1-4.

Since 2002, the need to integrate all of the Agency's master planning activities into Chino Basin's overall water supply management strategy has become even more apparent. In 2008 and 2009, there has been a profound shift in California Water Supply Planning in response to three consecutive years of drought and regulatory restrictions on pumping imported water from the Bay-Delta. In addition, rising energy costs, economic recession, climate change, greenhouse gas emission reduction legislation, and drought allocation plans have led to decreased imported water reliability and a call from the Governor to reduce per capita water demand by 20% to 30%. This has led to increased involvement of IEUA with the development of regional planning documents (CBWM, SAWPA, MWD, and Regional Board) and State of California Planning Documents (DWR, CalEPA, etc.)

Figure 1-5 illustrates some of the most significant IEUA, Regional, and State environmental planning documents that are having an impact on IEUA operations and capital programs. A brief description of IEUA's original, 2002 planning documents and the more recent outgrowths of these planning efforts is given below.

1.5 Wastewater Facilities Master Plan

Some of the objectives of the 2002 WFMP were to: (1) identify facilities that need to be replaced or expanded in the near- and long-term to meet projected growth and wastewater flow needs; (2) develop a cost-effective, phased implementation plan; (3) determine space and location needs for additional or expanded treatment facilities; (4) develop strategies for flow diversion between service areas to optimize existing treatment capacity utilization; and (5) maximize water recycling, energy efficiency, and organics recycling.

The WFMP included plans for expansion of wastewater facilities to meet the needs of growth within the service area through 2050. Specifically, it included improvements and expansion of wastewater facilities at RP-4; construction of a new wastewater facility at RP-5; conversion of RP-2 to a solids handling facility only (elimination of wastewater treatment at RP-2); and numerous upgrades and odor control facilities at RP-1 and Carbon Canyon RWRF. These plans have all been implemented. In addition, a new, state-of-the art composting facility was put into service near RP-4 that handles biosolids and green waste; a LEED-Platinum administration building and wetlands educational park were constructed near RP-5; the recycled water system was expanded to include additional recycled water pump stations, pipelines, and reservoirs in the northeast and central areas; and organics management facilities were constructed for handling biosolids, manure, and food waste in the southern area.

Figure 1-4:

2002 Facilities Master Plan—Consolidation of Relevant IEUA Planning Documents

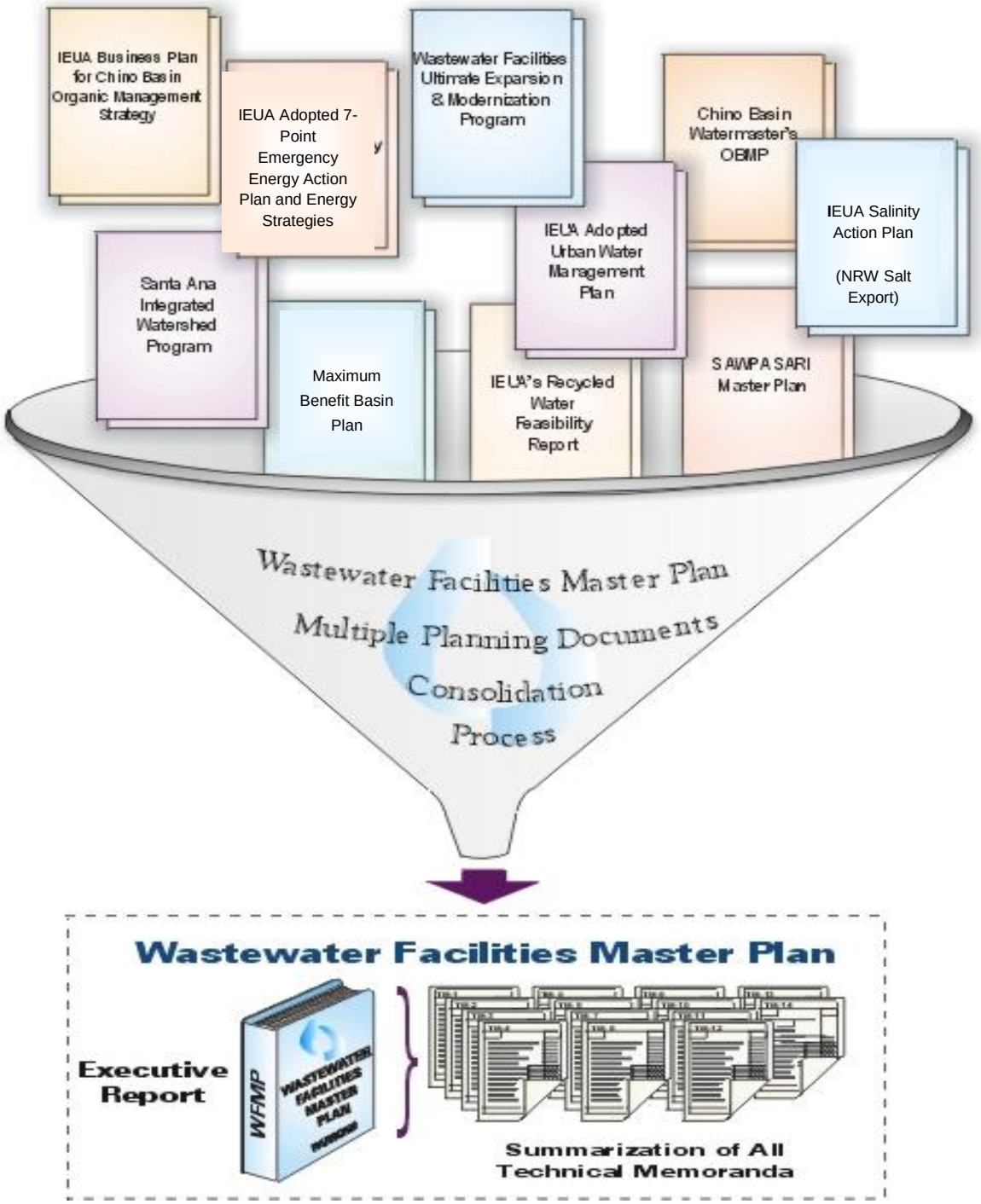
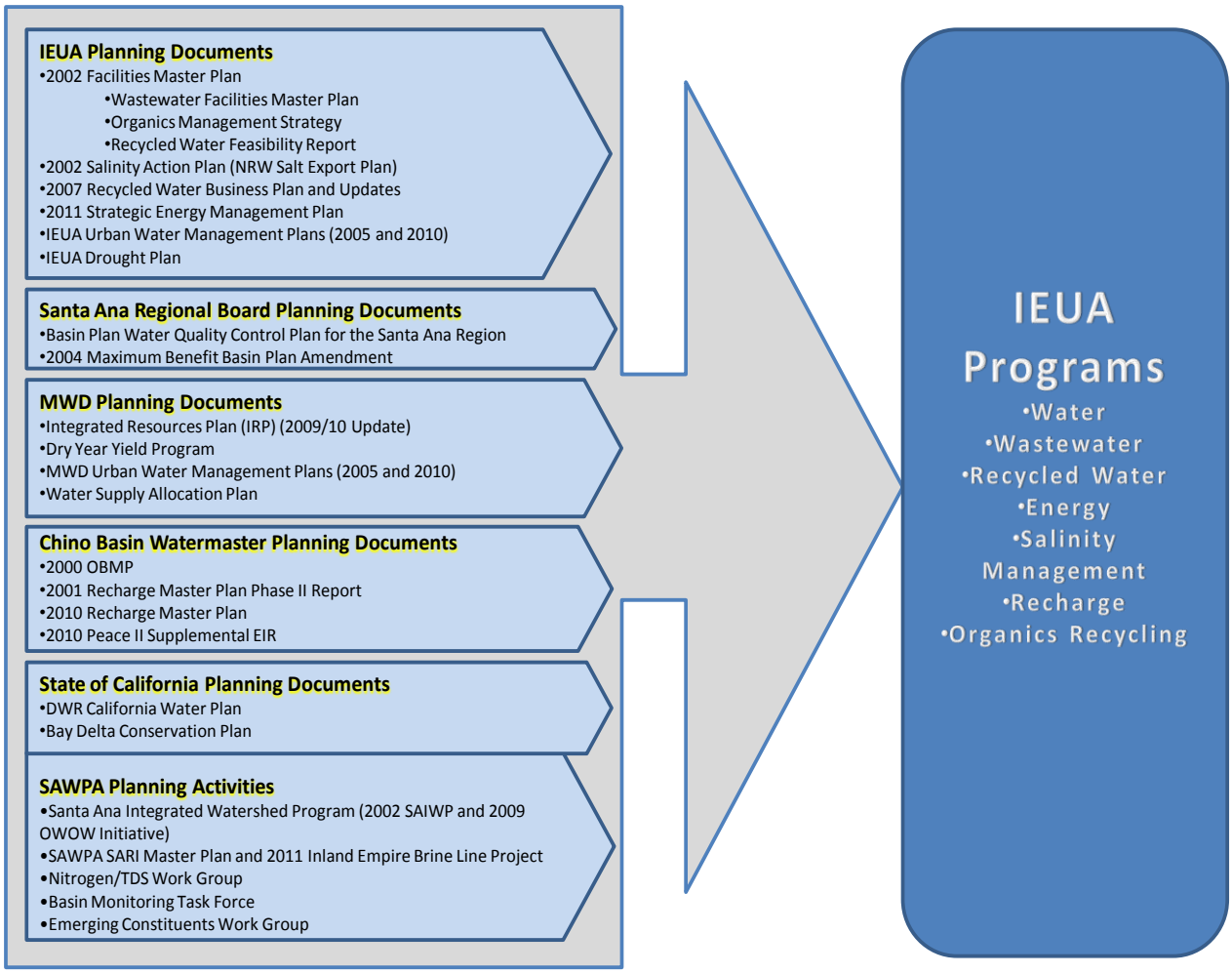


Figure 1-5:

IEUA Coordinated Regional Planning Process



1.6 IEUA Recycled Water Feasibility Study

IEUA prepared a Recycled Water Feasibility Study, adopted by the Board of Directors in August 2002, which delineated the Agency's recycled water program through the year 2020. In 2004, IEUA initiated development of the Regional Recycled Water Program Implementation Plan, which updated information from the 2002 study. In 2005, the IEUA Recycled Water Program Implementation Plan identified additional future recycled water demand, primarily in the developing areas of the cities of Chino and Ontario. IEUA recognizes that water recycling is a critical component of an effective water resources management strategy; over the years, recycled water will become a larger portion of the overall water resources supply mix for the Chino Basin. Water recycling will help "drought proof" the Basin, help achieve the objectives of the OBMP, and provide a lower cost water supply to all the residents within IEUA's service area.

The 2002 Feasibility Study recommended and the 2005 Recycled Water Program Implementation Plan confirmed that interconnection of all four of the IEUA's regional treatment plants in a looped distribution system would maximize beneficial use of recycled water, increase system reliability and flexibility, and provide other operational and cost reducing benefits. The looped system will also allow more customers to be served and provide the flexibility to release surplus recycled water to spreading basins throughout the Basin for recharge.

IEUA's adopted Recycled Water Feasibility Study (August 2002), indicated that by the year 2020 the projected use of recycled water would exceed 70,000 acre-feet per year (AFY), with over 1,700 customers projected to be connected to the regional recycled water distribution system. Subsequent implementation of the 2005 Recycled Water Program Implementation Plan and the 2005 IEUA Urban Water Management Plan showed that a total of over 93,000 AFY of recycled water could be delivered to over 1,900 potential customers. IEUA will recharge up to 33,000 AFY of recycled water (blended with storm water and imported water to meet the overproduction replenishment needs) into the Chino Groundwater Basin and facilitate direct deliveries of over 60,000 AFY of recycled water to local customers. IEUA's goal is to use as much recycled water for local beneficial uses as is economically practical and replenish the Chino Groundwater Basin. In June 2007, IEUA received a new permit for recycled water recharge adding several more basins that can be utilized for recharge with recycled water. These added basins will increase both the volume and distribution of recycled water availability in the Chino Basin.

1.7 Recycled Water Business Plan

In FY 2007/08, in response to potential water supply shortages and reductions in MWD imported water supplies, IEUA accelerated implementation of the recycled water program deliveries by committing to a Recycled Water Business Plan. The Recycled Water Business Plan (initially adopted in December 2007) is intended to be a "short-term" action-oriented document that will be updated annually to adjust the goals, timelines and projects that will expand the use of recycled water. The Recycled Water Business Plan, as updated in 2008, has a goal of increasing the total recycled water connected demand to 50,000 AFY by FY 2011/12. The program is to be funded by a combination of state and federal grants, State Revolving Fund Financing (SRF) and MWD rebates. In addition, the recycled water supply is not impacted by drought and will mitigate the impacts of regional or statewide water supply limitations.

1.8 Chino Basin Organics Management Strategy Business Plan

The Chino Basin Organics Management Business Plan developed a strategy to manage the organics in the Chino Basin, including biosolids, dairy animal manure, and composting of local community green waste material. The Business Plan was published in May 2001, along with a Project Report containing ten Technical Memoranda, which provided the background and basis for the recommendations in the Business Plan. The IEUA Board of Directors certified the Programmatic EIR for the Business Plan in June 2002 and adopted the Business Plan together with the Wastewater Facilities Master Plan and Recycled Water Feasibility Study in August 2002. The Business Plan presented specific short-term and long-term recommendations as well as outlining of

the steps and considerations that must be addressed in implementing projects consistent with the IEUA's goals and mission.

The Business Plan, as an integral tool for implementing the CBWM's Optimum Basin Management Plan (OBMP) includes two key initiatives. The first is a comprehensive renewable energy reliability program and the second initiative is a local organics recycling program. Implementation of those initiatives advances one of the paramount goals of the Business Plan: protection of the Chino Groundwater Basin from infiltration of salts and nitrogen compounds, in agricultural wastes. As a result, IEUA can avoid the need for costly removal of those contaminants from ground water.

As a major milestone for implementation of the Business Plan, construction of the Inland Empire Regional Composting Facility (IERCF) was completed in 2007. The IERCF provides the Agency with self-sufficiency as far as biosolids disposition, rather than being subject to the uncertainties of other options. Some options, such as land application of biosolids, are undependable because of changes in public attitudes and the need to haul longer and longer distances. Many options are increasingly expensive because of increasing contract costs, high energy costs, air pollution regulations, and lack of nearby facilities or markets.

The IERCF is designed to process over 200,000 tons per year of recycled wood wastes and biosolids producing over 250,000 cubic yards of high-quality compost each year. The facility began daily operations in April 2007 and ramped up to full capacity in late 2008 receiving over 500 tons per day of biosolids and recycled wood waste products. Compost, which is created and marketed as SoilPro Premium Compost, is sold as a soil conditioner which helps improve water retention resulting in better plant growth and water savings.

In order to receive recycled products year-round, a compost storage facility has been constructed to allow the facility to store compost during the winter season when compost demand is low.

1.9 Chino Basin Watermaster's Optimum Basin Management Plan (OBMP)

The OBMP for the Chino Basin was prepared by the Court-appointed Watermaster to address groundwater quality problems and identify groundwater management opportunities to be pursued for the benefit of the basin resources. The OBMP consisted of recommended studies, programs and facilities to further the objective of developing cost-effective, reliable, potable water supplies for the long-term while enhancing and protecting the yield and quality of the Basin groundwater aquifers and downstream uses. The OBMP provided a framework for developing a cooperative groundwater management program among agencies which use, manage or regulate water resources in the Basin. To facilitate implementation of the OBMP, an agreement (referred to as the "Peace Agreement") was signed by Watermaster, IEUA, Orange County Water District, and various other stakeholders on June 29, 2000. The OBMP Program EIR was certified on July 12, 2000, with IEUA acting as the lead agency.

The purpose of the OBMP was to develop a water quality and quantity based management plan for the Chino Groundwater Basin. The OBMP was intended to allow continued reliance on groundwater for beneficial uses within the basin - while minimizing demand for imported water -

and encourage the beneficial use of the large available storage space in the aquifer system. This Ten-Year Program is consistent with Watermaster's OBMP.

The OBMP addressed the need to develop additional water sources within the Chino Basin to meet future demands through water quality treatment, groundwater recharge, groundwater desalination, and water recycling programs. It has resulted in the design and construction of a looped pipeline recycled water system, along with storage reservoirs, and pump stations, that connects the IEUA recycled water production facilities with local recycled water customers as well as groundwater recharge basins. Construction and improvement of 18 groundwater recharge basins have also been completed, allowing for conservation of storm water, recycled water, and imported water in the underground Chino Basin. The OBMP Phase I Desalter program was also implemented which provided 12 MGD of new groundwater desalination capacity. In addition, the 100,000 acre-ft per year (AFY) MWD Dry Year Yield Program funded six new groundwater treatment facilities.

The OBMP Program EIR is now nine years old and determining consistency of specific projects with the PEIR in accordance with Section 15162 and 15163 of the State CEQA Guidelines has become more difficult to achieve. Thus, IEUA, the CBWM and stakeholders have made a decision to update the OBMP PEIR data base and to prepare a new environmental document. In addition, the original Peace Agreement has been updated to redefine the future programs and actions required to implement the OBMP, based on the past nine years of experience and accomplishments in implementing the OBMP. The "Peace II Agreement" was approved by the Court on December 21, 2007. IEUA is currently serving as the lead agency under CEQA for a focused Subsequent EIR for the OBMP update, called the "Peace II SEIR." It was completed in October 2010.

The Peace II Agreement provides, among other things, for "re-operation" and attainment of "hydraulic control" in the groundwater basin. Hydraulic control is defined as the reduction of groundwater discharge from the Chino North Management Zone to the Santa Ana River to *de minimis* quantities. Hydraulic control ensures that the water management activities in the Chino North Management Zone will not impair the beneficial uses of the Santa Ana River downstream of Prado Dam. Re-operation means the gradual increase in controlled overdraft of the Chino Groundwater Basin from 200,000 acre-ft to 600,000 acre-ft. Both of these objectives would be achieved through expansion of the desalter program such that the groundwater pumping for the desalters will reach 40,000 acre-ft/yr and that the pumping will occur in amounts and at locations that contribute to the achievement of hydraulic control and the strategic reduction in groundwater storage (re-operation).

Expansion of the desalter program would be accomplished with the installation and operation of a new well field to convey additional water to the desalters and a 10,000 acre-ft/yr expansion of Desalter II. The new product water developed at Desalter II would be conveyed to the Jurupa Community Services District ("JCSD"), the City of Ontario, and/or Western Municipal Water District ("WMWD") through existing and new pipelines. The facilities required to convey this water include pipelines, pump stations, and reservoirs. The precise locations of these facilities are unknown at this time.

1.10 MWD Integrated Resources Plan

The Integrated Resources Plan (IRP) is the long-term water resources strategy for MWD's six-county service area. The IRP is the blueprint that guides Metropolitan's efforts to increase water supplies and lower demands through 2035. MWD's first IRP was developed in 1996 and updated in 2004.

The 2009 IRP is being prepared as part of MWD's normal five-year planning cycle, but more importantly, it address' changing water supply conditions and the unprecedented series of challenges and uncertainties facing the Southern California region, such as Bay-Delta and Colorado River water supply restrictions, climate change, continued population growth, emerging water quality issues and rising energy costs. These challenges require new approaches that MWD, with the participation of Member Agencies and other stakeholders, is addressing in the 2009 IRP.

MWD Member Agencies are actively participating in the preparation of the 2009 IRP through Regional Workshops, a Technical Oversight Committee and six Technical Workgroups. The Technical Oversight Committee meets on a monthly basis to provide overall guidance and direction to the six Technical Workgroups. The workgroups are tasked with evaluating and providing recommendations with respect six resource areas: groundwater, recycled water, conservation, stormwater/urban runoff, graywater and seawater desalination.

1.11 MWD Dry Year Yield Program

In accordance with the goals of the OBMP, in 2003, IEUA entered into an agreement with Metropolitan Water District (MWD), CBWM, and Three Valleys Municipal Water District to provide up to 100,000 acre-feet of groundwater storage in the MWD Storage Account in the Chino Basin as part of the Dry-Year Yield Program (DYY). This program provides for the extraction of up to 33,000 acre-feet per year (AFY). As of July 2008, the Operating Parties under this Agreement are: City of Chino, City of Chino Hills, Cucamonga Valley Water District, City of Ontario, City of Upland, Monte Vista Water District, and Jurupa Community Services District. As part of the Program, MWD helped fund ion exchange plants that treat well water for removal of nitrate and salinity.

In June 2007, MWD agreed to fund $1.5 million, for technical and environmental studies, to expand the DYY Program's storage from 100,000 acre-feet to 150,000 acre-feet. It was used to characterize the DYY program objectives and Chino Basin capabilities, conduct conceptual designs for potential facilities development, prepare CEQA documentation, and produce a project development report (PDR). The DYY Program Expansion Project Development Report (PDR) was published in December 2008, determined the facilities needed to expand the program, and a Mitigated Negative Declaration for the DYY Expansion Project was adopted by the IEUA Board on December 17, 2008.

1.12 MWD Water Supply Allocation Plan

Calendar Year 2007 introduced a number of water supply challenges for the Metropolitan Water District of Southern California (MWD) and its service area. Critically dry conditions affected all of MWD's main supply sources. In addition, a ruling in the Federal Courts in August 2007 provided

protective measures for the Delta Smelt in the Sacrament-San Joaquin River Delta which brought uncertainty about future pumping operations from the State Water Project. This uncertainty, along with the impacts of dry conditions, raised the possibility that MWD would not have access to the supplies necessary to meet total firm demands and would have to allocate shortages in supplies to the member agencies.

In preparing for this possibility, MWD worked jointly with its member agency to develop a Water Supply Allocation Plan (WSAP). The WSAP includes the specific formulas for calculating member agency supply allocations and the key implementation elements needed for administering an allocation should a shortage be declared. Ultimately, the WSAP has become the foundation for the urban water shortage contingency analysis required under Water Code Section 10632 and has been incorporated into MWD's Regional Urban Water Management Plan.

On April 14, 2009, the MWD Board implemented the WSAP, effective July 1, 2009. This decision came at a time when California was facing its third consecutive year of drought, the State Water Project 2009 Table A allocation was 20% and Governor Schwarzenegger had proclaimed a statewide water shortage emergency (February 26, 2009).

1.13 IEUA Drought Plan

Working together in response to MWD's WSAP, IEUA, its member agencies, Chino Basin Watermaster and the Chino Basin Water Conservation District, prepared the IEUA Drought Plan. The purpose of the IEUA Drought Plan is to implement the MWD WSAP according to these goals:

- Ensure equity and fairness throughout IEUA's service area.
- Avoid any payment of MWD WSAP or Dry Year Yield penalties to MWD.
- Recognize IEUA/MWD investments in local supplies to "drought proof" the IEUA service area.
- Encourage additional local investments to further drought proof the economy.
    - Enhanced Conservation
    - Recycled Water – Connect parks, schools and other landscapes
    - Interconnections to promote flexibility (Azusa Pipeline)
    - Increase Chino Desalter deliveries to the maximum
    - Groundwater Recharge (recycled water and capture of storm water when available)
- Coordinate IEUA service area communication strategy.
- Implement consistent with MWD WSAP and DYY contracts.

Due to continued water shortage conditions, IEUA experienced two consecutive years with reduced imported water supplies from MWD's WSAP, which required IEUA to implement its Drought Plan and member agencies to rely heavily on local water supplies. Specifically, they maximized the use of recycled water; they produced water (recover stored groundwater) pursuant to DYY Program; they produced desalter water from the CDA; and recharged as much stormwater and recycled water as possible. Overall, IEUA's service area is well prepared for an extended period of water

shortages, as the result of earlier investments in recycled water, the Chino Basin Desalter, groundwater and water use efficiency programs.

1.14 Recharge Master Plan

The Groundwater Recharge Program is a comprehensive plan to increase artificial groundwater recharge within the Chino Basin using stormwater, recycled water, and imported water. As a component of the CBWM's OBMP, the recharge program is described in the Recharge Master Plan, Phase II Report (August, 2001). In January of 2002, the IEUA Board of Directors approved the Recharge Master Plan Implementation Memorandum of Agreement, between CBWM, Chino Basin Water Conservation District, San Bernardino County Flood Control District (SBCFCD), and IEUA. Members of these four agencies formed a Groundwater Recharge Coordinating Committee to implement the initial $40-million program entitled the Chino Basin Facilities Improvement Project (CBFIP). The CBFIP is described further in Chapter 5 of this document.

In July 2010, the CBWM completed and submitted the Chino Basin Groundwater Recharge Master Plan Update (Update) to the court. The Update includes assessments on demand, recharge capacity, sage yield and identifies opportunities for enhancing stormwater, recycled water and imported water recharge (including low impact development, new recharge projects and integrated storm water and supplement water facilities). The water supply plans for the agencies within the Chino Basin are being developed concurrent with IEUA's Regional Urban Water Supply Plan (which will be complete in June 2011) which will be utilized to reconcile the water supply and demand data in the Recharge Master Plan Update.

1.15 IEUA Adopted Seven-Point Emergency Energy Action Plan

In response to the uncertainty in energy pricing and supply experienced in the winter of 2000, IEUA developed a Seven-Point Emergency Energy Action Plan. Some of the goals of this plan were to:

- Maximize the efficiency and self-sufficiency of existing office and plant operations
- Generate new local sources of energy and minimize external energy/fuel costs
- Maximize operational flexibility of plants to "roll off" the electric grid and natural gas sources, particularly during peak usage periods
- Promote regional energy and water conservation programs

Through this plan, IEUA has made major strides in building self-sufficiency and local control over long-term energy supplies and assisting the region and California in meeting their energy needs.

IEUA's Energy Management Strategy is evolving in response to both the volatility of the energy market and the new legislation (AB 32) governing greenhouse gas emissions. IEUA completed a Solar Power Project this in 2008 which will account for up to about 9% of its energy needs from renewable, non-polluting energy sources. IEUA's goal is to maximize the amount of power that is self-generated from renewable sources, which will help the Agency in its goal of going "gridless" by the year 2020 and produce all electricity "in-house." To accomplish these goals, IEUA has developed an Energy Management Strategy (presented to Board 11/12/08). The Energy Management Strategy includes optimizing energy consumption at Agency facilities; increasing the production

and use of digester gas; increasing self-generation capacity utilization; pursuing new technologies; and utilizing effective energy procurement strategies. The energy action plan will also deal with South Coast Air Quality Management District rule 1110.2, which limits natural gas usage to 10% of total gas usage and threatens to reduce the Agency's ability to produce its own electricity.

1.16 Salinity Management Action Plan—Regionalization of NRW System to Maximize Salt Export

The IEUA and its contracting agencies are implementing a regional recycled water distribution system to serve recycled water for non-potable reuse and groundwater recharge. Salinity is a critical element of recycled water quality for recharge and many other uses. Reduced salinity will enhance the marketability of recycled water and help IEUA meet the goals of the OBMP and the Maximum Benefit Basin Plan objectives. Reduced wastewater salinity will also help IEUA to comply with effluent limitations for TDS in its wastewater discharge permits. IEUA developed a Salinity Management Action Plan in 2002. Some of the strategies that were identified included:

- Maximizing the use of the IEUA's non-reclaimable waste (NRW) system by connecting more industries
- Reducing the use of water softeners in the area to decrease saline flows into the regional water recycling plants
- Reducing the salt contributions from IEUA treatment plant operations by optimizing the use of chemicals at the facilities

This is also consistent with the Maximum Benefit Basin Plan, adopted in 2004 by the Santa Ana Regional Water Quality Control Board, which established new groundwater TDS and nitrogen water quality objectives. The Plan allows the use of recycled water for groundwater recharge while providing reasonable protection for the groundwater quality in the region. Key commitments in the plan included construction of Chino Desalters, recycled water quality management through industrial waste control, optimum use of the NRWS, reducing the use of water softeners to decrease saline flows into the regional water recycling plants, ion-exchange plants, and groundwater monitoring programs.

As an outgrowth of the Salinity Management Plan, IEUA also developed an NRW Action Plan with extensive coordination and discussion with IEUA's Regional Technical and Policy Committees, the CBWM, and the Regional Board. IEUA also expects to achieve substantial avoided costs and valuable benefits for the region as a result of implementation of the current NRW Action Plan.

The NRW Action Plan adheres to the IEUA Board's policy of phased implementation of budgets and rates in order to provide economic incentives for the export of brine wastes through the NRW system. The Agency's FY 2009/10 Budget and this Ten-Year CIP incorporate specific budget options that were developed in coordination with the IEUA's Regional Technical and Policy Committees. A detailed list and summary of progress on individual NRWS action plan elements is summarized in Chapter 6 of this report.

1.17 IEUA Urban Water Management Plan

In the summer of 2009, IEUA began the preparation of the 2010 Urban Water Management Plan (2010 UWMP) to plan for the region's water management needs and to comply with the California Urban Water Management Planning Act. The 2010 UWMP will update the current Urban Water Management Plan, adopted by the Board in December 2005. It will include the following sections:

- Introduction
- Population and Land Use
- Water Demand & and Supply
- Water Use Efficiency Program
- Wastewater Flows and Projections
- Recycled Water Program
- Regional Groundwater Management Programs
- Alternative Water Supplies
- Water Shortage Contingency Plan
- Water Quality Impacts on Reliability
- Water Service Reliability
- UWMP Adoption and Implementation

Important additions to IEUA's 2010 UWMP, compared to its 2005 UWMP, are Wastewater Flows and Projections, Climate Change, Storm Water Management and development of a Regional Water Efficiency Plan that meets the new 20% reduction in per capita water use by 2020 mandate and other conservation related requirements that have been adopted by the legislature since 2005.

Staff will also prepare the 2010 UWMP's for consideration and adoption by the Water Facilities Authority and the Chino Basin Desalter Authority, using the IEUA UWMP as a basis. This approach ensures continuity among the Urban Water Management Plans within our service area and provides an important cost-saving service to both of these agencies.

The 2010 UWMP will be prepared in coordination with the regional planning efforts of the Chino Basin's Optimum Basin Management Plan (OBMP), the Chino Basin Groundwater Recharge Master Plan Update, the Santa Ana Watershed Project Authority's One Water One Watershed (OWOW) Plan and the Metropolitan Water District of Southern California's Integrated Resources Plan (IRP).

The 2010 UWMP will be prepared in close coordination with the retail agencies within IEUA's service area as well as with the Metropolitan Water District of Southern California (MWD), Santa Ana Watershed Project Authority, Chino Basin Watermaster, Water Facilities Authority, the Chino Basin Desalter Authority and other cities and agencies within the watershed.

1.18 Regional Board Maximum Benefit Basin Plan Amendment

The Regional Water Quality Control Board, Santa Ana Region, (Regional Board) adopted amendments to the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) on January 22, 2004 incorporating a "maximum benefit" proposal recommended by IEUA and CBWM. The Maximum Benefit Basin Plan establishes new groundwater Total Dissolved Solids (TDS) and

Total Inorganic Nitrogen (TIN) water quality objectives and waste load allocations that allow the use of recycled water for groundwater recharge while providing reasonable protection of the groundwater quality in the region.

Reuse of recycled water for groundwater recharge is a critical component of the OBMP and water supply plans for the region. As part of the Maximum Benefit Basin Plan, IEUA and CBWM have committed to a specific set of projects and requirements in order to demonstrate that the water quality of the groundwater basin is protected and that the plan provides the maximum benefit to the users of the groundwater basin. These commitments include:

- Surface water and groundwater monitoring programs
- Chino Desalters (consistent with OBMP requirements of 40 MGD by 2020)
- Recharge facilities/conjunctive use program
- Recycled water quality management (through industrial waste source control and optimum utilization of the IEUA's non-reclaimable waste (NRW) system), and
- Hydraulic control to protect the Santa Ana River quality (consistent with the Orange County Water District and IEUA Memorandum of Understanding)

If IEUA and CBWM achieve timely and appropriate implementation of these commitments, then the Basin Plan's "maximum benefit" water quality objectives will be applied instead of more restrictive historical "anti-degradation" objectives. This will result in significant savings to the Agency for outside water imports and wastewater treatment costs.

1.19 SAWPA Integrated Watershed Program

Since its formation in 1967, Santa Ana Watershed Project Authority (SAWPA) has been a water resource planning agency for the Santa Ana River Watershed region. In 2002, SAWPA acted as a coordinator for the stakeholders of the region to produce the Santa Ana Integrated Watershed Program (SAIWP). It consisted of seven major elements:

- Water storage to drought-proof the watershed by storing up to 1.3 million acre-ft (MAF) of new water underground throughout the Santa Ana River Basin
- Water quality improvement to mitigate negative impacts from past agricultural, industrial and residential point and non-point source pollutants
- Implementation of water recycling as a means of reducing the area's overall need for imported water
- Development of flood protection along the main stem of the Santa Ana River
- Enhancement of wetlands environment and habitat to restore the Pacific Flyway
- Recreation and conservation to bring additional recreational opportunities and increase public awareness of the Santa Ana River's environmental needs and purposes
- Use of the Santa Ana Regional Interceptor (SARI) brine disposal pipeline to carry saline wastes to the ocean in order to protect the long-term beneficial uses of the groundwater basins

SAWPA has pursued those elements simultaneously based on the availability of state grant funding and the aggregated needs of SAWPA member agencies, including the IEUA, water districts, cities,

counties, and several environmental groups. The success of this planning effort provided $235 million of Proposition 13 grand funding for the watershed. In 2005, SAWPA updated the SAIWP to include the urban water management plans of the member agencies and provide an updated summary of the many planning processes underway and priority projects of the stakeholders of the watershed. As a result of this effort, SAWPA received a $25 million integrated planning grant (Proposition 50) from the Department of Water Resources and provided a $4.9 million to grant to IEUA for recycled water projects during FY 2008/09.

In early 2009, SAWPA completed a new integrated water management plan for the region known as "One Water One Watershed," or OWOW. Part of the impetus for starting the OWOW planning process was the passage of Proposition 84 by the California voters in 2006. Proposition 84 allocated $1 billion to regions with qualifying integrated watershed plans. The OWOW plan provides the basis for seeking Proposition 84 grant funds from DWR and will help to address the significant water supply crisis which has arisen throughout the state. The goal of OWOW is a sustainable watershed that is drought-proofed, salt-balanced, and supports economic and environmental vitality.

1.20 SAWPA Planning Work Groups

SAWPA is a joint powers agency which conducts water-related investigations and planning studies, and builds physical facilities where needed for water supply, wastewater treatment or water quality remediation. Since the early 1970's, SAWPA has played a key role in the development and update of the Basin Plan for the Santa Ana Region. Several task forces have been formed to address complex technical and regulatory issues and resolve inter-Agency conflicts. These task forces generally include staff of the Regional Water Quality Control Board-Santa Ana Region as active members or advisors, and may see buy-in from other state and federal regulatory bodies.

The Maximum Benefit Basin Plan Amendment described above was an outgrowth of SAWPA's Nitrogen/Total Dissolved Solids (N/TDS) Task Force. The task force, which met between 1996 and 2003, included the IEUA and 21 other water supply and wastewater agencies from the region as well as the Regional Board. Coordinated by SAWPA, the task force completed multimillion dollar studies to review groundwater TDS and nitrogen objectives, groundwater sub-basin boundaries, the TIN and TDS waste load allocations and other components of the Regional Board's nitrogen and TDS management plans. The purpose of this study was to develop more scientifically defensible water quality objectives and avoid any unnecessary constraints on water recycling opportunities. The original scope of work of the N/TDS Task Force included conducting a nitrogen loss coefficient monitoring program for Santa Ana River, Reach 3, which was completed in 2005.

IEUA is currently participating in SAWPA's Basin Monitoring Program Task Force (BMPTF). This task force was an outgrowth of the N/TDS Task Force study and the 2004 Basin Plan amendments. The group is tasked with executing some of the monitoring and reporting commitments of the Maximum Benefit Basin Plan Amendment, such as a triennial compilation of ambient groundwater quality data and an annual report of Santa Ana River water quality.

The BMPTF also funds updates to the Santa Ana River Wasteload Allocation model that was developed by Wildermuth Environmental, Inc., and uses the models to evaluate different discharge scenarios and the impacts on Orange County groundwater. In late 2009, the Basin Monitoring Task Force proposed an amendment to the task force's founding agreement. The amendment to the agreement includes the new task of conducting Santa Ana River wasteload allocations and other related studies to be used for new Basin Plan Amendments. Recent activities include wasteload allocation modeling for the Chino South groundwater sub-basin to update the N/TDS Management Plans; and drafting the Declaration of Conformance with the Recycled Water Policy.

Another SAWPA work group in which IEUA is an active participant is the Emerging Contaminants (EC) Work Group. The EC Workgroup was formed in 2007 to develop a characterization program for emerging constituents. The workgroup is comprised of imported water agencies and publicly-owned treatment works. The EC Work Group study effort was separated in two phases:

- Phase 1 covered current water quality monitoring programs, regulatory issues, stakeholder concerns, analytical methods, and the state-of-the-science with respect to potential public health & environmental impacts. This phase culminated in a written report submitted to the Regional Board in December 2008 characterizing the workgroup's preliminary findings.

- Phase 2 defines the Emerging Constituents Investigative Plan based on ongoing characterization studies and other related evaluations. The work plan was approved by the RWQCB during the December 2009 Regional Board meeting as Resolution No. R8-2009-0071.

In accordance with the adopted work plan, each participating wastewater agency will sample and pay for their own analyses. The work plan includes a list eleven emerging constituents identified during the characterization phase of the study and will be summarized in a final report.

1.21 Environmental Documentation

To comply with the California Environmental Quality Act (CEQA), IEUA certified a Programmatic Environmental Impact Report (PEIR) on June 28, 2002. It included IEUA's Wastewater Facilities Master Plan, Organics Management Business Plan and the Regional Recycled Water Program. IEUA also served as the lead Agency under CEQA for preparation of the Program EIR for the CBWM's OBMP, certified on July 12, 2000.

Supplements to the Programmatic EIRs are prepared, when necessary, as specific project elements are better defined during each project design. For example, for the Inland Empire Regional Composting Facility, IEUA prepared a CEQA Initial Study and Finding of Consistency with the Facilities Master Plan PEIR. Similarly, for several of the recycled water projects, IEUA prepared Addenda to the Facilities Master Plan PEIR as well as NEPA documents to comply with federal funding requirements. The Agency is currently serving as the lead agency for coordination and preparation of a focused Subsequent EIR for the updated OBMP or "Peace II Agreement" and expects to have it completed by the end of FY 2009/10. Furthermore, in December 2008, the Agency certified a Mitigated Negative Declaration for the Dry Year Yield Expansion Project.

1.22 California Water Plan

In March 2009, California's Department of Water Resources published the latest update to the California Water Plan (Update 2009). The five-volume report is a comprehensive reference document on California water conditions, challenges and water resource management. It is a blueprint for sustainable water management in a condition of uncertainty and vulnerability due to climate change and changing ecosystem needs. Update 2009 came on the heels of a historic water legislation package passed by the California State Legislature and signed by the Governor in November 2009.

Updates of the 1957 California Water Plan are required by law every five years. These reports have evolved from statistical summaries of water supply and demand to expert analyses of complex issues of hydrology, water use, conservation, and emerging trends in water resource management, flood safety and climate change adaptation. The Plan also provided broadly supported strategic recommendations to guide future investments and inform resource management policy-making.

1.23 Bay-Delta Conservation Plan

The Bay-Delta Conservation Plan (BDCP) is being prepared through a collaboration of state, federal, and local water agencies, state and federal fish agencies, environmental organizations, and other interested parties. These organizations have formed the BDCP Steering Committee. The plan will identify a set of water flow and habitat restoration actions to contribute to the recovery of endangered and sensitive species and their habitats in California's Sacramento-San Joaquin Delta. The goal of the BDCP is to provide for both species/habitat protection and improved reliability of water supplies.

As the BDCP evaluates habitat, physical and operational alternatives necessary to restore the Delta ecosystem while providing water supply reliability, state and federal agencies are developing a joint Environmental Impact Report/Statement (EIR/EIS) under the Delta Habitat Conservation and Conveyance Program (DHCCP). The EIR/EIS will determine the potential environmental impacts of the proposed BDCP.

Lead agencies for the EIR/EIS are the California Department of Water Resources, the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and NOAA's National Marine Fisheries Service, in cooperation with the California Department of Fish and Game, the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.

The BDCP is being developed in compliance with the Federal Endangered Species Act (ESA) and the California Natural Communities Conservation Planning Act (NCCPA). When completed, the BDCP would provide the basis for the issuance of endangered species permits for the operation of the state and federal water projects. The plan would be implemented over the next 50 years.

2.0 WASTEWATER FLOW PROJECTIONS

Exhibits I through V (at the end of this report) show total wastewater flow projections for the next ten years from IEUA's service area and individually for the RP-1, RP-4, CCWRF and RP-5 service areas. The flow projections are compared to current and future planned plant capacities. On these exhibits, the "baseline" flow is defined as raw sewage flow from the service area that is tributary to a treatment plant, without reflecting any of the current or planned diversions, bypasses, or recycle streams. In contrast, the "adjusted" flow does include bypasses, diversions and recycle streams and it is the actual flow that was received at a treatment plant. Exhibits I through V also point out any planned projects or major operational changes that will significantly affect capacity utilization.

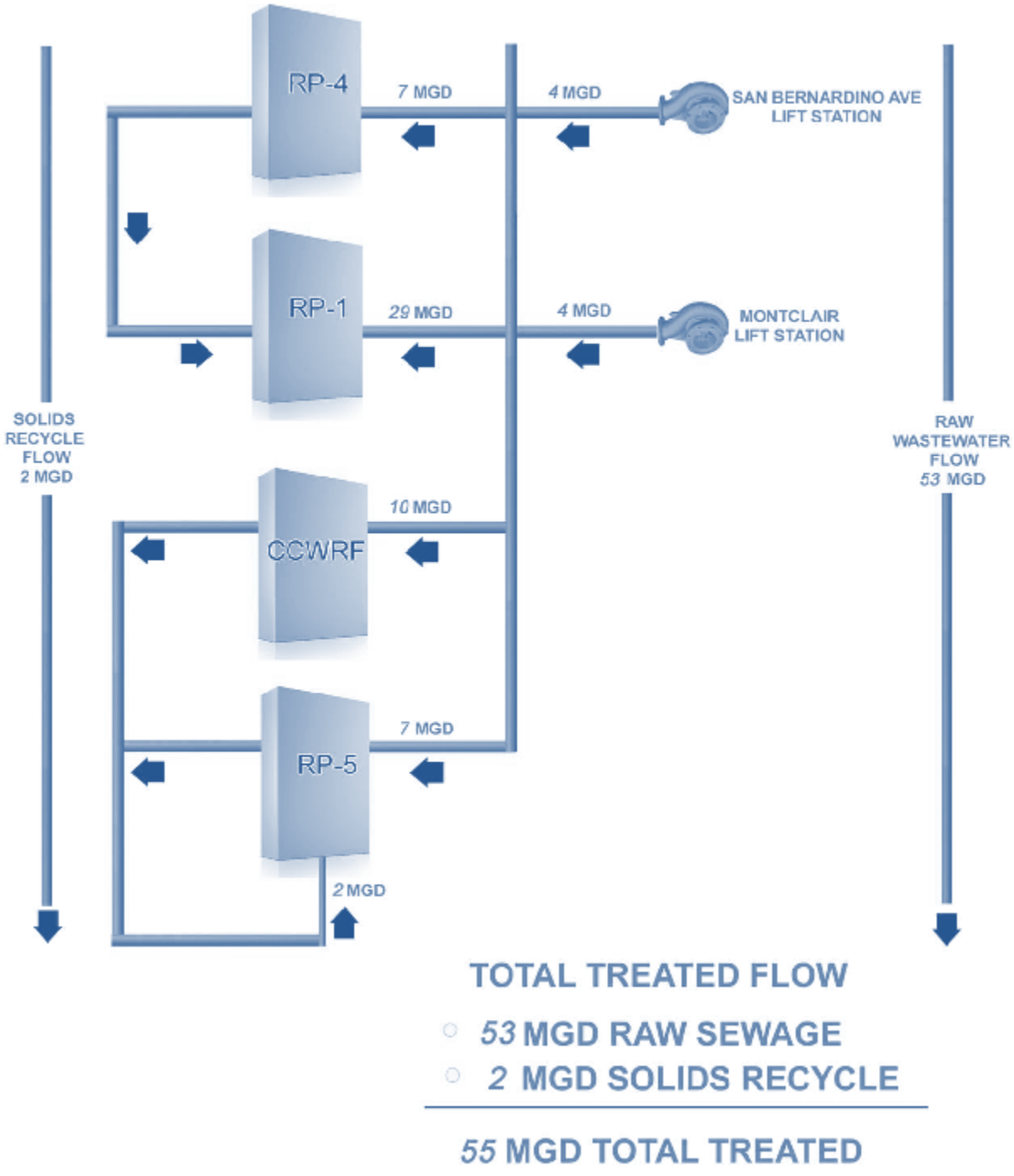
2.1 Wastewater Flow Trends

Figure 2-1 shows the current flows being treated at each of the Agency's regional water recycling facilities. During July – December 2010, the average wastewater flow treated was 53.3 MGD. Over the past several years, the Agency's wastewater flows have declined by approximately 10% (similar to other local regions). However, with the completion of the San Bernardino Avenue Lift Station and the existing Montclair diversion structure, the Agency's ability to route wastewater flows and deliver recycled water to high demand areas has allowed the Agency to deliver twice the amount of recycled water.

Table 2-1: Average Annual Flow (July – December 2010)

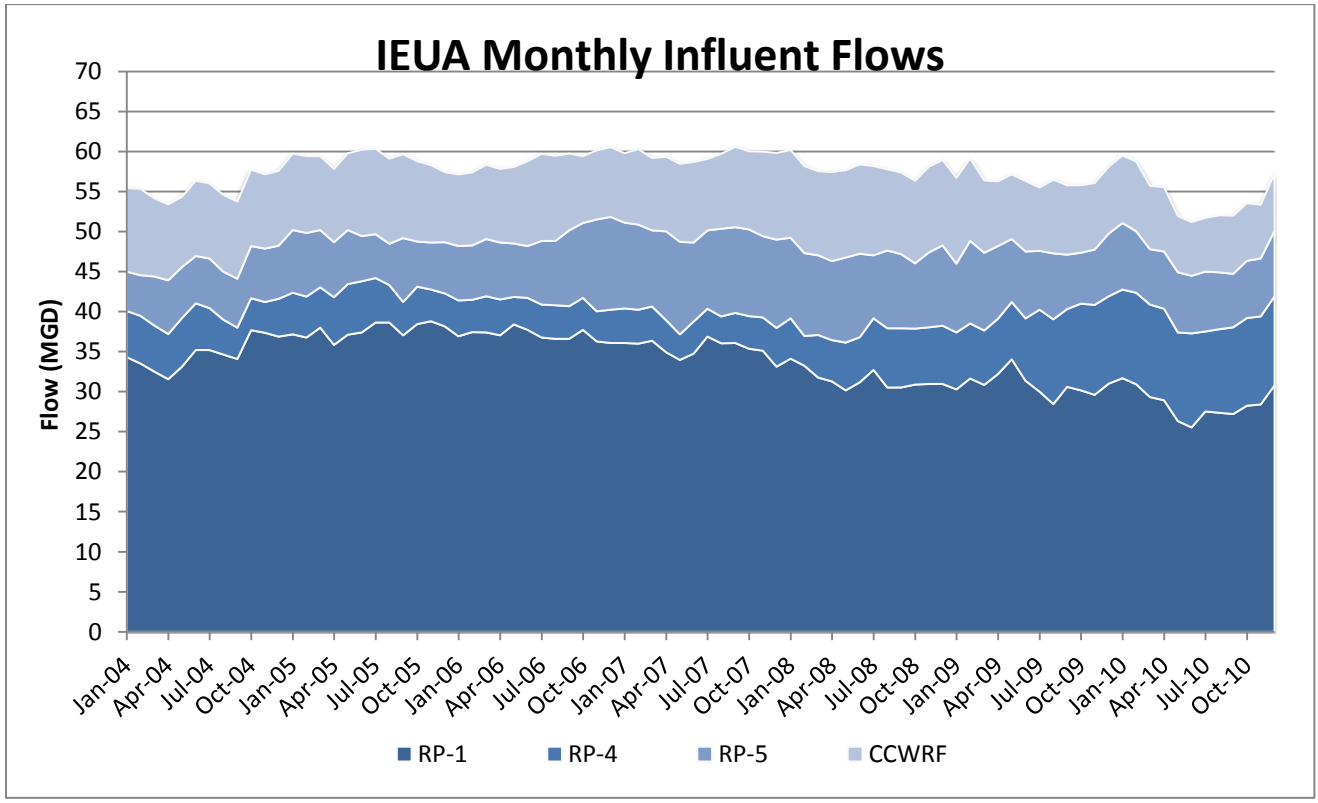
Agency	RP-1	RP-4	RP-5	CCWRF	TOTAL
Chino	0.1		1.4	2.1	**3.6**
Chino Hills			3.0	2.0	**5.0**
Ontario	9.2		2.9		**12.1**
Montclair	0.2			1.9	**2.1**
Upland	4.0			1.0	**5.0**
Fontana	7.0	5.9			**12.9**
CVWD	7.8	4.8			**12.6**
Total	**28.3**	**10.7**	**7.3**	**7.0**	**53.3**

Figure 2-1: Current Wastewater Flows



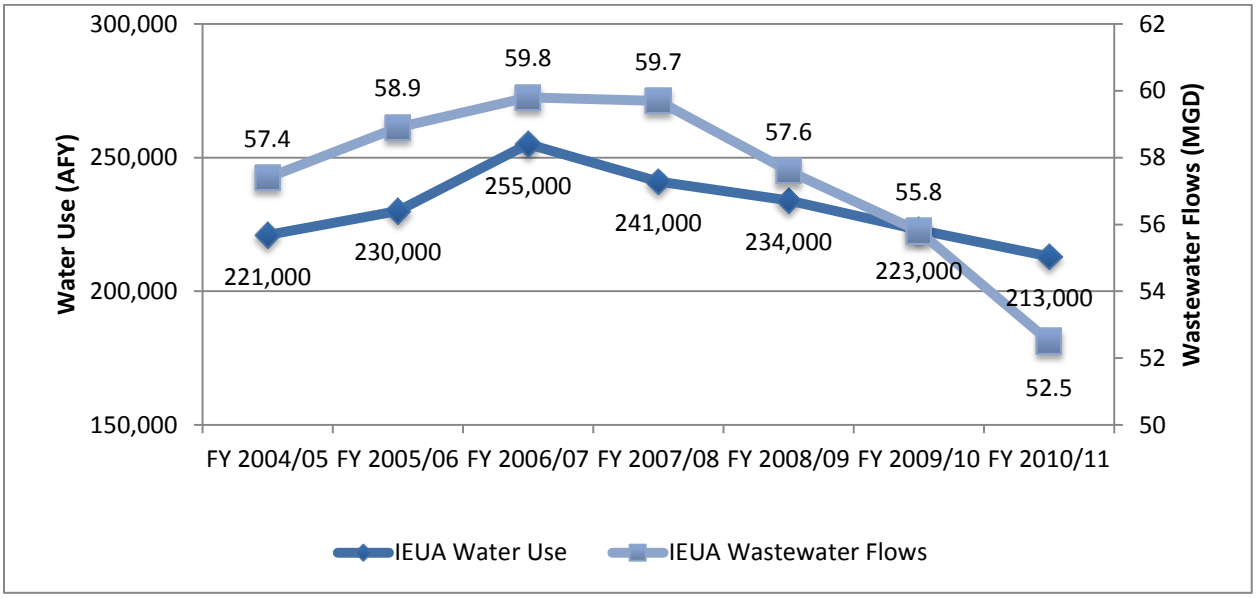
IEUA's historical wastewater flow trend is shown below in Figure 2-2. This figure depicts the raw sewage from each regional water recycling plant's tributary area and the total for all facilities combined.

Figure 2-2: Regional Plant Wastewater Flow History



For a third year in a row, water use by the Inland Empire Utilities Agency (IEUA) member agencies and wastewater generation has significantly declined (Figure 2-3). IEUA's member agencies overall water use has decreased approximately 32,000 acre-feet since FY 2006/07 and wastewater generation decreased by 4 mgd. In FY 2010/11, water use is estimated to decrease by another 5% and wastewater by another 3 mgd. This can be largely attributed to IEUA and its member agencies' public education, water use efficiency programs, ordinance enforcement and the economic downturn.

Figure 2-3: Recent Water Use and Wastewater Flow Trends



FY 2009/2010 Building Activity

In FY 2009/2010, building activity reported within the Regional Sewer System totaled 1,767 EDUs. As shown in Table 2-2, this is 121% of the initial projected level of building activity (1,459 EDUs). This resulted in over $8.2 million in revenue. The approved TYCIP budgeted building activity was based on 1,000 EDUs ($4.76 million). The current soft housing market conditions are directly reflecting the amount of growth in the region. For example, during FY 2009/2010 there was approximately $672,000 in connection fees that were refunded to developers who decided to pull back their permits.

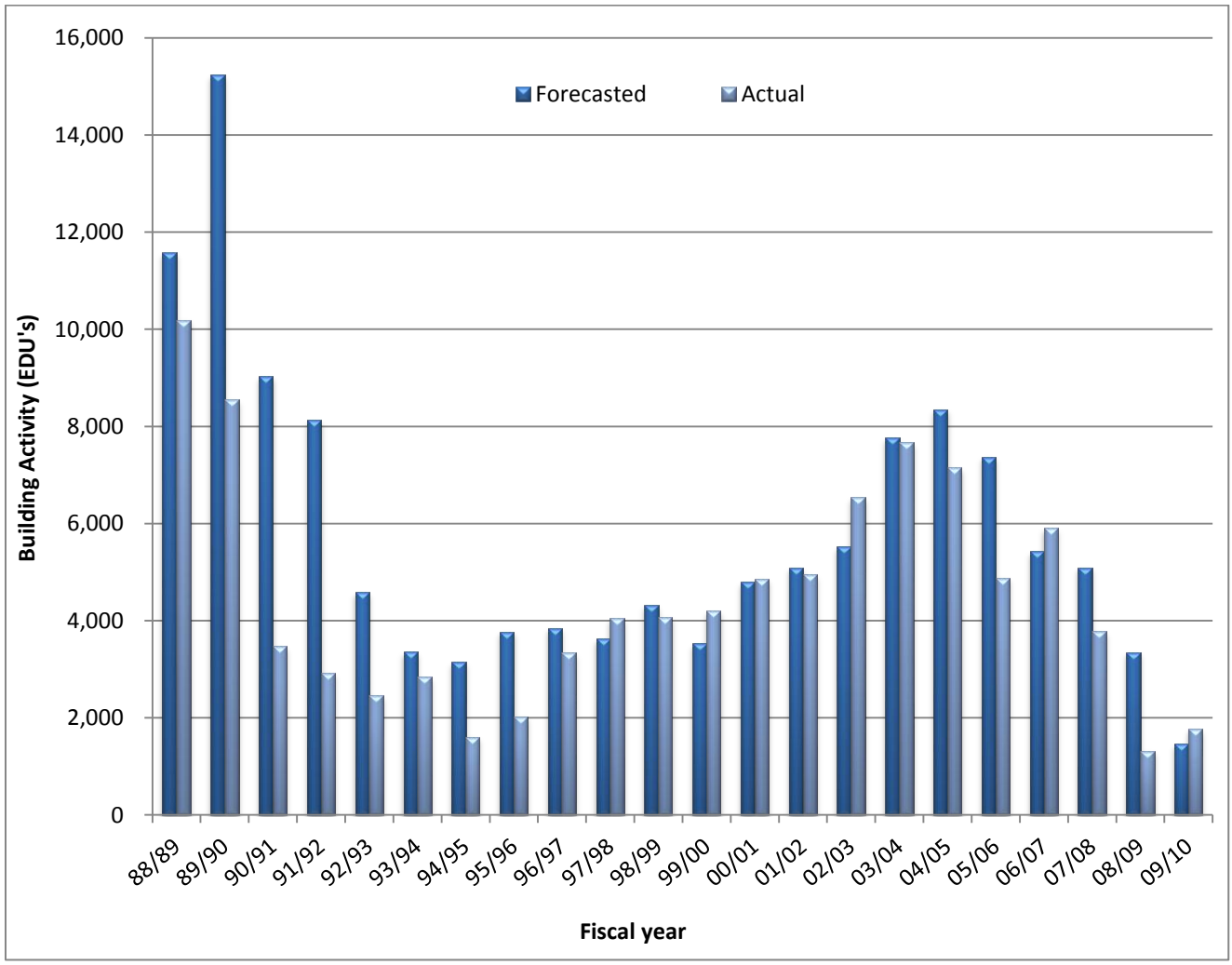
Table 2-2 FY 2009/2010 Forecasted and Actual Building Activity

Contracting Agency	Forecasted Activity (EDUs)	Actual Activity (EDUs)	Actual Activity / Forecasted Activity (%)
Chino	92	136	148%
Chino Hills	31	43	139%
C.V.W.D.	308	563	183%
Fontana	500	534	107%
Montclair	158	174	110%
Ontario	318	277	87%
Upland	52	40	77%
Total	**1,459**	**1,767**	**121%**

Forecasting growth within IEUA's service area has not been easy in the last few years. With the significant drop in housing prices, limited credit availability and the softening real estate market,

accurate forecasting has become a difficult task in Southern California. However, as shown in Figure 2-4, FY 2009/10 forecasts were quite close to actual building activity, compared to prior years where forecasts and actual activity were significantly different. This underscores the conservative planning strategy that the region has been forced to take. In the near future, the region will continue to be challenged with predicting economic conditions and the local market response.

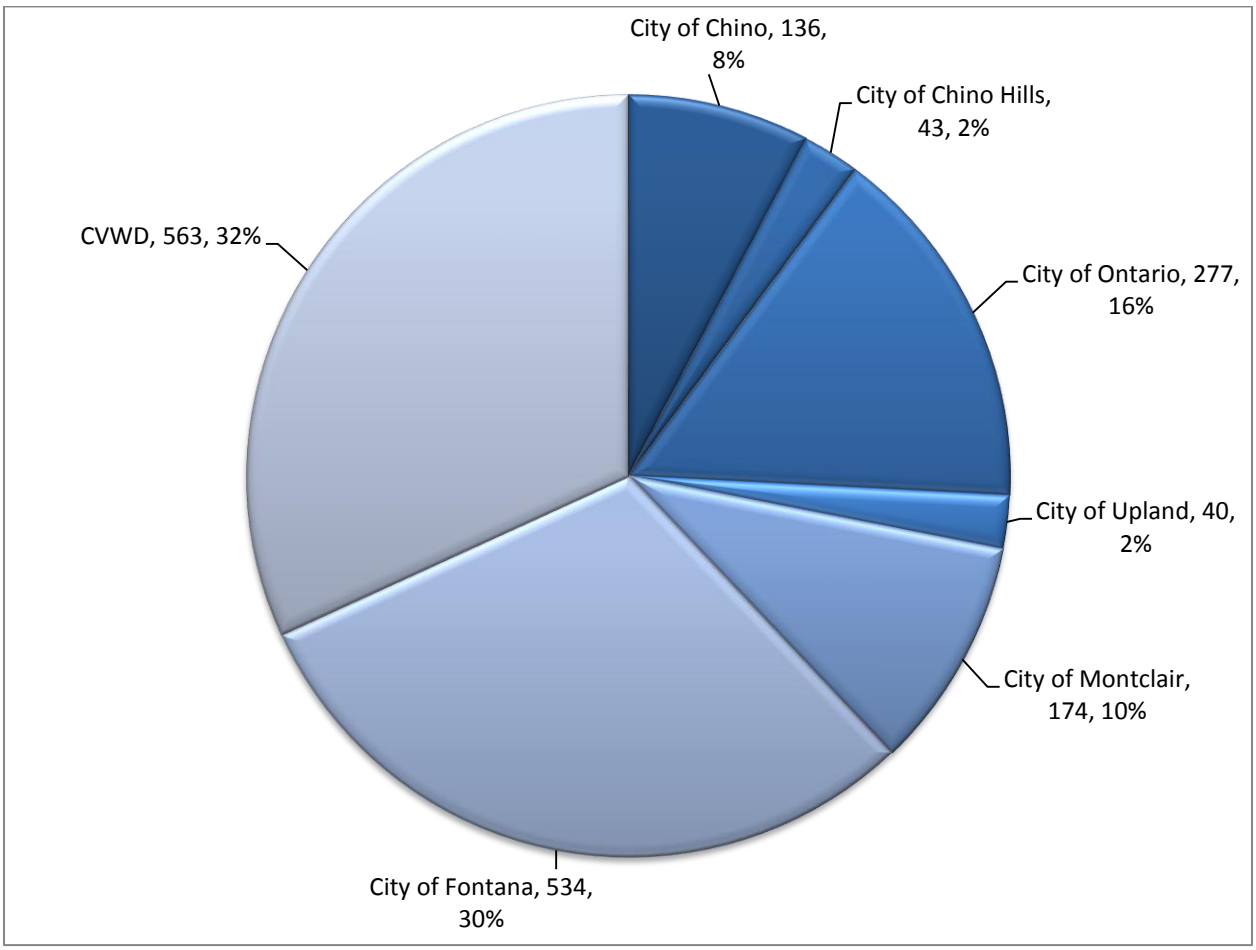
Figure 2-4: FY 1988/1989 to FY 2009/2010 Forecasted and Actual Building



FY 2009/2010 Building Activity Comparison by Contracting Agency

As presented in Figure 2-5, as well as consistent with last year, the majority of the building activity in FY 2009/2010 occurred within the Cucamonga Valley Water District and the City of Fontana. Building activity within the service areas of these two agencies totaled about 62% of the building activity for the entire service area.

Figure 2-5: FY 2009/2010 Building Activity by Contracting Agency



Implications of FY 2009/2010 Building Activity on the Regional Sewer System

Overall, there was approximately 0.5 million gallons per day (MGD) of new wastewater flow permitted during FY 09/10 (this was calculated using the 270 gpd/EDU capacity requirement from the Chino Basin Regional Sewer Service Contract). There is adequate capacity within the four treatment plants to accommodate the total amount of growth experienced in the past year. Overall, flows averaged about 52.5 MGD with a total system-wide treatment capacity of 85.7 MGD. Over the past three of four years, total influent flows have dropped by approximately 10-15% due to a combination of; successful water conservation and drought ordinances, a higher number of foreclosures and vacancies, and Metropolitan Water District (MWD) 10% reduced allocation of imported water. This is consistent with Orange County Sanitation District, LA County Sanitation District (JWPCP), and City of San Bernardino all of which have reported a 5%-15% reduction in flows. It is important to note that the completion of the San Bernardino Pump Station (SBPS) in June 2009 enhanced the regional systems bypass capacity among the Regional Plants, which is currently accommodating the growth seen in the Cucamonga Valley Water District and the City of Fontana service areas. It also enhances the ability of the regional system to handle the forecasted

flows, especially in preparation for the City of Ontario's New Model Colony (expected to double the City of Ontario's population over the next twenty years).

2.2 Flow Factors

The backbone of the regional system has been designed using the raw sewage flow rate specified in the Regional Sewerage Service Contract—Exhibit J—which is 270 gallons per day per equivalent dwelling unit (gpd/EDU). IEUA still plans its regional sewer system around Exhibit J. However, the current average flow rate for new residential developments is estimated to be 200 gpd/EDU. With the required implementation of several new water use efficiency laws, the Agency expects newly constructed and re-modeled homes to continue to generate less wastewater on average. It is expected that the overall average Agency service area flow per EDU will continue to decline, given the rising price of water, decreases in water supply availability and greater need for water conservation.

2.3 Anticipated Service Area Growth

A survey of IEUA's Contracting Agencies is conducted in September of each year to determine the rate of projected growth for the next ten years, in terms of Equivalent Dwelling Units (EDUs). The results of the 2010 survey are summarized below and included in Appendix A.

FY 2010/2011 Ten-Year Capacity Demand Forecast

The results of the Ten-Year Capacity Demand (TYCD) forecast based on the September 2010 member agency survey are summarized by Contracting Agency in Table 2-3.

Table 2-3 FY 2011/2012 Ten-Year Capacity Demand Forecast by Contracting Agency

Fiscal Year	City of Chino	City of Chino Hills	CVWD	City of Fontana	City of Montclair	City of Ontario	City of Upland	Total
	(EDUs)	(EDUs)	(EDUs)	(EDUs)	(EDUs)	(EDUs)	(EDUs)	(EDUs)
11/12	54	162	152	416	165	484	152	**1,585**
12/13	54	724	171	455	202	1,017	210	**2,833**
13/14	63	773	121	532	212	1,850	253	**3,804**
14/15	61	774	171	607	42	2,438	267	**4,360**
15/16	54	361	121	684	42	1,700	365	**3,327**
16/17	54	311	121	758	42	1,600	447	**3,333**
17/18	54	209	121	835	42	1,450	449	**3,160**
18/19	54	179	221	910	42	1,450	459	**3,315**
19/20	54	43	121	910	42	1,150	489	**2,809**
20/21	54	43	121	910	42	1,150	489	**2,809**
Totals	**556**	**3,579**	**1,441**	**7,017**	**873**	**14,289**	**3,580**	**31,335**

For FY 2009/2010, the forecasted building activity was 1,158 EDUs. This is slightly lower than last the actual reported building activity (1,767 EDUs) but comparable to the FY 10/11 TYCD budgeted forecast (1,000 EDUs). The recent policy change on reporting of new connections (from time of building permit to no later than certificate of occupancy) could have an additional effect of lowering the reported building activity in FY 10/11.

Over the next ten years, building activity is projected to total 31,355 EDUs. This is lower than last year's TYCD projection of 37,287 EDUs and significantly lower than projections from two years ago that were over 60,000 EDUs. The reduced projections are primarily a result of the current economic downturn which has slowed development. The City of Ontario is anticipating growth from the New Model Colony to begin increasing in FY 2012/13, although, with the housing market in flux, it is difficult to predict exactly when the increase in building activity will occur. Total building activity is projected by the member agencies to peak in FY 2014/15 at 4,360 EDUs.

As shown in Figure 2-6, the building activity forecasts for FY 2009/10 and beyond have dropped for three consecutive years. The total projected building activity over the next ten years has fallen from 69,651 EDUs in FY 2008/2009 to 60,428 EDUs in FY 2009/2010 to 37,287 EDUs in FY2010/11 and to 31,335 EDUs in the present fiscal year.

Figure 2-6 Historical Building Activity and Successive Year Growth Forecasts

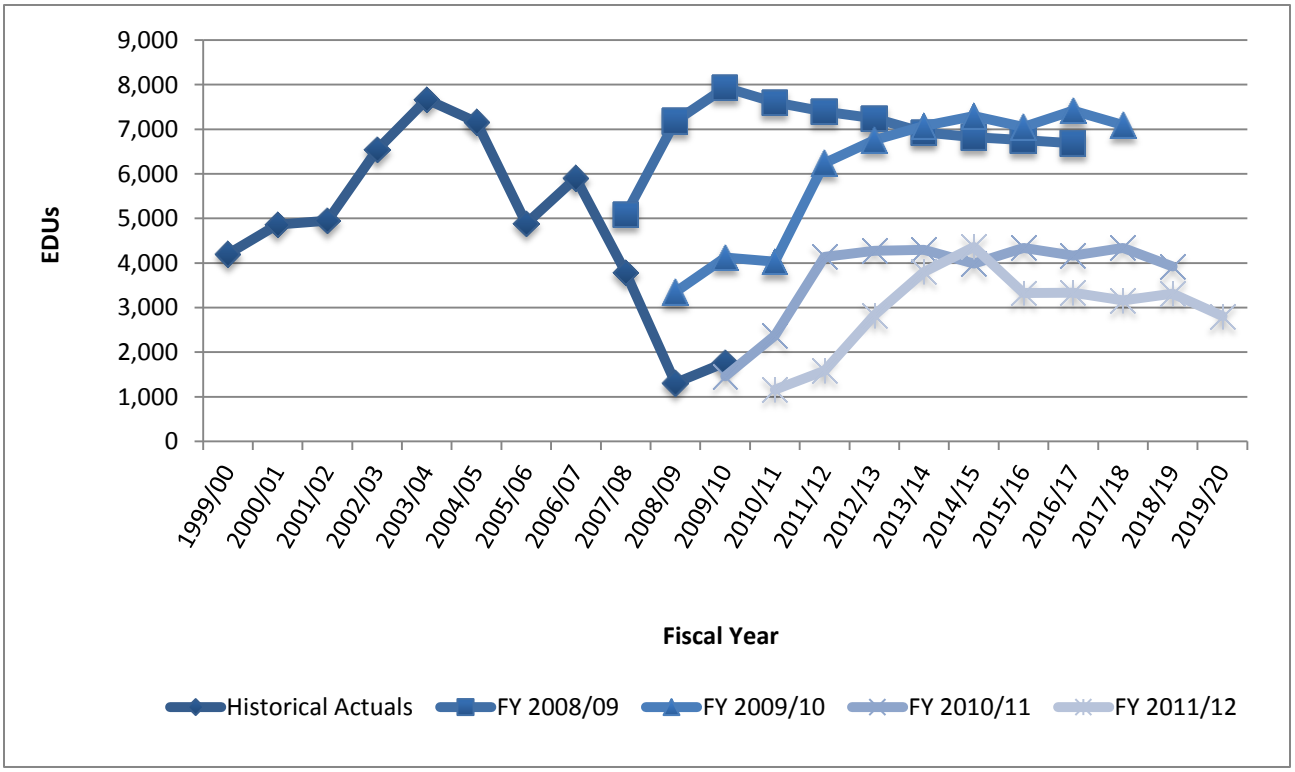


Table 2-3 presents the TYCD forecast by land use. Over the next ten years, building activity is projected to be approximately 70% residential and 30% commercial/industrial by EDUs. This is a slight shift from 75% residential & 25% commercial/industrial, which has been seen in recent previous TYCD forecasts.

Table 2-4 presents the TYCD Forecast by wastewater treatment plant. For the purposes of this report, the current service areas of each Regional Plant were used to allocate projected sewage flows to each plant. With the completion of RP-4 expansion (7 – 14 MGD) and the completion of the San Bernardino Interceptor and Pump Station, staff continues to work on how to optimize the Agency's flows in order to maximize recycled water sales while minimizing overall pumping and treatment costs, in particular for the RP-4 and RP-1 service areas. This will also help relieve some of the potential capacity issues at CCWRF, RP-5 and RP-2 where much of the Agency's growth is forecasted to occur. The impact of these changes will be evaluated as part of the preparation of the TYCIP.

Table 2-4
FY 2011/2012 Ten-Year Capacity Demand Forecast by Land Use

Fiscal Year	Residential	Commercial /	Total
11/12	999	588	**1,585**
12/13	1,784	1,050	**2,834**
13/14	2,628	1,175	**3,803**
14/15	2,974	1,386	**4,360**
15/16	2,381	944	**3,325**
16/17	2,370	964	**3,334**
17/18	2,342	817	**3,159**
18/19	2,470	845	**3,315**
19/20	2,094	715	**2,809**
20/21	2,094	715	**2,809**
Totals	**22,136**	**9,199**	**31,335**

Table 2-5
FY 2011/2012 Ten-Year Capacity Demand Forecast by Regional Recycled Water Plant

Fiscal Year	RP-1		RP-4		CCWRF		RP-5		Total	
	EDUs	MGD	EDUs	MGD	EDUs	MGD	EDUs	MGD	EDUs	MGD
11/12	505	0.14	374	0.10	261	0.07	445	0.12	1,585	0.43
12/13	612	0.17	419	0.11	354	0.10	1,448	0.39	2,833	0.76
13/14	710	0.19	421	0.11	438	0.12	2,235	0.60	3,804	1.03
14/15	795	0.21	521	0.14	430	0.12	2,614	0.71	4,360	1.18
15/16	914	0.25	523	0.14	319	0.09	1,571	0.42	3,327	0.90
16/17	938	0.25	573	0.15	305	0.08	1,517	0.41	3,333	0.90
17/18	921	0.25	625	0.17	268	0.07	1,346	0.36	3,160	0.85
18/19	1,057	0.29	675	0.18	209	0.06	1,374	0.37	3,315	0.90
19/20	987	0.27	675	0.18	158	0.04	989	0.27	2,809	0.76
20/21	987	0.27	675	0.18	158	0.04	989	0.27	2,809	0.76
Totals	**8,426**	**2.29**	**5,481**	**1.46**	**2,900**	**0.79**	**14,528**	**3.92**	**31,335**	**8.47**

Consistent with the regional contract assumption that the average flow is 270 GPD/EDU, the TYCD forecast predicts an additional flow associated with new development of about 8 MGD for the entire service area. Due to the New Model Colony development, the RP-5 service area is projected to experience the largest increase in sewage production at about 3.98 MGD. This is consistent with last year's projections. The RP-1 and RP-4 service areas are projected to have increased flows of about 2.4 MGD and 1.6 MGD, respectively. The Carbon Canyon Wastewater Reclamation Facility (CCWRF) service area is projected experience a lower increase in sewage production of approximately than 0.8 MGD.

Flow monitoring conducted by IEUA and the contracting agencies, in recent years, suggests that future growth flows per EDU may be lower than the regional contract level of 270 MGD/EDU (most likely due to water conserving devices being installed in new homes). Monitoring of new development in Chino (The Preserve) indicates that a flow factor of 180-220 GPD/EDU may be a more appropriate value to use for new residential development. In addition, monitoring data is showing that the strength of the waste is increasing over time.

Alternative flow forecast scenarios have been developed to evaluate the range of potential future flows. As shown in Table 2-5, if all projected growth occurs at an average rate of 270 GPD/EDU, then the additional flow would be 8.0 MGD by 2019/2020. If all projected growth occurred at an average rate of 200 GPD/EDU, then the additional flow would be 5.9 MGD by 2019/2020. Given that current wastewater flows (52.5 MGD) and the TYCD forecast, the range of total projected flows in ten years is approximately 59 MGD to 61 MGD.

Table 2-6 Alternative Flow Scenarios – Net Increase between 2014/2015 and 2019/2020

Flow Alternatives	Additional Flow 2014/2015	Additional Flow 2020/2021	Total Flow 2020/2021	% Capacity Used*
Forecast EDU's @ 270 GPD	3.7 mgd	8.8 mgd	61.8 mgd	72%
Forecast EDU's @ 250 GPD	3.4 mgd	8.1 mgd	61.1 mgd	71%
Forecast EDU's @ 200 GPD	2.8 mgd	6.5 mgd	59.5 mgd	69%

*Assumes a region-wide capacity of 85.7 mgd.

2.4 Ten-Year Wastewater Flow Forecast

For purposes of forecasting future wastewater flows and determining capacity needs, this Ten-Year Plan uses a revised estimate of EDU growth that reflects the current conditions and assumptions that were the basis of the Agency's long-range budget.

Exhibits I through V at the back of this report show the flow projections for each individual facility and the Agency as a whole in graphical form. These projections are based on the Agency's budgetary estimates of EDU growth. Figure 2-7 below shows a comparison of projected wastewater flows using the original Contracting Agency estimates and the revised budgetary

estimates. Using the Contracting Agency estimates, the total wastewater flows would increase by 6-8 MGD over the 10 years. Using the adopted budget estimates, the total flows will increase by 3-4 MGD.

Figure 2-7: 10-Year Flow Forecast (200gpd/EDU)

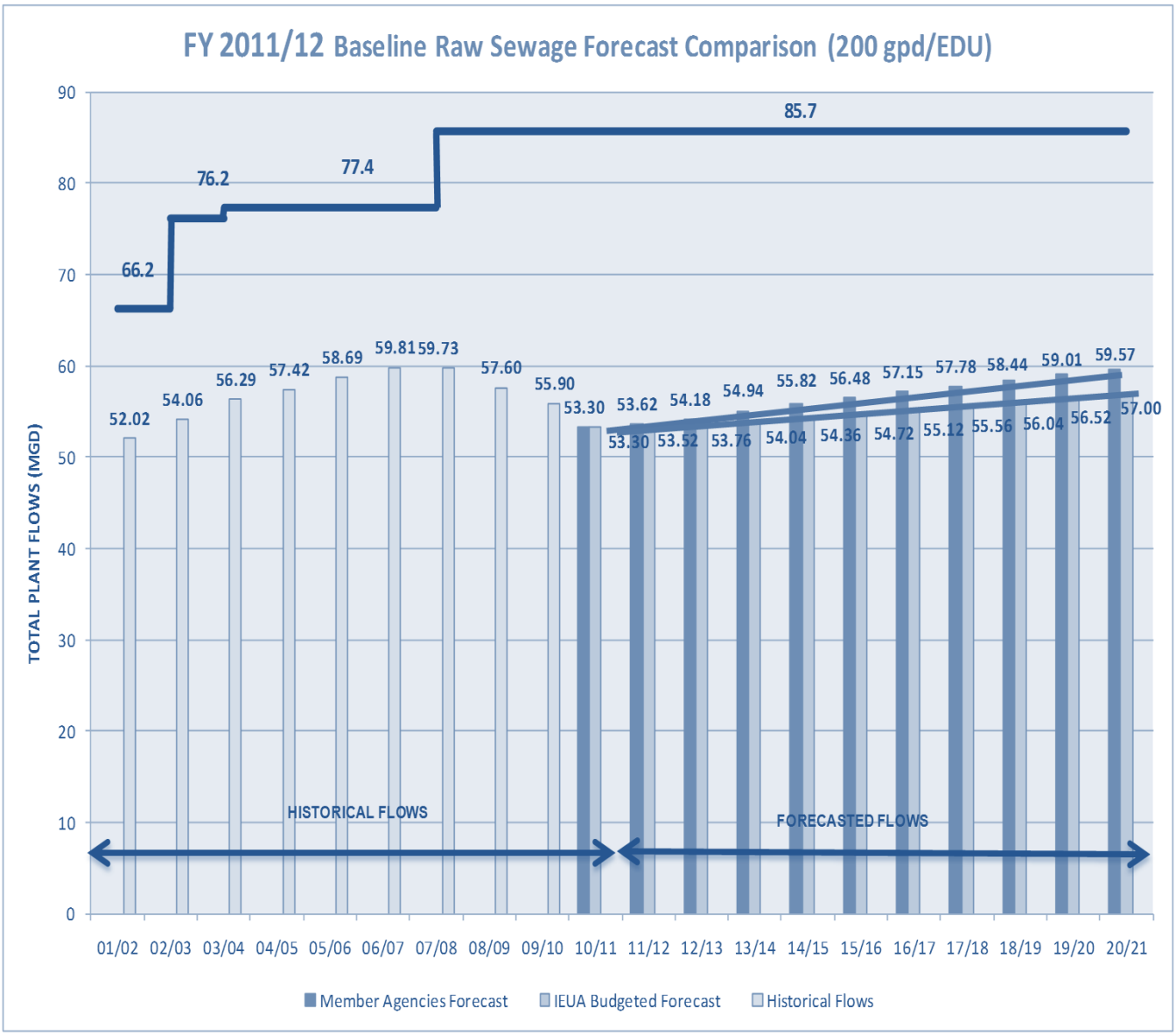
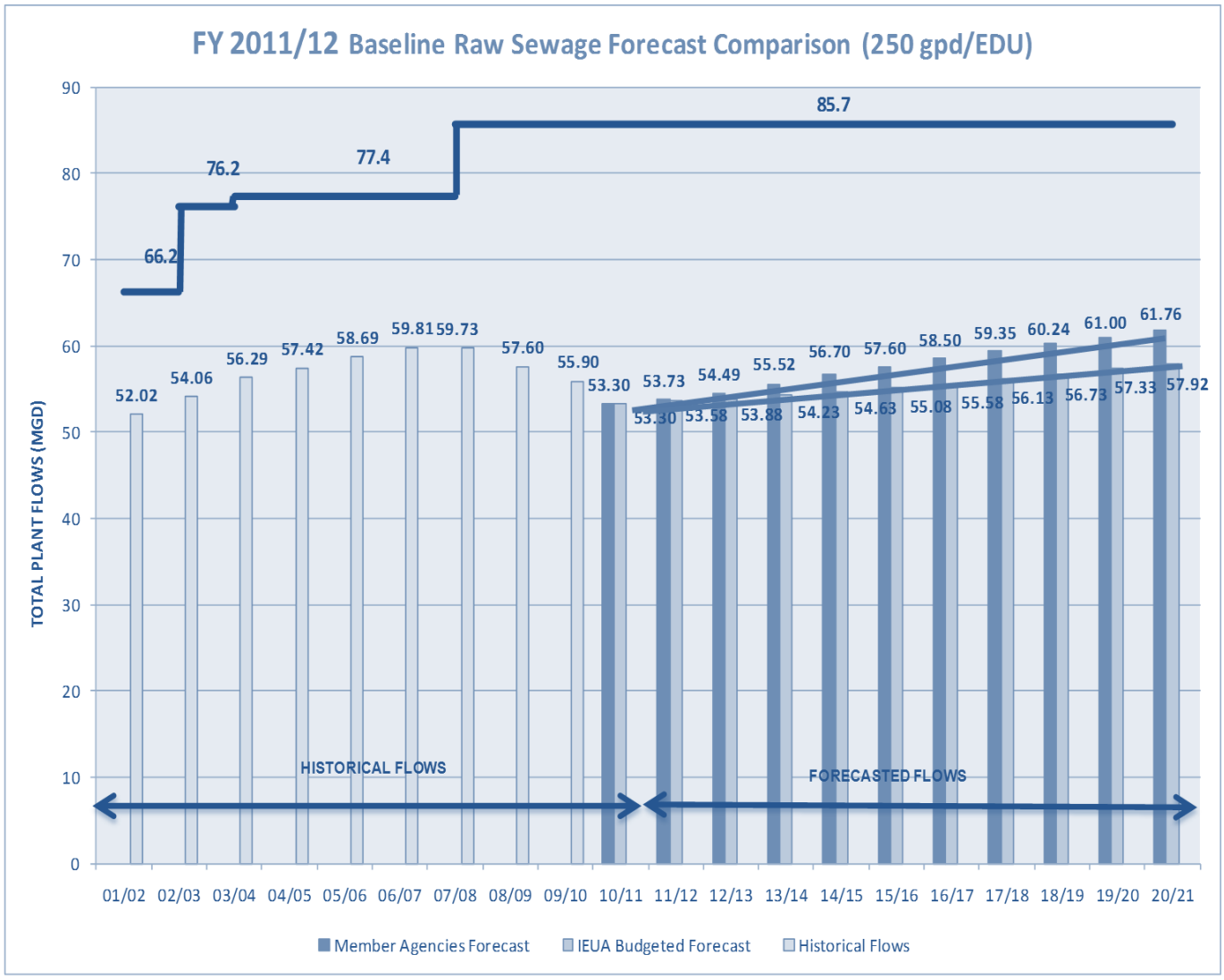


Figure 2-8 provides the same comparison using a flow factor of 250 gpd/EDU. The upper horizontal solid line is the combined capacity of the Agency's water recycling facilities. Regardless of which flow factor and which growth forecast is used, the treatment capacity is adequate for the projected flows.

Figure 2-8: 10-Year Flow Forecast (250 gpd/EDU)



2.5 Capacity Utilization Forecast

Table 2-6 presents the Ten-Year Capacity Demand Forecast by wastewater treatment plant. The current service areas of each Regional Plant were used to allocate projected sewage flows to each plant. For each service area, Table 2-2 compares the anticipated average regional plant influent flows now (FY 2010/11) and in FY 2019/20. It shows the baseline raw sewage flows from the service areas as well as the "adjusted" flows. The adjusted flows are the expected actual treated flows including bypasses, diversions, and the solids handling liquid recycle stream that is pumped from RP-2 to RP-5. Currently, the total baseline raw sewage flow is 53.3MGD and the adjusted total influent flow is 54.9 MGD. The difference (1.6 MGD) is due to recycling solids-handling sidestreams between RP-2 and RP-5.

Table 2-7 Regional System Flow and Capacity Utilization Summary (MG)

	FY2010/11 Estimate				FY2020/21 Projection			
Water Recycling Facility	**Raw Service Area Flow**	**Plant Influent Flow**	**Plant Rated Capacity**	**Percent Capacity Utilization**	**Raw Service Area Flow**	**Plant Influent Flow**	**Plant Rated Capacity**	**Percent Capacity Utilization**
RP-1	28.65	28.38	44.0	65%	29.68	29.40	44.0	67%
RP-4	6.95	10.72	14.0	77%	7.62	11.39	14.0	81%
CCWRF	10.96	7.01	11.4	62%	11.30	7.35	11.4	65%
RP-5	6.74	8.78	16.3**	54%	8.40	10.45	16.3	64%
IEUA Total	53.29	54.90	85.7	64%	56.99	58.60	85.7	68%

*Note: Projections are based on the budgeted EDU growth scenario and 200 gpd/EDU.
**Note: RP-5's current discharge permit establishes the plant's rated capacity, including recycle flows, at 16.3 MGD.

Table 2-6 Assumptions Looking Forward:

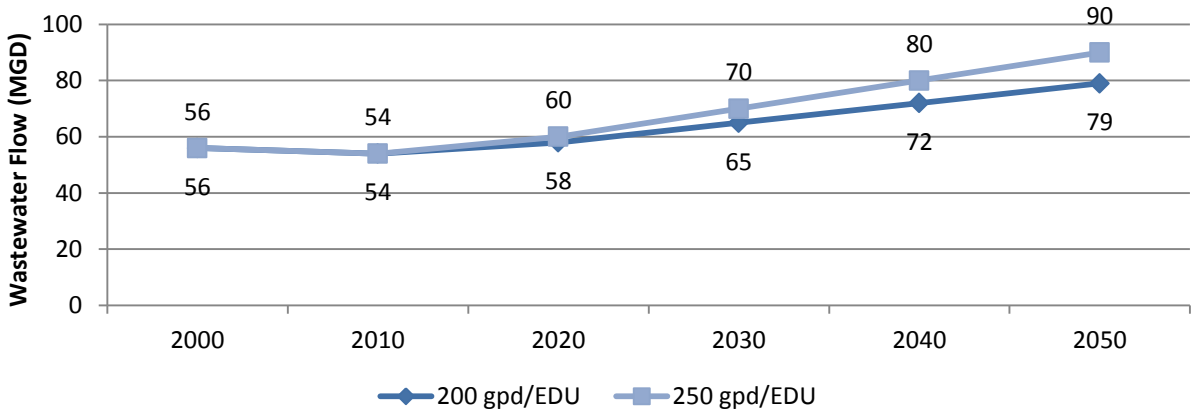
- Assumes 200 gpd/EDU and uses the Agency's budgetary estimate of projected EDU growth
- Former Ontario Lift Station flow (2.5 MGD) is considered part of RP-5 raw service area flow
- San Bernardino Lift Station routing 4 – 5 MGD (tributary to RP-1) to RP-4
- 3.2 MGD of Montclair Interceptor flows are routed to RP-1, 1.0 MGD are routed to CCWRF
- 1.6 MGD of solids handling side-stream flow is recycled from RP-2 to be treated at RP-5

As shown in Table 2-6, the forecasted total system flow for FY 2020/21 is 58.6 MGD, including the recycle stream from RP-2 to RP-5. The overall treatment plant capacity utilization is expected to be 68% at the end of the ten year planning period. Agency-wide capacity utilization will be balanced and optimized between facilities to achieve the lowest operational cost while satisfying recycled water demands and water quality requirements. This will be accomplished using the bypass and diversion capabilities discussed in Chapter 1. As reflected in Table 2-6, it is likely that capacity utilization at RP-4 and CCWRF will be selectively higher than at the other water recycling facilities, with the operational goal being to supply recycled water to the users with the least amount of pumping energy.

2.6 Fifty-Year Flow Projection

As indicated in Figure 2-9 ("Regional System 50-Year Flow Projections"), wastewater flows have been projected to reach somewhere between a low of 79 MGD to a high of 90 MGD by the year 2050. These projections were developed considering current, historical and future growth information. The "low" scenario reflects a wastewater flow increase of about 0.63 MGD per year and the "high" scenario reflects 0.9 MGD per year. The current trend falls between the two curves.

Figure 2-9:
Regional System 50-Year Projection



3.0 REGIONAL PROGRAM CAPITAL IMPROVEMENT PLAN SUMMARY

3.1 Regional Program Overview

IEUA's Regional Program encompasses the activities associated with construction and replacement of the Agency's wastewater, energy cogeneration, and solids handling facilities. It includes the Regional Sewerage System consisting of the sewage collection trunk lines and pump stations, the wastewater treatment and disposal facilities, the recycled water production facilities, and also the facilities for generating energy from biogas as well as recycling or disposing of biosolids.

The capital improvements planned for the Regional Program are consistent with the recommendations in the Agency's Wastewater Facilities Master Plan (adopted in 2002). A basic requirement of the capital improvement program is to keep pace with the needs for wastewater treatment and solids handling capacity based on future growth projections provided by the Contracting Agencies. The adequacy of the capital improvement program is demonstrated by the projected flow and capacity comparisons for individual regional plants presented in Exhibits I through V at the end of this report. The forecasted flow curves are adjusted to take into account the Agency's ability to make planned diversions within the system to optimize the use of existing facilities.

3.2 Regional Program Projects

The current Regional Wastewater Program emphasis is on repair and replacement of existing equipment and structures, providing system redundancy where needed to guarantee performance and compliance, and achieving energy sustainability. This year's Regional Program Ten-Year Plan recommends $81 million in capital project expenditures, including $47 million in the Regional Capital (RC) Fund and $34 million in the Regional Operations (RO) Fund. The largest projects (in terms of costs over the next ten years) are listed in Table 3-1.

TABLE 3-1 REGIONAL WASTEWATER CAPITAL PROGRAM—MAJOR PROJECTS							
Project Number	**Project Title**	**FY 10/11 Projected Actual**	**FY11/12**	**FY 12/13**	**FY 13/14**	**FY14/15-FY20/21**	**Total TYCIP FY11/12-FY20/21**
EN11017	Capital Upgrades RP-1, RP-2, CCWRF ,RP-4, RP-5	$4.0 M	$ 3.7 M	$2.1 M	$1.9 M	$18.4 M	$26.1 M
EN06015	RP-1 Dewatering Facility Expansion Project	$13.5 M	$5.8 M	-	-	-	$5.8 M
EN08013	Plant Equipment Improvement Project (All Facilities)	$0.2 M	$0.4 M	$0.6 M	$1.0 M	$8.5 M	$10.5 M
EN08023	RP-1 Asset Replacement	$0.4 M	$0.9 M	$0.9 M	$0.7 M	$6.8 M	$9.3 M
EP12002	Major Facilities Repairs & Replacement Project	$0.1 M	$0.5 M	$1.0 M	$0.7 M	$4.9 M	$7.1 M
EN12006/ EN12009	Misc. Wastewater Construction & Emergency Projects	-	$0.4 M	$0.6 M	$0.5 M	$3.5 M	$5.0 M
EN11042	RP-1 Flare & RP-1/RP-2 Boiler Replacements	$0.8 M	$1.3 M	$0.15M	-	-	$1.45 M
	Total—Major RC/RO Projects	**$19.0 M**	**$13.0 M**	**$5.4 M**	**$4.8 M**	**$42.1 M**	**$65.3 M**
	All RC/RO Projects	**$22.7 M**	**$18.7 M**	**$6.4 M**	**$5.7 M**	**$50.7 M**	**$81.4 M**

There are no plans in the next ten years to expand the flow capacity of any of the Agency's Regional Wastewater Facilities. The RP-1 Dewatering Facility Expansion Project is slated for completion in FY 2011/12 and has a remaining cost of $5.8 million out of a $27 million total budget since project inception. Other capital projects in the Regional Program TYCIP relate to essential system and equipment repair, replacement and upgrade.

The major projects are further defined below:

- Plant Equipment Improvements (EN08013) (RO Fund)
  - $1 M average per year for designing the replacement of wastewater equipment or processes at any of the Regional Wastewater Facilities at end of useful life. Provides engineering support to the operations and maintenance departments to prepare final construction documents for complex projects.
  - Examples: RP-4 Headworks Improvements (new bar screens and gates); CCWRF Blower Line Replacement and Blower Control Upgrades

- RP-1 Asset Replacement (EN08023)(RO Fund)
  - $9 M for planned improvements to critical facilities or processes at RP-1. Includes phased repair or replacement of essential equipment and major processes based on the priorities and schedule identified during the detailed 2005 RP-1 Condition Assessment Study.
  - Examples: Primary Clarifier Rehabilitation; RP-1 Headworks Gate Replacement; Chemical pumps; Air diffusers.
- Major Facilities Repairs and Replacement (EP12002)(RO Fund)
  - Average $0.7 M per year for purchase and replacement of major equipment and facilities at end of useful life (similar to EN08013 except these projects do not require engineering support for preparation of construction drawings).
  - Examples: Asphalt and roofing repairs; critical spare equipment; projects to address operation and maintenance emergencies.
- Miscellaneous Wastewater Construction and Emergency Projects (EN12006 and EN12009)(RC Fund)
  - $0.5 million per year for emergency engineering and construction projects
  - Examples: Emergency projects not foreseeable through the normal planning process.
- RP-1 Dewatering Facility Expansion Project (EN06015) (RC Fund)
  - Consists of a new building, new centrifuge technology for dewatering, and additional sludge storage; is currently in construction and is scheduled for completion in FY 2011/2012.
- RP-1 Flare and RP-1/RP-2 Boiler Replacements (EN11042)(RC Fund)
  - Existing RP-1 flare (waste gas burner) has to be replaced to meet current and future digester gas production and air quality requirements
  - Two boilers at RP-1 and one boiler at RP-2 must be replaced in FY2011/12 to satisfy South Coast Air Quality Management District (SCAQMD) Rule 1146. The new boilers will have low- NOx burners and will have enough capacity to accommodate the future digester heating requirements.
- Capital Upgrades at RP-1, RP-2, CCWRF, RP-4 and RP-5 (EN11017) (RC Fund)
  - $2.6 M average per year for regulatory, safety, or redundancy for essential systems at Regional Wastewater Facilities agency-wide.
  - RP-1 upgrade projects:
    - HVAC improvements for motor control centers, lab and control rooms
    - RP-1 lab boiler upgrade/replacement
    - Replacement of corroded light poles and lighting efficiency upgrades
    - RP-1 digester gas condensate sump improvement
    - TP-1 disinfection pump improvements
  - CCWRF upgrade projects:
    - Tertiary filter media & pumps replacement
    - Secondary clarifier rehabilitation Phase 1
    - 12KV switchgear repair
  - RP-4 upgrade projects:
    - RP-4 lagoon & fencing repairs

- RP-4 headworks retrofit
- RP-4 backup odor control blower

- RP-5 upgrade projects:
  - Heating for sodium bisulfate injection lines
  - Odor control biofilter media replacement
- Agency-wide HVAC and server room fire suppression
  - Identify the 3 most critical areas that need HVAC replacement (in kind) or upgrades and the most critical server rooms that need fire suppression for completion during FY 2011/12. The remaining HVAC improvements and server rooms fire suppression will be done in following years
- Agency-wide facilities SCADA Master Plan
  - Prepare an Agency- wide facilities SCADA Master Plan to help guide future expansion projects and DCS/SCADA upgrades

3.3 Organics Management

Even though wastewater flows within the Agency's service area have been decreasing in the last three years, the amount of organic matter and suspended solid materials in the wastewater that must be treated is roughly the same. Once the RP-1 Dewatering Facility Expansion Project is completed in 2012, IEUA will have enough solids handling capacity for the next ten years.

IEUA's long-range plans for treating and utilizing biosolids as well as addressing the problems of dealing with manure and wood waste generated within its service area were addressed in the Chino Basin Organics Management Business Plan, dated May 31, 2001 and related Organics Management Strategy Technical Memoranda. The Business Plan was developed to be consistent with IEUA's mission to protect public health, the groundwater basin, and the environment (e.g., reduces air pollution and improves water quality).

Included in the Business Plan was a local organics recycling program that includes the local communities as partners to divert organic solids from landfill disposal and to be consumers of recycled organic products generated from within the community. IEUA formed a Joint Powers Authority with the County Sanitation Districts of Los Angeles County (CSDLAC), called the Inland Empire Regional Composting Authority (RCA), to implement the shared goal of development of a sustainable biosolids management project. In 2007, the two joint powers agencies completed the construction of a biosolids composting facility, called the Inland Empire Regional Composting Facility (IERCF). The IERCF is located in Rancho Cucamonga, adjacent to RP-4. This new composting facility replaced IEUA's Co-Composting Facility in Chino, which was closed in 2006, with a state-of-the art facility that is completely enclosed to control odors.

The IERCF is designed to process and recycle the dewatered and stabilized biosolids from IEUA and CSDLAC's wastewater treatment processes as well as wood waste from local communities. It produces over 240,000 cubic yards of high-quality compost each year for local landscaping and horticultural use. The composted product, which is marketed as SoilPro Premium Compost, has

been 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 construction of the RP-1 Dewatering Facility will use centrifuges to dry solids to a higher percentage. This has the potential of freeing up additional capacity at the IERCF for 22 to 31 tons of dry solids per day.

The TYCIP for the RCA includes $6 million of capital improvement, replacement and upgrade projects. Recently-completed and ongoing projects include a Compost Storage Facility, a Backup Power Generation Facility, emergency lighting, and process improvements. Future demands and operational issues will determine what specific future capital projects and needed. Any capital maintenance, enhancement, or replacement will be jointly analyzed and determined with the CSDLAC.

In previous years, the Regional Program Capital Fund budget also included approximately $0.25 million per year for the Agency's share (50%) of capital contributions for the Inland Empire Regional Composting Facility. There is no IERCF contribution included in the current TYCIP because the composting facility has adequate reserves and the ongoing costs will be covered by tipping fees.

3.3.1 Northern Service Area (RP-1, RP-4)

In general, the RP-1 projects in the TYCIP involve energy efficiency and modernization of facilities. The RP-1 projects which involve major expenditures in the next two fiscal years fall under the Asset Management Program. They include: Dewatering Facility Expansion; RP-1 Asset Replacement; and miscellaneous capital upgrades. These projects all focus on modernizing facilities at RP-1 to ensure that performance standards and regulatory requirements are met. The Dewatering Facilities Expansion Project will expand and upgrade the dewatering facility to meet the facility's current and future capacity needs for more than the next 20 years. The current dewatering equipment and the filter belt presses are at the end of their useful life. The expansion of the facility will also increase the capacity of the dewatered cake storage system. This will allow for more operational flexibility when managing the hauling trucks. The single solids conveyance system will also be replaced and designed to accommodate a multiple conveyance system, which will eliminate future single point failure with conveyors.

The RP-1 Asset Replacement Project will also have a major impact on the aging infrastructure within the RP-1 facility. The project was initiated in July 2006 to implement several of the recommendations of the RP-1 Condition Assessment Study conducted by Metcalf and Eddy in 2005. The study evaluated all of the major equipment and provided a prioritized list of improvements that needs to be completed for the facility over a ten-year time period. Improvements included repairs, rehabilitation or studies to assess the condition of the equipment and devise a proper response as needed. The project was divided between three phases to address the items by priority level. The recommendations are being implemented over six years, starting in FY 2009/10, with most of the construction occurring in FY 2010/11 and beyond.

The Agency has entered into a power purchase agreement (PPA) using Fuel Cells to generate 2.4 MW of power at RP-1 in lieu of using internal combustion engines. The Agency has also entered into a PPA using wind turbines as an alternative energy source at the RP-4 facility to generate 900 kW of power. Wind power is a green energy source that is becoming more viable for small to medium-sized facilities.

3.3.2 Southern Service Area (RP-2, RP-5, CCWRF)

The Agency is in the process of doing a full condition assessment of CCWRF. This is one part of the overall Asset Management Process that will be integrated into SAP, the Agency's Enterprise Resource Management System.

CCWRF Aeration blower ducting was identified as a project that would dramatically improve energy efficiency of the system. The project is currently in the design phase and will be implemented this fiscal year. In addition, the CCWRF filter media has reached the anticipated end-of-life and there is a project to replace the media.

The only major project specifically planned for the RP-2 biosolids handling facility is the RP-1 & RP-2 Boiler Replacement Project. This project is necessitated by the South Coast Air Quality Management District (SCAQMD) Rule 1110.2. More on this regulation and its impacts on the Agency is found in the Emerging Planning Issues Chapter of this TYCIP. Eventually, when the solids handling capacity at RP-2 is exceeded or the RP-2 facilities reach the end of their useful life, the Agency intends to move the Southern Service Area's biosolids handling operations to the RP-5 SHF. In the meantime, IEUA has negotiated a PPA for converting and using the RP-5 SHF as a processing facility for food waste with use of the resulting biogas for power generation. The plans for the facility are in the design and permitting phase.

Although it is not expanded within the ten-year window of the TYCIP, RP-5 is expected to be the first wastewater plant to reach its rated capacity because of the high growth potential in the Southern Service Area. Future projects, outside the ten-year window, such as re-commissioning of the Whispering Lakes Lift Station, have been identified and may be implemented as necessary to alleviate flow from RP-5. Additionally, once the CCWRF Tertiary Filter hydraulic testing is completed, the CCWRF will be re-rated to a higher capacity, which will also alleviate some flow from RP-5.

4.0 ENERGY MANAGEMENT

4.1 Background

Increases in energy costs, uncertainty in energy markets, concerns about the state's economy, and regulations all have major impacts on the water and wastewater industry. In California, water-related energy demands account for 19% of the state's electricity usage, 32% of its natural gas usage, and 88 million gallons of diesel fuel consumption every year. At the Agency's five Regional Water Recycling Plants (RWRPs), energy costs account for approximately 50% of the non-labor operation and maintenance (O&M) costs (Figure 4-1). As population growth continues to occur in the Agency's service area, demand for electricity will increase. The cost of electricity is also expected to climb as it has done historically (Figure 4-2). Sound energy management planning and practices are critical to O&M cost containment as well as to meeting regulatory compliance goals, and carbon footprint reduction targets. To this end, the Agency has developed a strategic Energy Management Plan (EMP) with a specific focus on energy independence from the grid during the peak energy use/pricing period (noon to 6:00 PM) by the year 2020 or sooner. This initiative has been titled **"Go Gridless by 2020"** and will be achieved through a combination of efforts including increased energy efficiency, increased on-site energy generation, optimization of energy procurement strategies and effective energy demand response. The word "gridless" does not imply the Agency would sever ties entirely with the service provider Southern California Edison (SCE), but rather would strive towards relative independence from the grid during peak periods. This strategy contributes to reducing demand on an already taxed California power grid system while enhancing the Agency's energy reliability and rate stability in an environmentally prudent manner.

Figure 4-1: IEUA Non-Labor O & M Cost Breakdown

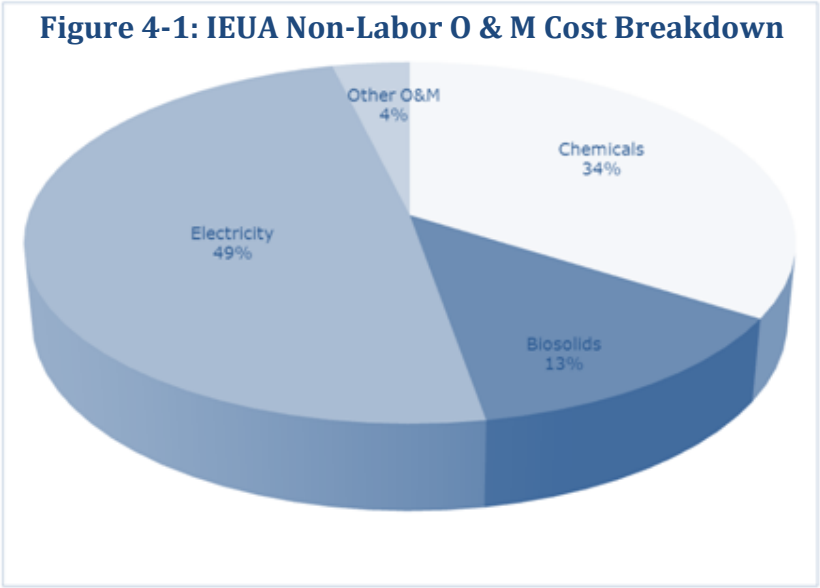
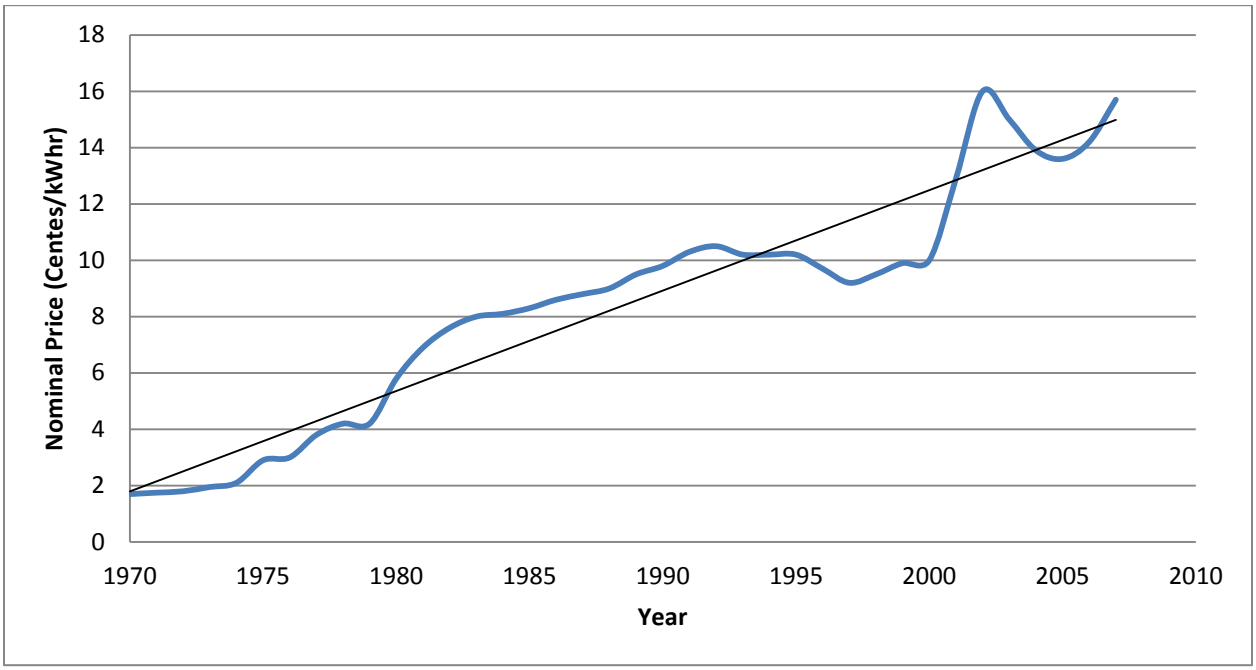


Figure 4-2: Historical Energy Rates



4.2 Electrical Load Gap Analyses

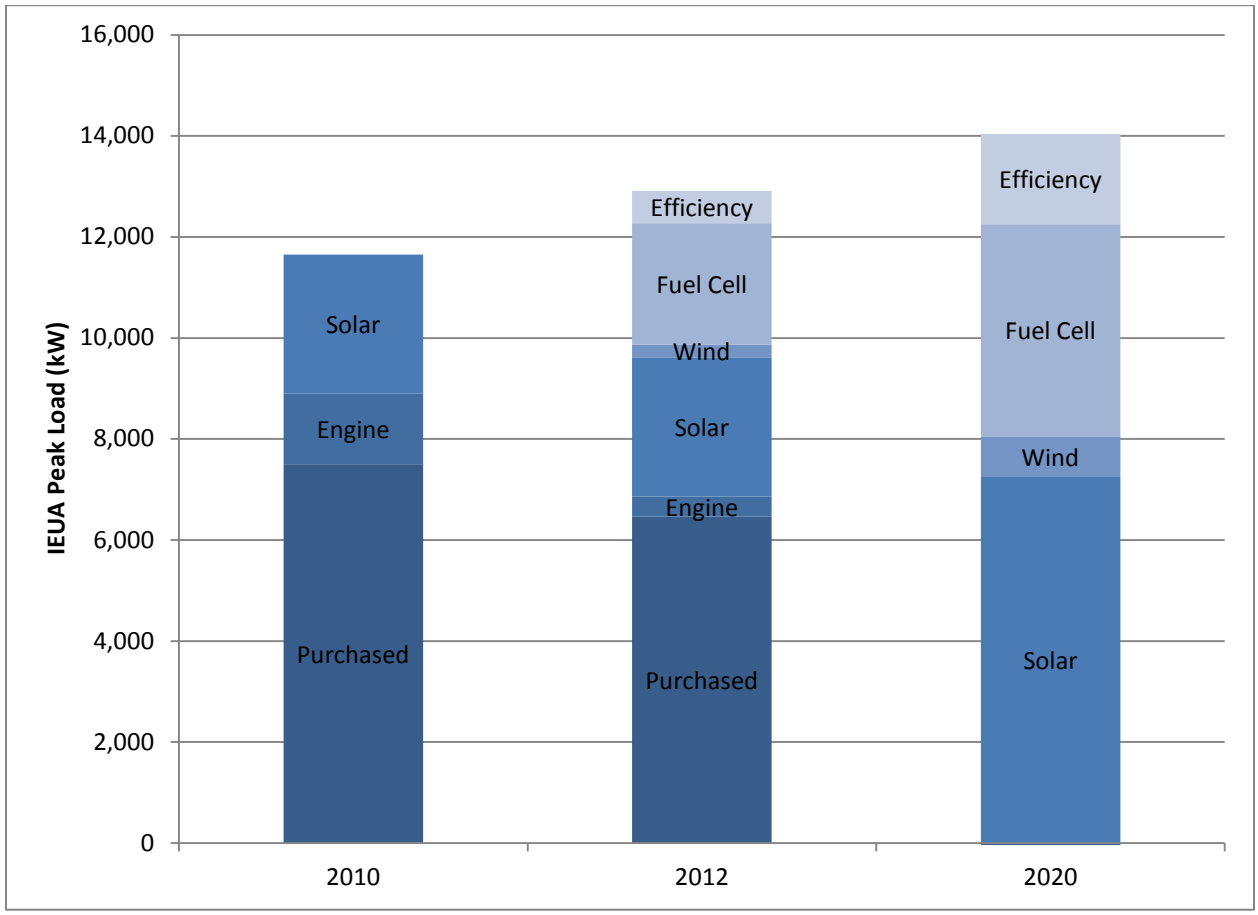
Agency staff performed an energy demand gap analysis using 2010 as the baseline year and identifying 2020 as the target year to achieve peak period grid independence. The baseline data showed that approximately 7,500 kW were purchased by the Agency during peak energy hours in 2010. Agency-wide peak energy demand is expected to increase in the future due to increased influent flows, increased recycled water demand and in the near future, the startup of the Centrifuge Project at RP-1. Based on projected increased power demands, a preliminary evaluation was conducted to identify opportunities to employ new projects/technologies and as a way to increase energy efficiency to meet the Gridless Plan goal by 2020. Table 4-1 and Figure 4-3 summarize the projected impacts of the EMP on energy demand at Agency facilities within the TYCIP period.

Table 4-1: Peak Period Electrical Load Gap Analysis

Year	Plant Peak Load [KW]	ICE [KW]	Solar [KW]	Wind [KW]	Fuel Cell [KW]	Efficiency [KW]	Purchased (Gap) [KW]
2010	11,650	1,400	2,750	0	0	0	7,500
2012	12,910	400	2,760	250	2,400	640	6,460
2020	13,640	0	7,250	800	4,200	1,790	-400

* ICE = Internal Combustion Engines

Figure 4-3: Peak Period Electrical Load Gap Analysis



4.3 Energy Management Plan

The EMP provides planning and implementation guidelines for the reduction in energy demands within the Agency.

The cornerstones of the EMP are:

- Energy Efficiency
- Renewable Energy (Biogas)
- Renewable Energy (Non-Biogas)
- Cost-Effective Purchasing Strategy
- Financing
- Regulatory and Legislative Tracking

The first three bullets will be addressed as part of the Go Gridless by 2020 initiative.

4.3.1 Going Gridless by 2020

The Agency established a "Go Gridless by 2020 Energy Task Force" team in 2011 that comprises staff from across the Agency with diverse background and expertise. It is possible that meeting the gridless objective date of 2020 could be achieved earlier depending on a large number of variables and external factors. The goals of the Task Force team are to evaluate, develop and refine the "Go Gridless by 2020" strategy to achieve cost effective sustainable wastewater treatment operations. The team will determine specific assignments and appoint responsible parties.

4.3.1.1 Energy Efficiency Plan

Evaluating a facility for energy efficiencies and adopting an Energy Efficiency Plan (EEP) not only results in reduced O&M costs, but can also result in increased treatment efficiency and capacity. To meet these goals, staff will evaluate all the major process systems and follow through with the development of the EEP, then implement the plan's recommendations. Improvements in energy efficiency will play a key role in reducing the Agency's peak demand (estimated 13% reduction in 10 years).

Some of the key components of the EEP include:

- Tracking and evaluating energy usage and costs
- Performing energy audits
- Upgrading equipment and optimizing treatment processes
- Energy management training for operators
- Optimizing load profiles through operation
- Implementation of demand management for recycled water delivery

Tracking and Evaluating Energy Usage and Costs

The first step in evaluating energy usage and costs at a wastewater treatment facility (WWTF) is gaining a clear understanding of how much energy is being used and for what purpose. This information allows the facility staff to identify areas for conservation and to determine where energy is being used inefficiently. At many WWTFs, the facility's energy use is recorded at a single metering location. Although this is effective for billing purposes, it does not allow personnel to see the energy used by each individual process.

Implementation and use of energy sub-metering can be a very valuable tool in tracking and therefore optimizing energy usage. The Agency has recently initiated and partially implemented an energy sub-metering program. Sub-metering involves the use of digital meters connected to the SCADA system as a resource to help monitor kW, kWh, amperes, load factor and other units of energy consumption. A combination of sub-meters and load profiling data can help staff understand operating patterns, increase operating efficiency, assist in identifying malfunctioning equipment and reduce energy demand charges. In addition, this electronic data can be brought into the WWTF's control system which will enhance operational control of the facility, reduce maintenance costs and help prolong operating life of equipment. It is expected that energy costs will be reduced by increasing employee awareness and accountability for energy usage.

The Agency has already implemented sub-metering at each of its recycled water pump stations. The ultimate goal is to implement sub-metering for all high-power/high-use equipment at Agency facilities. The Agency will implement a sub-metering project at each motor control center during the next fiscal year. Sub-metering will give the Agency visibility in energy usage, which will allow the staff to effectively and efficiently select and participate in certain Demand Response programs.

Performing Facility Energy Audits

A comprehensive energy audit allows a facility to determine the largest, most energy-intensive operations. By determining the energy demands of the various processes and equipment at a WWTF, personnel can look at improving the treatment energy efficiency. The objectives at most facilities are lower energy consumption, demand and costs. In some cases, life-cycle cost analyses can be used to help assess and optimize the selection of individual components and systems.

To the extent allowed by currently available data, performance management tools (i.e., Key Performance Indicators (KPI) and Unit Production Costs (UPC)) are being used to monitor energy use and energy generation at the facilities. These tools are an important component of an effective energy management program. As more data on energy use become available through the implementation of sub-metering, the KPI and UPC tools will be expanded to take full advantage of the information in facility energy audits. The "Go Gridless by 2020 Energy Task Force" will be required to perform a great deal of technical analysis to achieve its goals. The effective use of performance management tools will significantly improve the quality of the technical analysis.

Along with sub-metering information data, an energy audit can determine the most energy-intensive operations. A facility's energy usage can be compared with design or energy usage at similar facilities to identify areas that should be examined further. Once the efficiencies of different pieces of equipment and process operations are determined, the facility can begin to develop energy conservation measures by answering the following questions for each piece of equipment and process:

- Does the process/equipment need to run at all?
- Is it possible to run the process/equipment for fewer hours?
- Is it possible to shift this activity to off-peak hours (for some auxiliary functions)?
- Will process optimization and modifications or equipment upgrades reduce energy usage?
- What equipment is most energy efficient for this process?

The answers to these questions will help determine what processes can be modified or what equipment can be operated more efficiently or replaced to save energy.

Upgrading Equipment and Optimizing Treatment Processes

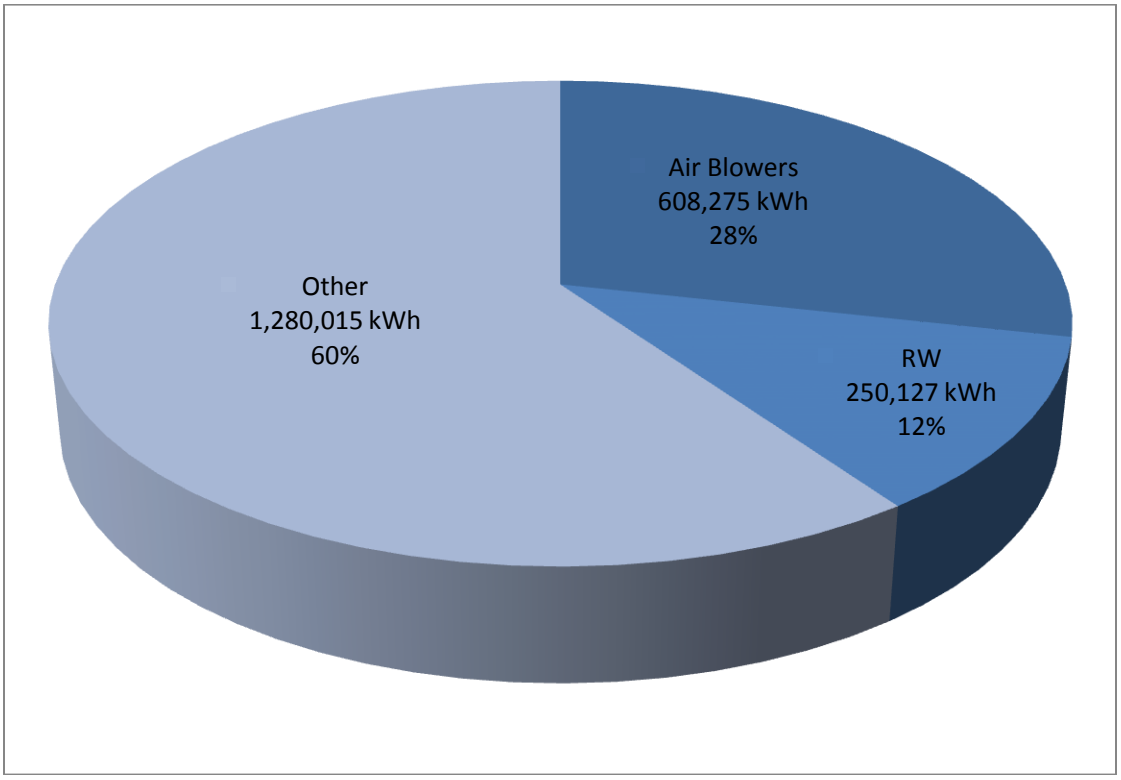
Agency staff has already targeted a variety of processes that can be upgraded to improve energy efficiency. Nearly 40% of the energy demand at the treatment facilities is from aeration blowers and recycled water pumping (Figure 4-4). Energy efficiencies have been realized through the installation of high-efficiency pumps, high-efficiency motors and extensive use of variable frequency drives (VFDs). A VFD is an electronic controller that adjusts the speed of an electric

motor by modulating the power being delivered. VFDs enable pumps to accommodate fluctuating demand, resulting in operating at lower speeds and conserving energy while still meeting pumping needs. According to the California Energy Commission, VFDs can result in significant energy savings: a VFD can reduce a pump's energy use by as much as 50 percent.

Since energy usage by pump and blower motors account for more than 80 percent of a WWTF's energy costs, and since high-efficiency motors are up to 8% more efficient than standard motors, it can be expected that upgrading to high-efficiency motors can significantly reduce the facility's energy costs. Design improvements and more accurate manufacturing tolerances are key to the improved efficiencies with these motors. In addition, these motors typically have greater bearing lives, lower heat output and less vibration than standard motors. While high-efficiency motors have a 10 to 15% higher initial cost, with their lower energy consumption and lower failure rates, these motors are included as a standard requirement in all new purchases and replacements.

Another major source of WWTF energy use, and therefore a focus area for demand reduction, is the aeration systems used to treat the wastewater. Fine bubble diffusion, which is inherently more effective than coarse bubble diffusion in improving oxygen transfer efficiency, has already been widely employed at Agency facilities. High rate diffusers supply large quantities of air with low pressure drop and small bubble size (approximately 1-4 mm). Therefore, the combination of efficient blowers and air diffuser operation is critical to reducing the energy demand from this high power demand system.

Figure 4-4: Energy Use Distribution December 2010 at RP1



Energy Management Training

Operations staff are the first line of defense for ensuring the Agency's energy objectives of decreased power usage and increasing efficiency are met. To meet these needs, a four-phase Energy Management Training Program is being implemented:

- Phase I – Energy Basics: Operators will be trained on the fundamentals of electricity (electrons, current, voltage, energy and power), fundamentals of energy distribution (wiring, MCC's, VFD's, resistance, and metering), fundamentals of motors and pumps (motor horsepower, water horsepower, efficiency, pressure, and head) and fundamentals of energy costs (SCE, Edison, Time-of-Use, etc.). The Phase I Training will be created and presented by the Operations Assistants and multiple training sessions will be provided at each facility.
- Phase II – Recycled Water Energy Demands: Based upon the knowledge gained from the Energy Basics presentation, Operators will be trained on the recycled water system operational changes implemented to reduce energy usage and increase efficiency. This training will be equipment-specific and will discuss recycled water pumps, pressure relief valves, control valves and SCADA control. The Phase II Training will be created and presented by the Recycled Water Coordinator and multiple training sessions will be provided at each facility.
- Phase III – Site-Specific Energy Management: This phase will include a review of all energy data collected, operational changes made for increased energy efficiency and SCADA reporting capabilities for each facility. Standard Operating Procedures (SOPs) and standard reporting documents will be created. Phase III will be conducted in conjunction with the Operations Department, Maintenance Department and Distributed Control System (DCS).
- Phase IV – Site-Specific Energy Management Training: Based on the standards created under Phase III, the Agency Operators will be trained on standard energy practices for their respective facilities. The Phase IV Training will be created and presented by the Operations Assistants and multiple training sessions will be provided at each facility. As Operators cross-train at other facilities, this training will be provided on an as-needed basis.

Table 4-2: Operator Energy Management Training

Training	Person Responsible	Completion Date
Phase I - Energy Basics	Operations Assistant	May 2011
Phase II - Recycled Water Energy Demands	Recycled Water Coordinator	July 2011
Phase III - Site Specific Energy Management	Operations Department DCS	July 2012
Phase IV - Site Specific Energy Management Training	Operations Assistant	December 2012

Optimizing Load Profiles by Shifting Operations

The Agency has several facilities that are interconnected and operated under a single NPDES permit. The recycled water system demands have a direct impact on how flows are routed to the various WWTFs. This flow and loading optimization is carried out under three key strategies:

1. Regional Sewer System Pump Station Diversion – The Agency operates two regional sewer system pump stations that have the ability to be diverted: Montclair Lift Station pumping to Regional Water Recycling Plant No. 1 (may be diverted to CCWRF or RP-5) and San Bernardino Lift Station pumping to RP-4 (may be diverted to Regional Water Recycling Plant No. 1). During periods of high recycled water demand, it is more efficient to utilize the regional sewer system pump stations to maintain recycled water supply in the northern, higher pressure zones, greatly reducing recycled water pumping costs. During periods of low recycled water demand, the regional sewer system pump stations may be diverted, thereby reducing the pumping costs for these facilities.
2. Equalization Storage – Both RP-1 and RP-5 have primary effluent equalization storage. Equalization storage allows the operation of each facility to remain fixed and constant throughout the day even though sewer flows follow a diurnal pattern. Consistency in the flow and loading of a facility allows for stability in biological processes, especially activated sludge treatment. Activated sludge treatment is accomplished by aeration of the flow stream by high horsepower blowers. By stabilizing the flow and loading entering the activated sludge treatment process, the blowers are maintained at a constant speed, eliminating the excessive air requirement (and therefore power usage) during the peaks of a diurnal flow pattern.
3. Time-of-Day Operation – Certain treatment processes at the Agency's Regional Water Recycling Plants are not 24-hour per day activities. For example, dewatering at both RP-1 and RP-2 only requires approximately 10 to 12-hours per day to complete. For these treatment processes, it may be beneficial to complete these activities at night to prevent peak power usage; and therefore, provide a cost savings to the Agency. The RP-1 dewatering schedule will be reviewed once the RP-1 Dewatering Facility Expansion is complete and operational.

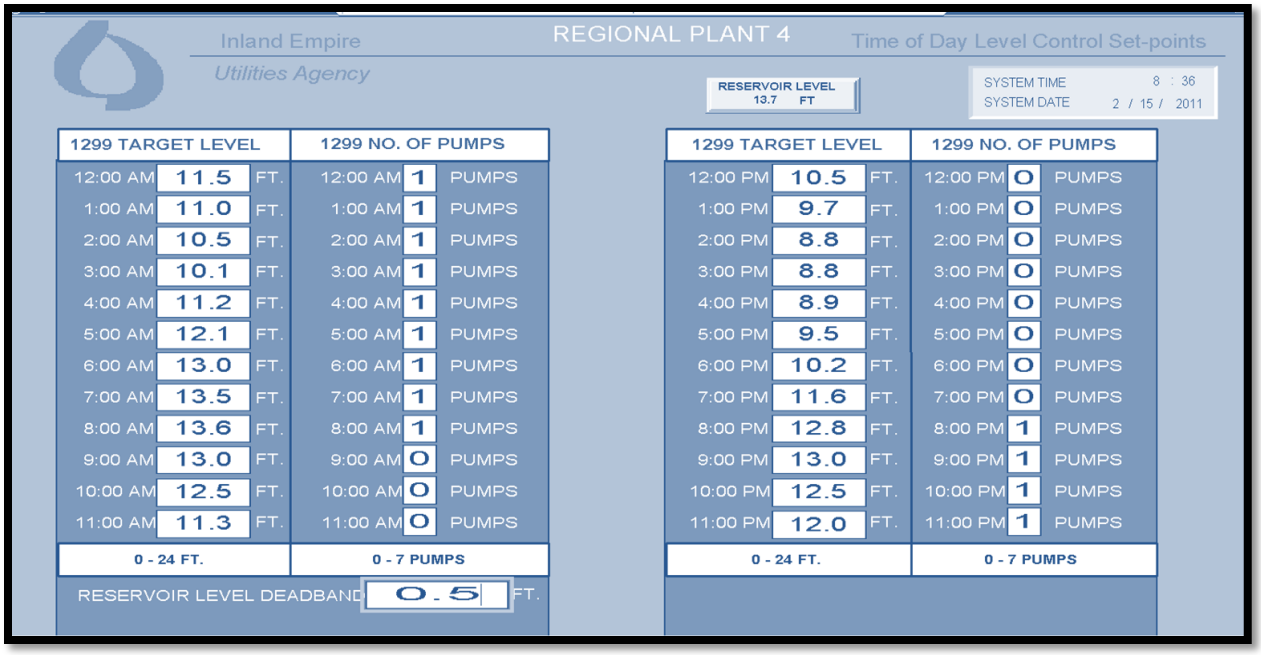
Demand Management for Recycled Water Delivery

The Agency has developed a flexible recycled water distribution system, coupled with an advanced Supervisory Control and Data Acquisition (SCADA) control system to navigate the challenges of consistently meeting recycled water demand while ensuring energy efficiency. The Agency has four RWRFs (RP-1, CCWRF, RP-4, and RP-5), eight recycled water pump stations (1630 East Pressure Zone Pump Station, 1299 Pressure Zone Pump Station, RP-4 1158 Pressure Zone Pump Station, RP-1 1158 Pressure Zone Pump Station, 1050 Pressure Zone Pump Station, RP-1 930 Pressure Zone Pump Station, CCWRF 930 Pressure Zone Pump Station, RP-5 800Pressure Zone Pump Station) and two sets of reservoirs (1299 Pressure Zone Reservoir and 1158 Pressure Zone Reservoirs). In addition, the 1630 West Pressure Zone Pump Station and 1630 West Pressure Zone Reservoir are in construction and the 930 Pressure Zone Reservoir is in design.

The Agency's Recycled Water Demand Management is operated through three core principles:

1. Two fully-automated control philosophies--one operational control strategy for low recycled water demand and another for high recycled water demand. Each is programmed into the SCADA system to ensure recycled water demands are met while maintaining target energy efficiency. During low recycled water demand periods, the Agency operates the recycled water pumping system mainly from the RP-4 1158 Pressure Zone Pump Station and RP-1 930 Pressure Zone Pump Station. They are the two most efficient pump stations due to their elevations in the system. These two pump stations operate in conjunction with several pressure relief/sustaining valves in the distribution system to transport recycled water from higher pressure zones to lower pressure zones. During high recycled water demand periods, the RP-1 1158 Pressure Zone Pump Station, 1050 Pressure Zone Pump Station, CCWRF 930 Pressure Zone Pump Station and RP-5 800 Pressure Zone Pump Stations are operated to meet excess recycled water demand.
2. Time-of-Day reservoir level control is provided on the 1299 Pressure Zone Pump Station and the RP-1 158 Pressure Zone Pump Station. As shown in Figure 4-5, SCADA is used to program the optimum amount of recycled water that can be maintained in the distribution system, while maximizing the use of reservoir and limiting recycled water pumping to off - peak hours. This programming results in daily energy savings and increased water supply reliability.

Figure 4-5: Recycled Water Demand Management – SCADA Screen Shot



3. The Agency has full SCADA control of the Chino Basin Groundwater Recharge program and several recycled water pumps stations that feed the recharge basins. The demand for the recharge basins can be adjusted to ensure that the recycled water pump stations are operated in the most efficient manner while maximizing recycled water recharge in the basins.

4.3.1.2 Renewable Energy Production From Biogas

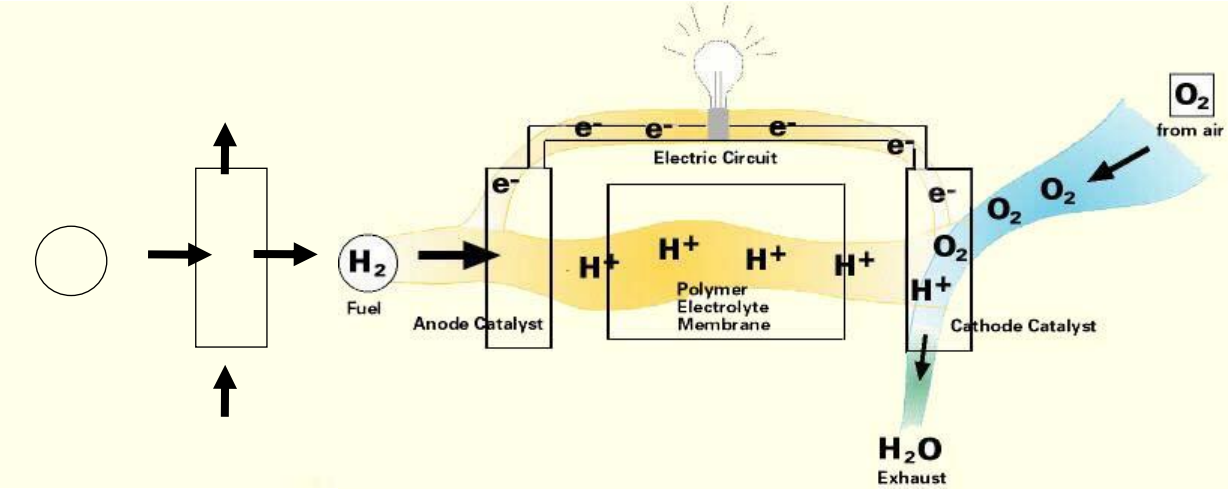
The Agency has been using biogas-fueled internal combustion engines (ICE) to produce renewable energy; however, the 2008 implementation of South Coast Air Quality Management District (SCAQMD) Rule 1110.2 resulted in significant current and future restrictions for the use of ICEs in southern California. The immediate impact of the regulation was that, in 2009, increasingly restrictive limits were placed on the amount of natural gas that could be used in the engines (reduced from 40% to 10%). This resulted in the immediate shutdown of one of the two ICEs located at RP-1, thus reducing this renewable energy generation by 50%. In addition, the rule set new emissions standards that were to be achieved by 2012. Options to address these new emissions standards include retrofitting existing engines with new post combustion control systems, shutting down ICEs or implementing alternative renewable energy technology.

Post Rule 1110.2 Options:

1. Retrofit of existing engines - Meeting these emissions requirements with the existing ICEs would require the installation of a biogas cleaning system (gas treatment) and post-combustion control equipment. This technology is currently being evaluated and may not prove to be effective at meeting the new emissions requirements at all ICE sites. The anticipated cost for these retrofits (assuming that the ICE doesn't also need to be replaced) is $3.5M per ICE. It is also important to note there are no federal or state funding subsidies available for ICE retrofit nor is it a guarantee that it will meet the new emissions requirements or that SCAQMD won't further reduce the standards in the future. Additionally, the three engines at RP1 and RP2 would likely have to be replaced prior to retrofit due to their age and condition in order to have any chance to meet the new requirements.
2. Decommission ICEs – If the Agency did not meet the provisions of the rule, the ICEs would have to be shut down. Biogas produced at RP-1 and RP-2 would be routed to the boilers for digester heating and all remaining biogas would be sent to the waste gas burner to be flared. The SCAQMD has expressed strong disapproval of flaring of digester gas, particularly with the use of older flare technology.
3. Implementation of alternative renewable energy technology – Two viable alternatives to the use of ICEs were evaluated. These technologies include the use of biogas fuel cells, and the treatment and injection of the clean biogas into the natural gas distribution system. Both technologies have current incentive programs in place to assist with the development and implementation of these projects.
    a. Fuel cell – Biogas would be used to feed a clean energy fuel cell resulting in increased power output, increased biogas use efficiencies and provision of waste heat for beneficial use in the digesters. Several biogas fuel cell projects have been installed within the SCAQMD region.
    b. Biogas to pipeline – Biogas would be treated on site, compressed and injected into the natural gas pipeline for regional distribution. This process is promising; however, it has not been effectively implemented with biogas flows as small as seen within Agency facilities.

Each of these options was evaluated in detail with a business case evaluation (BCE). The BCE determined that the best energy management strategy for renewable energy generation is fuel cells using biogas. Like a conventional battery, a fuel cell uses two reacting chemicals separated by an electrolyte to produce an electric current. Unlike a conventional battery, a fuel cell is not charged prior to use. The chemical reactants in a fuel cell are fed continuously to the cell to provide constant power output. The reaction involves no combustion and no moving parts, and produces little pollution. Heat generated in the process can be recovered and used in the facility (Figure 4-6). Therefore the fuel cell, currently under design and scheduled for commissioning in early 2012 at RP-1, has the dual advantage of generating electricity more efficiently than engines from the methane gas produced by the Agency's digestion process while meeting the very stringent SCAQMD standards. The Agency signed a landmark 20-year power purchase agreement (PPA) with UTS to install, operate and maintain a 2.8 Megawatt (MW) fuel cell system, fueled primarily with renewable biogas making it the largest unit of its kind in the world. The new fuel cell will provide approximately 1.8 MW more energy (replacing the 1MW currently generated by ICE) to the RP-1 electrical grid. The clean, efficient, renewable energy from the fuel cell system will provide power and thermal energy to RP-1. In addition to the installation of a biogas fuel cell at RP-1, a fuel cell is also be evaluated to replace the engine located at RP-2.

Figure 4-6: Fuel Cell Power Generation Process



The Agency's assets previously used for manure digestion (RP-5 Solids Handling Facility) are currently being evaluated by a third party for a food waste-to-energy program. The additional power produced using the biogas from this program could potentially satisfy the peak demand at the RP-5 wastewater treatment facility. Opportunities to enhance biogas production at all Agency facilities will continue to be identified and evaluated.

4.3.1.3 Renewable Energy Production From Non-Biogas Sources

Other renewable generation options from non-biogas sources include solar, wind, in-conduit hydro power and natural gas fuel cells.

- Solar power currently accounts for 3.5 MW of the installed renewable generation capacity at the Agency. Solar power is well-suited to match peak energy needs as maximum sunlight hours generally correspond to peak demand periods. Additional feasibility studies are currently being conducted at all Agency facilities to identify additional locations for solar installations.

- In March 2010, the Board approved the installation of a 1.0 MW wind turbine at RP-4. The unit is currently under design and will be operational by late 2011. The expected energy output is approximately 2,190,000 kWh/year. Feasibility studies at other locations will be conducted for both large and small wind turbine units.

- In-conduit hydroelectric generation, also called small hydro, harnesses energy from pressurized water that is normally wasted. A micro hydroelectric turbine could be placed inside a pipeline to generate electricity. Potential sites at the Agency are the groundwater recharge basins and outfall locations.

4.3.2 Cost-Effective Purchasing Strategies

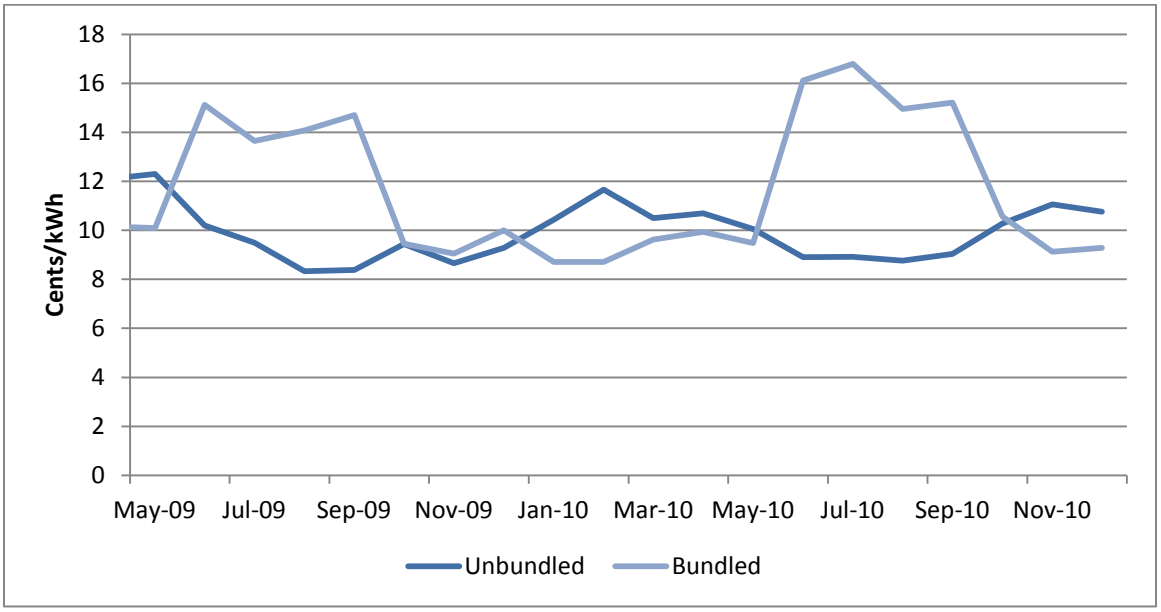
The Agency currently has a two-year agreement with an electricity service provider (ESP) for electricity and natural gas procurement at 4 of its 5 facilities through April 2013. This agreement provides cost stability, lower commodity prices and reduces the Agency's exposure to volatility within the energy market. A portion of the Agency's electricity is purchased at a fixed price from the ESP. The excess electricity consumed is based on the average "day ahead" cost from an index within the Intercontinental Exchange (ICE). The Agency pays SCE for delivery costs. The Agency has realized considerable savings utilizing direct access (DA) agreement. A list of the Agency's facilities, along with the respective tariff at each facility, is listed in Table 4-3.

Table 4-3: Facility SCE Tariffs and Annual Imported Usage

Facility	SCE Tariff	Direct Access (DA)
RP-1	TOU-8-B-STANDBY	yes
RP-2 Solids	TOU-8-B-STANDBY	yes
RP-4	TOU-8-B	yes
RP-5	TOU-8-B	no
CCWRF	TOU-8-B	yes

Figure 4-7 shows the energy cost at a facility with direct access such as RP-1 (for comparison the cost includes also SCE transmission costs) and a facility that purchases the entire energy from SCE such as RP-5 (bundled contract). Savings are more visible during the summer months.

Figure 4-7: Bundled vs. Unbundled Energy Costs for FY 2009/2010



4.3.3 Demand Response Program

The Agency participated in Demand Response (DR) programs with SCE to reduce its electricity costs. By participating in the Time-of-Use Base Interruptible Program (TOU-BIP), the Agency agrees to reduce the energy demand at each plant to a defined Firm Service Level (FSL) when BIP events are called. Since no event was called, this program has led to substantial savings over the entire FY 2009/10. Beginning in 2011, and annually thereafter, if a TOU-BIP event is not activated, SCE will issue a test event to demonstrate performance and compliance. Penalties apply, if the facility load is not reduced to the contracted FSL, could outweigh the annual savings if more than one event is called. For this reason the Agency is exploring other types of Demand Response program with SCE authorized by third-party DR providers. In addition to the above optimization and cost saving strategies, the Agency has been working with SCE reviewing and updating as necessary existing interconnection agreements and tariffs.

4.3.4 Financing

There are several federal and state incentive and rebate programs available for renewable energy projects in California (Table 4-4). The incentives which are usually performance based are available to both public and private sectors at different rates. Public sector implementation of renewable projects requires the public entity to finance, design and construct the projects to avail of any performance incentives. The public sector also has the option to play host site to a renewable project and have private entity finance, design, construct and perform the O&M. This type of arrangement is normally implemented through a Power Purchase Agreement (PPA). The energy

produced by the privately funded power plant is then purchased by the host (IEUA) for an agreed upon price for a specified period, usually 20 years. The private sector is able to take advantage of tax credits and accelerated depreciation opportunities not available to the public sector, though these advantages are somewhat offset by lower performance incentive level rates than offered for public sector delivered projects.

The Agency has successfully used the PPA approach for its Solar, Wind and Fuel Cell renewable projects. This approach has allowed the Agency to transfer the financing and other risks including O&M to the contractor. The Agency has avoided more than $45 million in capital outlay through this process. The Agency will continue to evaluate PPAs for upcoming projects.

There are significant incentives for implementation of energy saving upgrades that reduce demand. This has been accomplished at the Inland Empire Regional Composting Facility where a substantial rebate was received from SCE to pay for approximately half of the capital cost of the upgrade. Similar opportunities are been evaluated and implemented as needed.

Table 4- 4: Energy Financial Incentives

Financial Incentive	Type
Federal	
Modified Accelerated Cost-Recovery System (MACRS) + Bonus Depreciation (2008-2012)	Corporate Depreciation
Business Energy Investment Tax Credit (ITC)	Corporate Tax Credit
Renewable Electricity Production Tax Credit (PTC)	Corporate Tax Credit
U.S. Department of Treasury - Renewable Energy Grants	Grant Program
USDA - High Energy Cost Grant Program	Grant Program
Clean Renewable Energy Bonds (CREBs)	Loan Program
Qualified Energy Conservation Bonds (QECBs)	Loan Program
U.S. Department of Energy - Loan Guarantee Program	Loan Program
USDA - Rural Energy for America Program (REAP)	Loan Program
Renewable Energy Production Incentive (REPI)	Performance-Based Incentive
State	
Property Tax Exclusion for Solar Energy Systems	Property Tax Incentive
California Solar Initiative - PV Incentives (CSI)	State Rebate Program
California Solar Initiative - Solar Water Heating Rebate Program	State Rebate Program
Emerging Renewables Program	State Rebate Program
Self-Generation Incentive Program (SGIP)	State Rebate Program
Feed-In Tariff	Performance Based Incentive
Southern California Edison	
Savings by Design	Utility Rebate Program
Rebates and Savings	Utility Rebate Program

4.3.5 Regulatory and Legislative Tracking

Changes in environmental regulations and new legislation can be major factors impacting energy programs and costs. The revision of Rule 1110.2 by SCAQMD in 2008 is an example of a regulatory

change that significantly changed the direction of the Agency's renewable energy generation portfolio. The 2008 revision established future Volatile Organic Compound (VOC) and Nitrous Oxide (NO_x) emissions limits to be imposed on digester-gas fueled internal combustion engines.

The SCAQMD is also in the process of revising Rule 317, which imposes annual fees for the failure to reduce emissions of NO_x and VOC by at least 20 percent from 2010 reported levels. The rule contains a provision that allows for emissions reductions from various mobile sources to be credited toward the annual fees. This rule has challenged the Agency to evaluate potential emissions reductions from both stationary and mobile equipment retrofit and replacement.

Additionally, in order to reduce California's carbon footprint and increase the use of renewable energy resources, the State Legislature adopted Assembly Bill 32 in 2006. AB 32 contains aggressive greenhouse gas (GHG) reduction goals in California over the next 40 years, as well as reporting requirements for facilities that produce GHG emissions above an established threshold. Although the impact to the Agency is estimated to be de minimus at this time, the rules and regulations will need to be watched closely to ensure that we are prepared for any changes.

The Agency has preemptively evaluated potential retrofit and replacement technologies that will allow for compliance with these regulations. The Agency has taken the initiative to meet the strict regulatory demands by pursuing a fuel cell that will operate on digester gas and replace the internal combustion engines currently operating at RP- 1. When compared to the engines, the fuel cell will drastically reduce VOC, NO_x and GHG emissions from the facility, and is expected to achieve compliance with all current and future air quality regulations.

Due to the propensity for changes from new regulations and or new legislation to have major impacts on the direction of the EMP and the cost of power, it is crucial that any changes in these areas are proactively tracked and impacted where appropriate in the best interest of the Agency. This important role is achieved through dedicated Agency staff in conjunction with trade organizations like Southern California Alliance of Publicly Owned Treatment Works (SCAP), California Association of Sanitation Agencies, WateReuse, California Wastewater Climate Change Group (CWCCG) and others.

5.0 RECYCLED WATER AND RECHARGE PROGRAMS

5.1 Recycled Water Program Background

The Recycled Water Program has been developed to be consistent with the recommendations of the IEUA Recycled Water System Feasibility Study completed in 2002, the 2005 Regional Recycled Water Program Implementation Plan and the 2007 Recycled Water Business Plan. Since the adoption of the Recycled Water Business Plan in 2007, updates to the Business Plan have been made annually to reflect the adopted fiscal year budget and the Ten Year Capital Improvement Plan. The Agency plans to construct a fully integrated regional distribution system that will deliver recycled water to major industrial and municipal users and to groundwater recharge basins.

IEUA has been serving recycled water since the beginning of the Regional Contract in 1972. Initially recycled water was delivered to Whispering Lakes Golf Course and Westwind Park in Ontario and Prado Park and Golf Course. In the early 1990's IEUA planned and built the first phase of the Carbon Canyon Recycled Water Project, which now serves several customers in Chino and Chino Hills. IEUA also initiated planning of a regional recycled water delivery system. This planning effort culminated with the completion of the IEUA Regional Recycled Water Program Feasibility Study in January 2002. The Feasibility Study identified facilities to deliver, ultimately, over 70,000 acre-feet of recycled water per year (AFY) to customers and recharge sites throughout the service area.

In 2004, IEUA initiated development of the Regional Recycled Water Program Implementation Plan, which updated information from the 2002 report. The Implementation Plan identified additional future recycled water demand, primarily in the developing areas of Chino and Ontario, increasing the total ultimate deliveries to approximately 93,000 AFY. The plan identified a phased implementation over ten years with provision for additional expansion beyond the ten-year planning horizon. IEUA adopted the Recycled Water Business Plan in December 2007 to accelerate the implementation of the 2005 Regional Recycled Water Implementation Plan.

The estimated cost of the facilities planned for the next ten years is approximately $56 million with the majority of those expenditures occurring in the first three years. The program is to be funded by a combination of state and federal grants, State Revolving Fund (SRF) loans and MWD rebates. The actual schedule of implementation will depend on the availability of grant funding and changing recycled water facility needs.

The following were the significant events through 2011:

1972	Regional Contract, IEUA begins delivery of recycled water
1993	Recycled Water Master Plan
1995	Carbon Canyon Recycled Water System Plan
1998	Carbon Canyon Recycled Water System Initial Deliveries
2001	Recycled Water Facilities Planning Study
2002	Regional Recycled Water Program Feasibility Study
2002	Program EIR
2003	SWRCB Grant ($5 million) and Loan ($15 million) Approved
2003	Initiate Construction of Phase I Facilities
2003	MWD LPP Rebate Agreement Amendment
2004	RWQCB Basin Plan Amendment
2004	DWR Grant ($9 Million)
2005	Regional Recycled Water Program Implementation Plan
2006	Initiate construction of Phase II Facilities
2006	SWRCB Grant ($4 Million) and SRF Funds ($14.7 Million for Phase II)
2007	Initiate construction of Phase III facilities
2007	SWRCB Grant ($4.9 Million) and SRF Funds ($11 Million for Phase III)
2007	Recycled Water Business Plan (adopted December 2007)
2007	MWD Public Sector Rebate Program
2008	Chino Basin Water Conservation District ($4M) assistance for Retrofits of Parks and Schools
2008	USBR Federal Grant ($950,000 received of the $20M)
2008	MWD Local Resources Program Agreement
2008	DWR Grant ($1M) for Urban Drought Assistance for Retrofit Projects
2008	Updated Three-Year Business Plan
2009	USBR Federal Grant ($5 Million received; total receipts $6 M of $20 M)
2009	USBR Title XVI ARRA Funds Northeast Area Project ($6 Million)
2009	USBR Title XVI ARRA Funds Northwest Area Project ($8 Million)
2009	SWRCB Grant ($4.2 Million) and SRF Funds ($15 Million) Phase IV
2009	SWRCB Funds ($1.5 Million) Phase V
2010	Rescinding of the MWD Local Resources Program Agreement

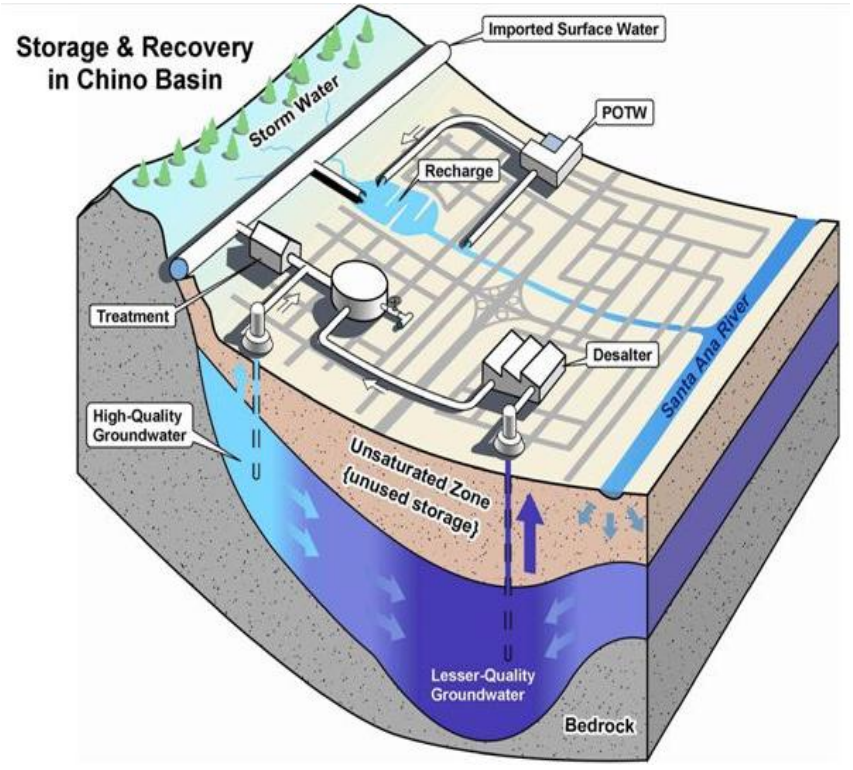
The 2002 Feasibility Study and 2005 Implementation Plan included an assessment of the potential recycled water customers within the IEUA service area. Staff worked with the regional agencies to identify over 1,000 potential customers. This information was used to plan the regional and local recycled water distribution pipelines. Pipeline locations were selected to provide recycled water to

the largest customers or groups of customers resulting in cost effective facilities. Ultimately, this distribution system layout will serve over 1,200 of the largest customers and supply over 93,000 acre-feet per year (AFY), which includes 33,000 AFY for recharge.

5.2 Recharge Program Background

The Chino Basin Water Master (CBWM) and IEUA joint recharge program partnership is described in the CBWM's Optimum Basin Management Program (OBMP) Recharge Master Plan, Phase II Report (August, 2001). It is a comprehensive plan to increase artificial groundwater recharge within Chino Basin using storm water, recycled water, and imported water. The recharge program is one of the centerpieces of the Chino Basin OBMP. Through the development of increased recharge capacity in the Basin, greater quantities of high quality water can be captured and stored during wet years and be made available during drought years and times of imported water supply shortages. Figure 5-1 illustrates in general how the recharge program fits into the overall plan for Chino Basin groundwater management as outlined in the Watermaster's OBMP and the Recharge Master Plan.

Figure 5-1:



In January of 2002, the IEUA Board of Directors approved the Recharge Master Plan Implementation Memorandum of Agreement, between CBWM, Chino Basin Water Conservation District, San Bernardino County Flood Control District (SBCFCD), and IEUA. Members of these four agencies formed a Groundwater Recharge Coordinating Committee to implement an initial $40-million program, entitled the Chino Basin Facilities Improvement Project (CBFIP), that resulted in construction projects to develop the program's recharge facilities from existing flood control basins. IEUA serves as the lead agency for implementation (design, construction, operation, and maintenance) of this cooperative program.

Implementation of the Recharge Master Plan included enhancements to existing flood control and recharge basins through the CBFIP (Phase I and Phase II). The recharge capacity is made up of:

- 33,000 AFY of storm water
- 57,000 AFY of imported water
- 20,000 AFY of recycled water from the IEUA's Regional Water Recycling Plants.

The CBFIP will maximize recharge capacity, protect and increase the yield of the Chino Basin, increase the amount of recycled water that can be recharged, and improve groundwater quality. Construction and improvements have been made to 19 recharge sites with a total potential recharge capacity of approximately 110,000 AFY.

In the summer of 2005, Phase I CBFIP improvements were completed and recharge operations commenced in the upgraded facilities. Figure 5-2 is a map of the current CBFIP recharge sites. Operational experience in the ensuing 3 years identified lower infiltration rates, system limitations, and recharge capacity than envisioned during the original recharge master plan. Additional recharge capacity and operational flexibility were the goals of the Phase II CBFIP.

In April 2006, IEUA and Watermaster approved the $10.5 million Phase II CBFIP improvements made possible by a Department of Water Resources grant and matching funding from IEUA and CBWM. The Phase II improvements were complete and operational in early 2009, and enhance the storm water capture, imported water delivery, and operational flexibility of the existing recharge facilities.

In October 2009, IEUA and CBWM received an amendment to the program's Recycled Water Groundwater Recharge permit that facilitates increasing the amount of recycled water that may be recharged. Specifically, it will increase the amount of recycled water recharge during dry years by allowing groundwater underflow to a recharge site to be used as a diluent water source when calculating the percentage of recycled water in the total recharge. The amendment also allows compliance with the limit on percent recycled water recharge to be calculated over 120 months rather than 60 months enabling the recharge of recycled water during extended periods of low rainfall and stormwater recharge

In July 2010, the original Recharge Master Plan was updated as part of CBWM's Peace II agreement. The updated plan evaluated potential methods of increasing groundwater recharge to the Chino Basin and categorized them based on relative cost per acre-foot of water. Based on discussion with the Recharge Master Plan 2010 Update, Table 5-1 of this report was updated and describes the potential recharge capacities of the recharge sites assuming optimum operation and maintenance.

5.3 Recycled Water Use for Recharge

Reuse of recycled water for groundwater recharge is a critical component of the OBMP and water supply plans for the region. It will increase the reliability of water supplies during dry years and save $6 million to $9 million per year in imported water costs. The recharge of high-quality recycled water and high-quality imported and storm water sources will allow Chino Basin groundwater quality objectives to be met. Improvements in groundwater quality through recharge will ultimately lower the cost of the Chino Basin Desalter groundwater treatment process.

Figure 5-2: Chino Basin Recharge Sites Locations

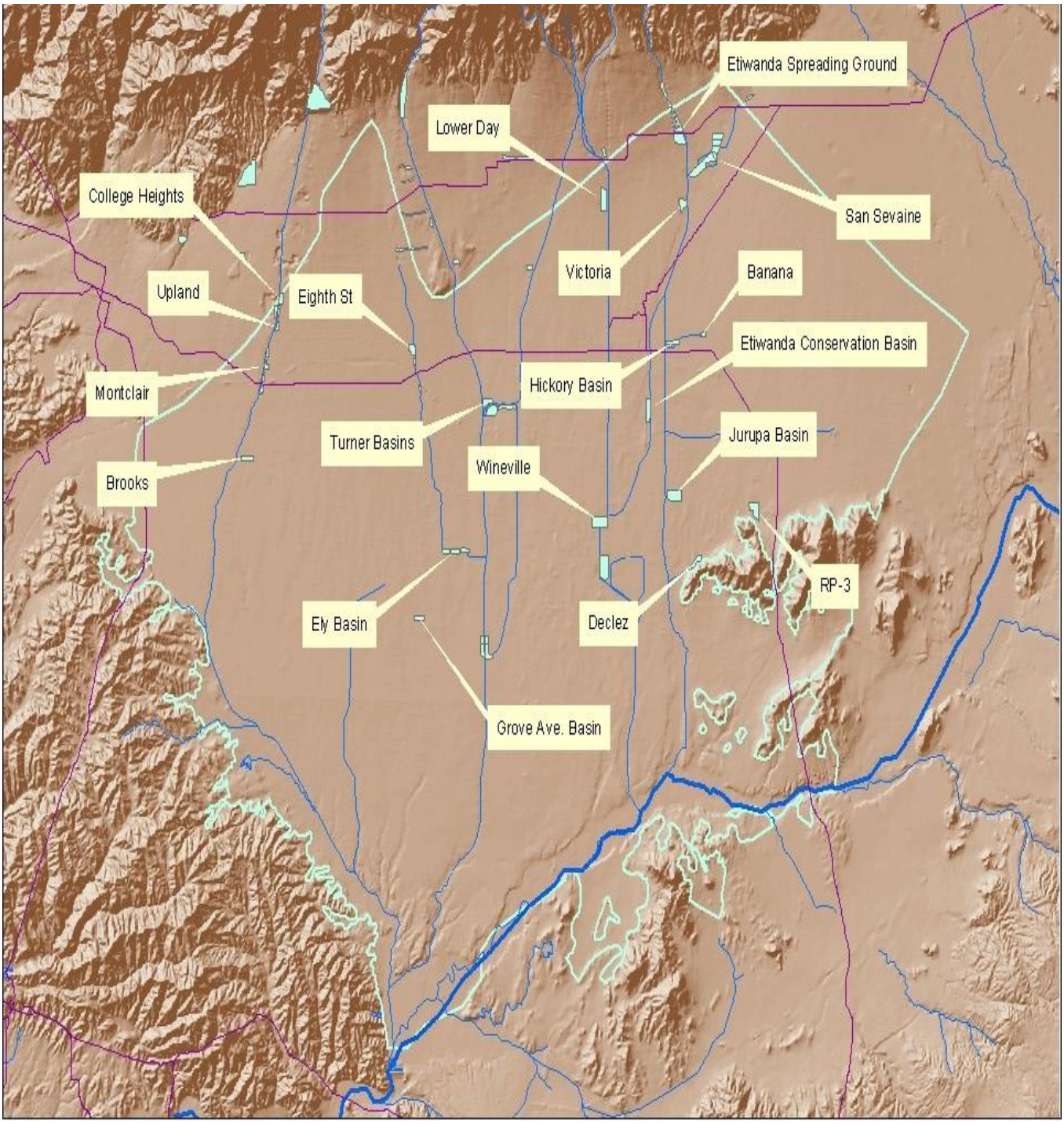


Table 5-1 CHINO BASIN POTENTIAL SOURCE WATER RECHARGE CAPABILITIES				
Recharge Site	**Potential Basin Recharge Capacity Acre Feet Per Year (AFY)**			
	Storm Water (1)	**Supplemental Water Capacity** (2)	**Imported Water** (3)	**Recycled Water** (4)
Ely Basins	1,411	2,474	2,474	594
Banana Basin	483	2,474	2,061	747
Declez Basin	995	2,968	2,474	900
Etiwanda Conserv. Ponds	0	0	0	0
Hickory Basin	231	2,474	2,061	818
Jurupa Basin	0	0	0	0
RP-3 Basins	466	9,895	8,245	2,119
Turner Basin Nos. 1 & 2	814	1,484	742	398
Turner Basin Nos. 3 & 4	772	1,484	742	500
7th & 8th Street Basins	1,234	2,474	2,474	1,765
Etiwanda Spreading Basins	1,617	3,463	3,463	2,400 (5)
Lower Day Basin	637	4,453	4,453	4,453 (5)
Brooks Street Basin	713	2,474	2,474	2,033
College Heights Basins	0	7,421	7,421	0
Montclair Basins Nos. 1-4	1,076	19,789	19,789	0
Upland Basin	637	9,895	9,895	0
San Sevaine Nos. 1-5	3,975	24,736	11,379	1,100
Victoria Basin	937	2,968	2,968	950
Wineville Basin	296	0	0	0
Grove Basin	268	0	0	0
Total	**16,562**	**100,926**	**83,115**	**18,777**

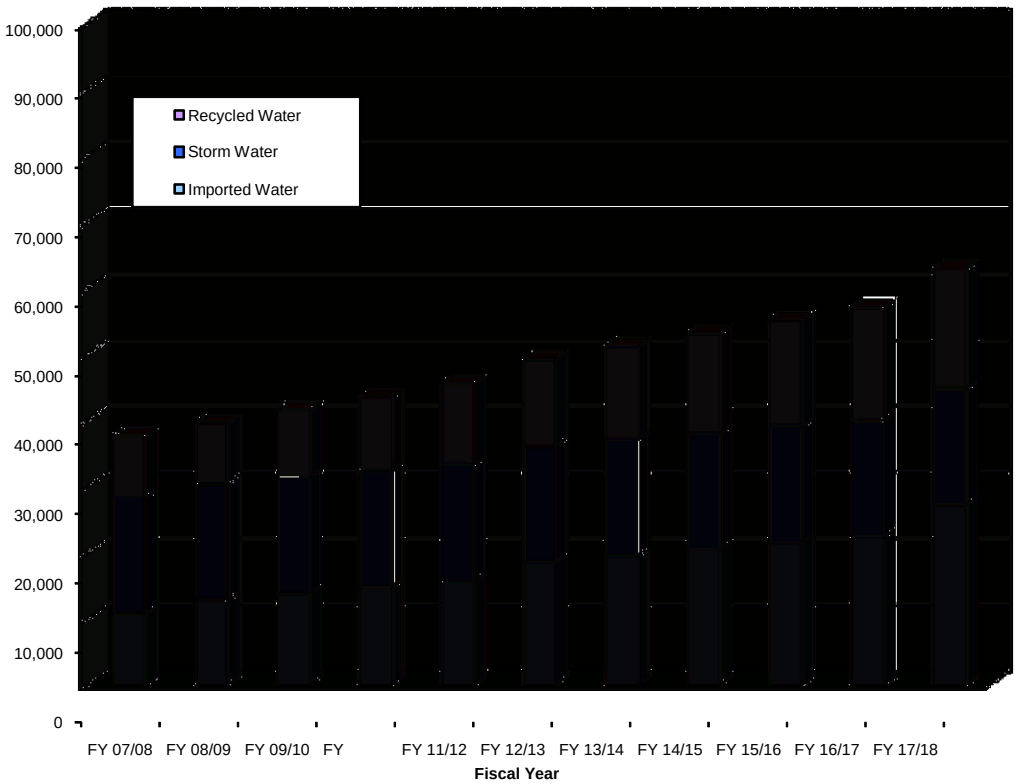
1. Average Annual Future Stormwater Recharge at Build Out (includes no new recharge from MS4 Permits).
2. Supplemental Water is non-stormwater recharge such as imported water and or recycled water. Sources: CBWM, IEUA, CBWCD, 2010 Recharge Master Plan Update, and Table 6-3-Supplemental Water Recharge Capacity Estimates. Imported water and recycled water volumes together would not in theory exceed this value.
3. Theoretical Maximum Imported Water Recharge Capacity. Sources: CBWM, IEUA, CBWCD, 2010 Recharge Master Plan Update, and Table 6-3 Supplemental Water Recharge Capacity Estimates.
4. RWC Management Plan: IEUA and CBWM, 2009 Recycled Water Groundwater Recharge Annual Report, Appendix C, and approximates the low to midrange of recycled water recharge projected in Section 6.4.2 of the 2010 Recharge Master Plan Update.
5. Etiwanda Debris Basin and Lower Day Basin are permitted for recycled water recharge, but currently does not have the infrastructure to deliver water to them. The projection of Etiwanda Spreading Basin is that from the Phase II Title 22 Engineering Report for the Recycled Water Groundwater Recharge Project. The estimate for Lower Day equal to the Supplemental Water Recharge Capacity Estimate as that is lower than that estimated by the Phase II Title 22 Engineering Report, IEUA and CBWM, 2006.

In April 2005, IEUA and CBWM obtained their Phase I Recycled Water Groundwater Recharge Permit which included six recharge sites and a 20-percent by basin recycled water recharge limit. In June 2007, IEUA and CBWM obtained their Phase II Recycled Water Groundwater Recharge permit, which added seven more recharge sites and included changes allowing as much as 50 % by basin recycled water recharge as driven by water quality performance. However, operational experiences since 2005 indicate a more likely average of 30-percent recycled water recharge.

In October 2009, IEUA and CBWM received an amendment to the recharge permit that will increase flexibility of recycled water recharge operations, especially during multiyear drought. The amendment allows groundwater underflow to be included as a diluent water source which can now be factored into the volume-based recycled water contribution (RWC) running average. The RWC average calculation period was also increased from 60 to 120 months which will maintain a more stable RWC average by allowing the other diluent water sources (storm water and imported water) to remain in the RWC average for a longer period of time.

The schedule for increasing the amount of recycled, storm, and imported water recharged into the Chino Groundwater Basin is illustrated in Figure 5-3.

Figure 5-3:
Imported, Storm, and Recycled Water Recharge Schedule



ASSUMPTIONS:

Total Recharge is the CBWM Replenishment Obligation projections presented to the GRCC on March 27, 2007.

Recycled Water is a projection based on historical diluent recharge at basins available for recycled water recharge from the 2008 Three-Year Recycled Water Plan, then increased 1,000 AF per year until reaching 33% (based on a 5-year running average) of the CBWM replenishment obligation (Total Recharge).

Storm Water is a projection of the long-term average sums of 12,000 AFY of new storm water capture and 5,600 AFY of pre-basin improvement capture.

Imported Water is the Total Recharge (CBWM estimated Replenishment Obligation) minus the sum of storm water and recycled water recharge.

5.4 Recycled Water Business Plan Update

The Recycled Water Business Plan (Business Plan) was developed in 2007 to accelerate the Regional Recycled Water Implementation Plan (2005) as a response to potential water supply shortages and reductions in MWD imported water supplies. Since the Business Plan's adoption in 2007, an update was completed to reflect the FY 2010/11 budget and the new connected recycled water demand goal of 50,000 AFY was maintained to be achieved in FY 2011/12. The connected demand goal remains unchanged with the adoption of the FY 2009/10 Budget, and the proposed TYCIP. The Agency's commitment and coordination with the member agencies within the Chino Basin to increase and ensure a reliable supply of recycled water to residents and customers has been continuous since the adoption of the Business Plan.

The implementation of the Business Plan has resulted in multiple benefits as summarized below. The program will eventually be self-funded through recycled water sales revenue. In addition, the recycled water supply is not impacted by drought and will mitigate the impacts of regional or statewide water supply limitations.

- New Water Supply – 37,000 AFY Increase in Connected Demand (50,000 AFY Total Connected)
- Capital Projects – an average expenditure of $38 million over the next three years (Business Plan total cost $93 million, with SRF of approximately $47 million, and Grant funding for approximately $24 million, IEUA Bonds providing $22 million)
- Recycled Water Revenues – About $6 to $10 million/year (wholesale rate revenue plus MWD rebate)
- Annual expenditures for debt service (approximately $5 million per year) and operation and maintenance costs (approximately $5.6 million per year) will be funded through recycled water sales, MWD rebate revenues, and other existing IEUA revenue sources

The Business Plan is intended to be a "short-term" action oriented document that will guide the IEUA recycled capital improvement program through the expansion of its recycled water distribution system. The Business Plan will be updated annually to adjust to the goals, timelines and projects that will expand the use of recycled water. Currently, this document focuses on the 2007-2012 fiscal years. The annual goals for connecting customers to recycled water are summarized in Table 5-1.

Since the inception of the Business Plan, the Recycled Water Program has made significant improvements in the recycled water usage and connected demand. The connected demand for the recycled water has more than tripled since FY 2006/07. Recycled water sales have also almost tripled as well since FY 2006/07.

The Three Year Business Plan as originally conceived was at an estimated cost of over $188 million. With the current construction environment and economy, the projects and goals were able to be achieved at fifty percent of the original estimate at $93 million.

TABLE 5-2

ANNUAL GOALS FOR RECYCLED WATER CONNECTED DEMAND AND SALES

Year	Fiscal Year	Connected Demand AFY	Increase		Estimated Sales* AFY
			AFY	%	
Base Year	2006/07	13,000		----	13,000
1	2007/08	17,600	4,600	135%	13,500
2	2008/09	27,034	14,034	208%	16,045
3	2009/10	32,434	19,434	250%	24,500
4	2010/11	45,000	32,000	346%	35,000
5	2011/12	50,000	37,000	385%	39,000

*Estimated sales lag connected demands due to demands for recharge and other factors.

5.5 Red Team

The Red Team is an interagency group composed mainly of IEUA staff and key people from member agencies. The purpose behind this arranged team is to open avenues of communication to aid with the construction of the recycled water infrastructure as well as potentially identify new recycled water projects.

The Red Team assisted in the preparation of the Business Plan from August 2007 to December 2007, and has met on an as-needed basis through FY 2010/11 to discuss key issues, such as, recycled water rates, the status of recycled water projects, water reuse practices and demand management issues.

5.6 Regional Recycled Water Priorities

In September 2000, the IEUA Board and Regional Technical and Policy Committees adopted a recycled water policy which defines the roles and responsibilities of IEUA and the Regional Contracting Agencies for the construction and ownership of the regional and local facilities. Regional facilities are defined as pipelines, pump stations, and reservoirs which serve recycled water to a recharge site or to more than one Contracting Agency. Regional facilities will be

constructed and owned by IEUA. Local facilities that deliver recycled water from the regional facilities to customers within a Contracting Agency's service area will be the responsibility of that respective agency to plan, build, operate and maintain such facilities. Local facilities will primarily be pipelines (local laterals) and may also include pump stations and reservoirs. With the implementation of the Business Plan, new policies have been created to include provisions for: regional funding of local storage facilities which reduce regional storage needs; provision for reimbursement of regional facilities constructed by others (local agency or developer); and financing of local facilities and customer on-site retrofits.

IEUA's regional recycled water system consists of a looped pipeline system which connects all four Regional Water Recycling Plants. The regional facilities have been described in over 50 separate projects of pipelines, pump stations and reservoirs. These projects have been grouped into priorities and categorized into four project areas: Northeast, Northwest, Central and the Southern Project Area. The phasing priority was determined based on the amount of recycled water that each phase could serve and the proximity of each phase to one of the plants or existing recycled water supply systems. Priorities I and II of the program will deliver recycled water to most of the recharge sites since the recharge sites represent significant recycled water users. The Regional Recycled Water Program facilities in the various stages of implementation are shown in Figure 5-4.

5.7 Local Recycled Water Facilities

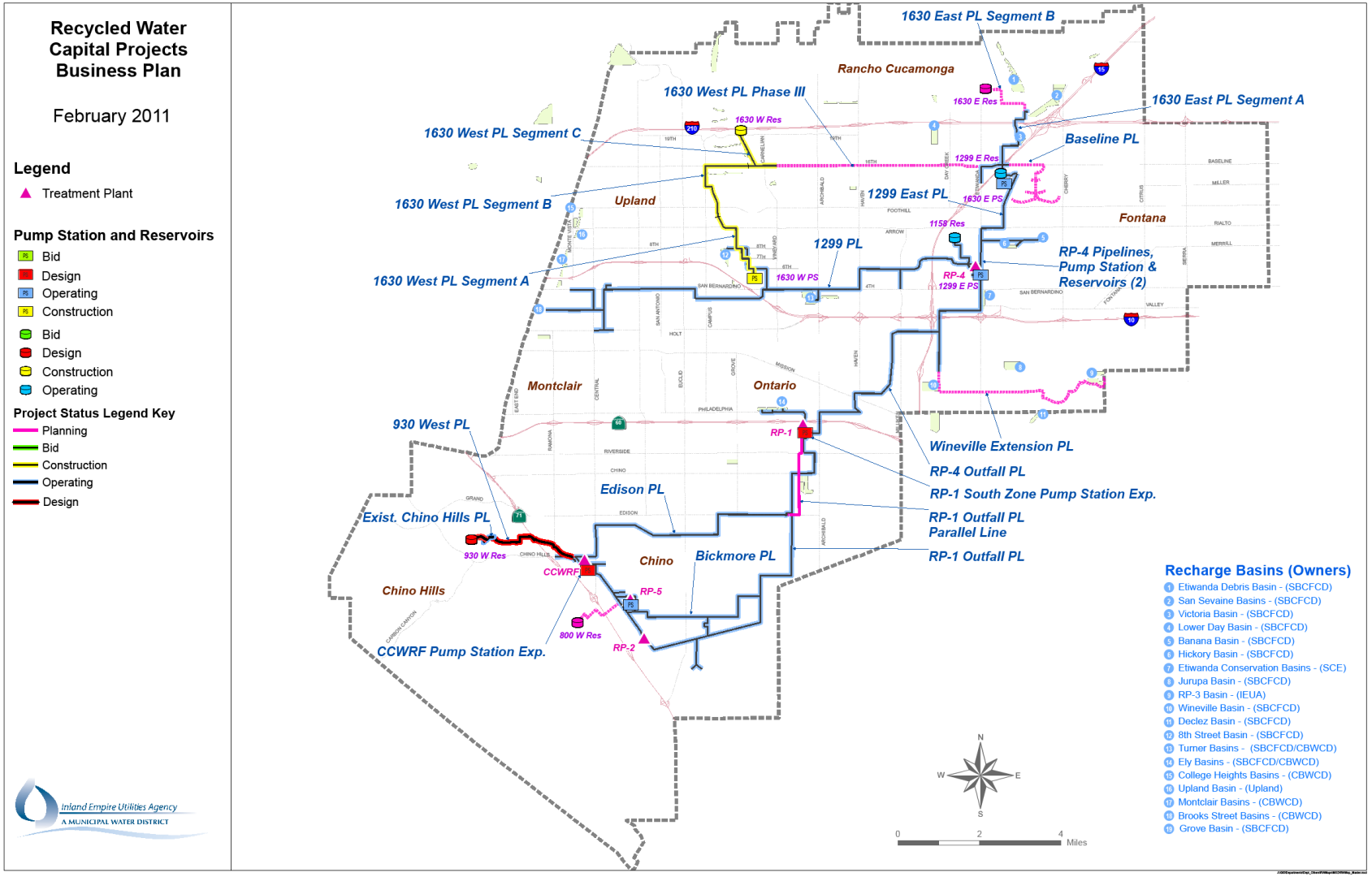
As described above, local recycled water facilities are those which serve only one contracting agency. Each local agency is responsible for the planning, design, construction and operation of local laterals within its service area. IEUA staff is working closely with the agencies to coordinate their recycled water planning efforts. In order to assist the local agencies with the implementation of their recycled water systems, IEUA is providing technical assistance and, if requested, financing of the local agency's facilities. Funds for this financing are included in the TYCIP and will be funded via State Revolving Fund Loan proceeds. However, the amount of funding will depend on the Agency's needs. A similar financing approach was used for the construction of the Carbon Canyon Recycled Water Project in the 1990s.

5.8 Regional Recycled Water Program Summary

Completed Activities & Projects for FY 2010/11:

- Northeast Area Recycled Water Projects — Summer 2010
- 1158 to 930 PRV at RP-1 — December 2010
- RP-5 RW Pump Station Expansion — Summer 2010

Figure 5-4: IEUA Regional Recycled Water Capital Project Priorities



Current/Near Term Projects Status as of January 2011:

- Recycled Water Connected Demand — 42,984 AFY (January 2011)
- Southern Area RW Projects - Design — June 2012*
  *pending project funding approval
- Turner Basin Improvement Projects — June 2011
- Prado Sleeve Valve Modification — July 2011
- RP-1 930 RW Pump Station Expansion — July 2011
- Northwest Area RW Projects — September 2011

5.9 Funding

In order to accomplish the goals of the Business Plan, a financial plan has been developed that includes an evaluation of the cost of the Plan, the funding sources that pay the costs of the Plan, and estimates of annual revenues. Implementation of the Business plan has been programmed and scheduled with the use of state and federal grant funds and SRF low-interest loans to minimize use of Regional Capital Fund transfers. The following funding goals have been identified:

- Capital Budget Funding Sources – $93 million total Business Plan cost will be funded from four sources: State and Federal Grants ($24 million), State Revolving Fund loans ($47 million), and 2008 IEUA Bond Funds ($22 million).
- Annual Revenues – Sales in FY 2011/12, recycled water sales will generate $4.7 million annually at 39,000 AFY the revenues from recycled water sales, MWD LPP program, and other IEUA revenue sources will be sufficient to meet debt service costs estimated at $6 million in FY 2011/12 and increasing to $9.7 million annually beginning in FY 2018/19.

5.10 Funding Status

STATE WATER RESOURCES CONTROL BOARD (SWRCB): To date IEUA has received funding contracts from the SWRCB for $5 million in grant funds (and up to $15 million in SRF loans for Phase I. In March 2006 IEUA received funding approval from SWRCB for Phase II projects. IEUA has approval of $4 million in grant funds and up to $14 million in SRF loans for the Phase II projects. In October 2007, IEUA received funding approval from SWRCB for Phase III projects. IEUA has approval of $4.9 million in grant funds from SAWPA and up to $11 million in SRF loans for Phase III projects. Financial Assistance for projects in the Northeast Project Area (Phases IV and V), in the amount of $20 million, was the first appropriation approved by the SWRCB under the federal stimulus funding. It was approved by the SWRCB on March 17, 2009 along with a grant for $4.2 million.

UNITED STATES BUREAU OF RECLAMATION (USBR): In 2005, IEUA received a federal appropriation of $950,000 for the recycled water program and an additional $5 million was received before June April 2009. The balance of $14 million was allocated as part of the stimulus

funds for the Northeast Area Projects ($6 million) and the Northwest Area Projects ($8 million) in FY 2009/10.

DEPARTMENT OF WATER RESOURCES (DWR): The Agency also a $1 million grant for Urban Drought Assistance, which will be utilized to complete retrofit projects to convert customers from potable water to recycled water. The grant was allocated to various member agencies in order to implement the retrofit projects.

5.11 Permitting

Several regulatory and environmental permits and approvals are required to implement the Regional Recycled Water Program and deliver recycled water. IEUA has made significant progress and has completed many of the regulatory requirements. The following are the regulatory requirements and the current status of each permit process:

- CEQA – IEUA certified a Programmatic EIR in June 2002 which included IEUA's Wastewater Master Plan, Organics Management Business Plan and the Regional Recycled Water Program. Supplements to the Programmatic EIR are prepared, when necessary, as specific project elements are better defined during each project design;

- CBWM Article X approval for groundwater recharge is required under Watermaster's rules and regulations. IEUA obtained Watermaster's approval for the recharge of up to 33,000 AFY in 2002;

- Basin Plan Amendment – In order to recharge recycled water in the Chino Groundwater Basin, IEUA and Watermaster prepared a Maximum Benefit Concept Proposal to the Santa Ana Regional Water Quality Control Board for the basin plan amendment. The proposal was approved by the RWQCB and incorporated into the basin plan amendment in February 2004. The State Water Resources Control Board approved the basin plan amendment in September 2004. The incorporation of "Maximum Benefit" into a basin plan is unprecedented in the state;

- RWQCB Waste Discharge Requirements and NPDES permit for direct reuse – All of IEUA's Water Recycling Plants have existing permits from the RWQCB for recycled water deliveries for direct reuse customers, i.e. irrigation, industrial, recreational impoundments. On a quarterly basis, IEUA reports new customers connected to the recycled water system and recycled water use for each customer;

- DHS (currently named DPH) Title 22 Engineering Report – In order to assure that recycled water is not "cross-connected" to any potable water system, the California Department of Public Health requires an engineering report which identifies the potable and non-potable plumbing systems for each recycled water customer;

- DPH Title 22 Engineering Report for Groundwater Recharge - Prior to recharge of recycled water, an engineering report is required. The report is reviewed by DPH and a public hearing is required to solicit comments. IEUA prepared and submitted a Title 22 Engineering report for the recharge basins served by the Phase I facilities in 2003 and

another in 2006 for the Phase II facilities. Public hearings were held for both phase and many supportive letters and comments were received; The DHS public hearing held in April 2006 received strong support and no opposition.

- RWQCB Permit for Recycled Water Recharge - The Santa Ana Regional Water Quality Control Board approved the permit for recycled water recharge in April 2005. The RWQCB permit for recycled water recharge for the Phase II basins was issued in summer 2007.

- In 2009, the RWQCB permit was amended to allow diluent water to include groundwater underflow and to allow the recycled water contribution (RWC) average to be based on a 120 month running average (increase from the previously approved 60 month running average). These modifications allow significant operational flexibility specifically during a multiyear drought when storm water and imported water supplies are not available.

Summary of Permitting Status

- CEQA — Certified 2002
- CBWB Article X — Approved 2002
- SARWQCB Basin Plan Amendment — Approved 2004
- SARWQCB Discharge Permit — Issued for all plants
- DHS customer retrofits — Approved for connected customers
- DHS/RWQCB recharge approval
  - Ely Basin 2,300 AFY — Approved 1998
  - Phase I Recharge 7,700 AFY — April 2005
  - Phase II Recharge 17,300 AFY — June 2007
- DHS/RWQCB Permit Amendment (120-month RWC avg. & underflow diluent water source October 2009)

5.12 Customer Development

As described above, there are over 1,000 potential recycled water customers which can be served by the regional and local recycled water facilities. The IEUA Board of Directors adopted the Recycled Water Business Plan in December 2007, which focuses on expanding IEUA's recycled water system. The recycled water system includes regional and local facilities to increase the use of recycled water to over 50,000 AFY, which includes 30,000 - 32,000 AFY of direct reuse and 17,000 – 20,000 AFY of recycled water recharge. IEUA is working with staff from the local agencies to focus on targeted customers. The priority customers were identified as part of the planning documents when requesting funding for the capital projects.

IEUA is also working with staff from the local agencies to connect any additional users identified in the area that can be converted to recycled water.

5.13 Current Ten-Year Capital Improvement Plan

5.13.1 Recycled Water and Recharge Water Projects

The Recycled Water Capital Improvement (WC) Fund tracks the revenues and capital project expenses associated with the development of the Agency's Recycled Water Program. The Recharge Water (RW) Fund tracks revenues and capital project expenses for the Recharge Program. The ten-year total of projected capital expenses for these two programs is $56 million. Major new projects in each of these funds are summarized below in Table 5-3. The projects are primarily for the construction of the major new facilities included in the Recycled Water Business Plan, including pipelines, pump stations, and reservoirs, retrofits, engineering reports, cross-connection testing and the recycled water SCADA master plan. The construction program is phased so that the most cost-effective projects can be brought on-line first.

The capital project costs identified in the current TYCIP for Recharge Capital Program mainly involve capacity improvements and refurbishment at selected basins (e.g., Turner Basins) and total less than $0.2 million over ten years. Additional future capital improvements to the recharge program (Phase III CBFIP) may be identified following stakeholder evaluation of the recommendations of the Chino Basin Recharge Master Plan, 2010 Update. The determination of what is needed and when to implement any capital changes will be the subject of a future review and collaborative effort of the Agency and the CBWM. The financial impact of any significant capital requirements for the groundwater recharge basins will be addressed in revisions and updates to this TYCIP.

In the interim, IEUA staff will evaluate the effectiveness of the constructed Phase II basin improvements towards increasing basin recharge capacity. Within this TYCIP, the Groundwater Recharge Basins are assumed to be sufficient to provide adequate storm water, recycled water and imported water recharge capacity for the foreseeable future. Some modifications for maintenance will be required.

TABLE 5-3

RECYCLED WATER (WC) AND RECHARGE WATER (RW) CAPITAL IMPROVEMENT PROGRAM—MAJOR PROJECTS

Project Number	Project Title	FY 10/11 Projected Actual	FY 11/12	FY 12/13	FY 13/14	FY14/15-FY20/21	Total TYCIP FY11/12-FY20/21
	Northwest Area Projects:						
EN08018	1630 W. Reservoir & Pipeline Segment C	$5.6 M	$ 2.5 M	-	-	-	$2.5 M
EN09003	1630 W. Pipeline, Segment B (1630 W. Pipeline Phase II & Lateral)	$3.2 M	$1.8 M	-	-	-	$1.8 M
WR08032	1630 W. Pump Station	$2.4 M	$ 1.3 M	-	-	-	$1.3 M
WR08023	1630 W. Pipeline, Segment A	$2.6 M	$0.9 M	-	-	-	$0.9 M
	Northeast Area Projects:						
EN09007	1630 E. Pipeline, Segment B	-	-	-	-	$5.4 M	$5.4 M
	Southern Area Projects:						
EN07010	930 W. Reservoir & Pipeline	$1.2 M	$7.6 M	$9.2 M	$0.4 M	$0.4 M	$17.6 M
EN19002	800 Zone Reservoir	-	-	-	-	$3.4 M	$3.4 M
	Central Area Projects:						
EN06025	Wineville Extension Recycle Water Pipeline	$0.5 M	$8.4 M	$3.2 M	-	-	$11.6 M
EN19003	RP-1 Parallel Outfall	-	-	-	-	$5.7 M	$5.7 M
EN11050	Turner Basin Turnout	$0.1 M	$0.45 M	$0.05 M	-	-	$0.5 M
TS07004, ...	**Recharge Enhancement Projects**	$0.07 M	$0.10 M	$0.05 M	-	-	$0.15 M
	Total—Major WC/RW Projects	**$15.7 M**	**$23.1 M**	**$12.5 M**	**$0.4 M**	**$14.9 M**	**$50.9 M**
	All WC/RW Projects	**$23.1 M**	**$24.3 M**	**$13.2 M**	**$0.9 M**	**$18.1 M**	**$56.3 M**

6.0 NON-RECLAIMABLE WASTEWATER SYSTEM

At the request of IEUA Board of Directors, Staff developed an asset management program to identify, inventory, and assess the condition of IEUA's major assets and to plan for necessary capital improvement projects. This chapter discusses ongoing and future projects for the Non-Reclaimable Wastewater System (NRWS) in accordance with the asset management program.

IEUA's 2002 Salinity Management Action Plan, which calls for maximizing the use of the NRWS and developing a program to reduce the salt impacts from water softeners to IEUA water recycling facilities, is reflected in these capital projects

In 2003, IEUA, MWD, CBWM, and Three Valleys Municipal Water District kicked off the Dry Year Yield (DYY) program, which provides for the extraction of up to 33,000 AFY from the Chino Basin. As part of the program, MWD helped fund the construction of five ion exchange plants to treat well water for the removal of nitrate and salinity. The Operating Parties under the DYY Agreement are: City of Chino, City of Chino Hills, Cucamonga Valley Water District, City of Ontario, City of Upland, Monte Vista Water District, and Jurupa Community Services District. The program helps maintain the salt balance in the Chino Basin and provides better management of the overall water supply. As of January 2011, approximately 240,000 gallons per day of brine from the ion exchange facilities is discharged to the NRWS.

6.1 Background

IEUA owns and operates the NRWS that provides pipelines and pump station to export high-salinity of the industrial wastewater generated within IEUA service areas to the Pacific Ocean. The wastewater discharged to the NRWS consists mainly of industrial and groundwater treatment brines. IEUA also discharges belt press filtrate resulting from the dewatering of the biosolids generated within the IEUA's water recycling treatment facilities and some domestic waste from non-sewered areas. The NRWS is physically separated from the Regional Domestic Wastewater System and provides a means for segregating poor quality, saline wastewater and exporting it out of the IEUA service area.

By maximizing the use of the NRWS, the quality of the recycled water is improved for local use and helps ensuring that IEUA can comply with the final effluent total dissolved solids (TDS) and total nitrogen limits listed in the National Pollutant Discharge Elimination System (NPDES) permits.

For FY 2009/10, the NRWS exported approximately 41,106 tons of salt to the ocean, as summarized below and illustrated in Figure 6-1 and Table 6-1.

Figure 6-1: Salt Export from Chino Basin

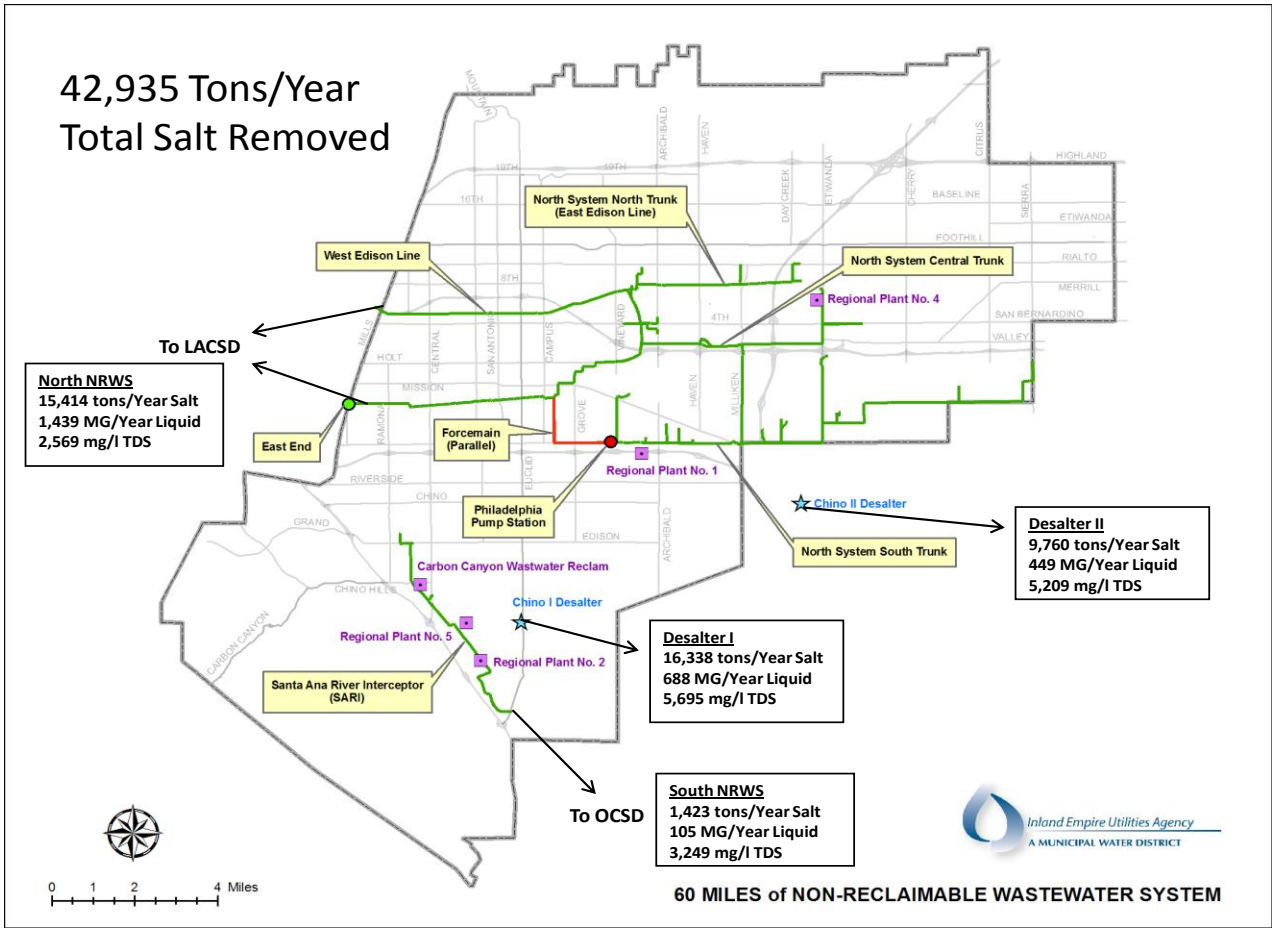


TABLE 6-1
TONS OF SALT REMOVED

FY 2009/2010	Million Gallons/Year	mg/L	Tons/Year
North NRW System	1,270	2,800	14,811
South NRW System	102	4,350	1,850
Desalter 1, (14 MGD)	670	5,945	16,605
Desalter 2, (10 MGD)	467	4,024	7,840
Total	**2,509**	**3,930 (Flow-Weighted)**	**41,106**

The NRWS collection system includes 60 miles of pipeline and is comprised of a north and a south system. The north system, which serves approximately 46 industries, conveys wastewater to adjacent interceptor sewer lines owned and operated by the County Sanitation Districts of Los Angeles County (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 21 industries, conveys wastewater to the Santa Ana Regional Interceptor (SARI) pipeline, owned by the Santa Ana Watershed Project Authority (SAWPA), and from there it is carried to the Orange County Sanitation Districts (OCSD) facility in Fountain Valley for treatment and ocean discharge.

Export of saline and industrial wastewater from the local area in this manner protects the quality of the IEUA's recycled water and is a key element of the CBWM's Optimum Basin Management Plan (OBMP). Diverting saline wastewater to the NRWS instead of collecting it in the regional wastewater system has reduced the TDS levels in the recycled water by approximately 300 mg/l. It is estimated that diverting most of the existing industrial users discharging to the regional sewer with TDS concentrations above 550 mg/l to the NRWS could lower the TDS level of the recycled water by another 8 to 11 mg/l. In addition, reducing salts from residential water softeners could further reduce the TDS level. Most important, brine from the groundwater desalter facilities should also be diverted to the NRWS in order to avoid raising the TDS level of the recycled water.

6.2 NRWS and Salinity Management Action Plan

IEUA developed a Salinity Management Action Plan in 2002 in cooperation with the Regional Technical and Policy Committees. This was done to protect and enhance the ability of the region to use recycled water for groundwater recharge, outdoor irrigation and industrial process water. Use of recycled water is critical to the reliability of future water supplies for the region. Some of the strategies that were identified to reduce the salinity of recycled water supplies included:

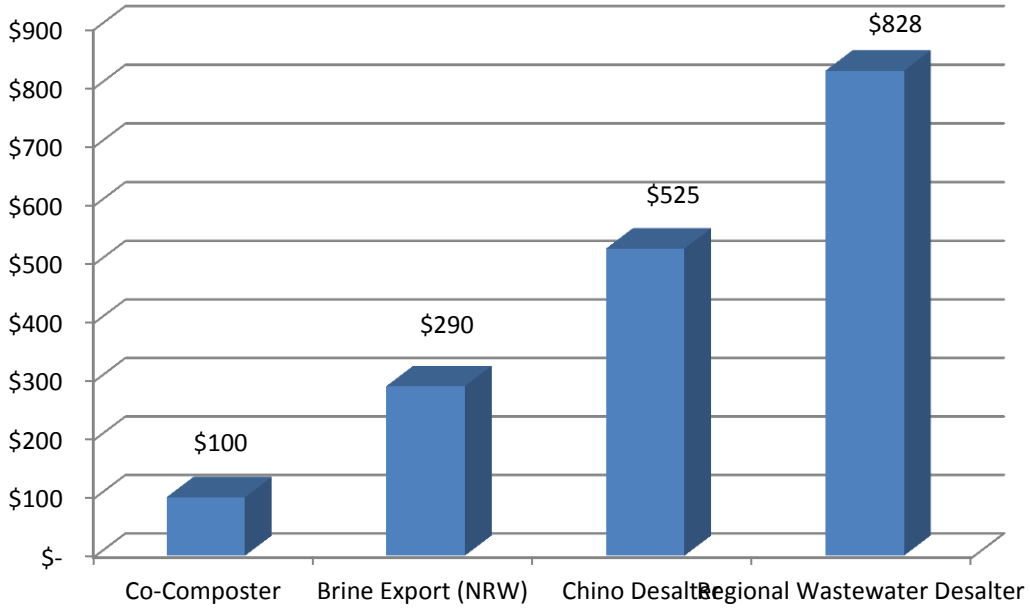
- Maximizing the use of the NRWS
- Developing a program to reduce the salt impacts of water softeners
- Reducing salinity contributions from IEUA water recycling facilities
- Construction of regional groundwater desalters.

These actions were incorporated into the Basin Plan Amendment adopted by the Santa Ana Regional Water Quality Control Board in 2004, which included the salt and nutrient management plan for the Chino Basin. Regional implementation of these actions over the past decades has resulted in the annual export of over 40,000 tons per year of salt from the region.

A study by Parsons Engineering Science (2000) evaluated the long-term issues and future funding needs for operating and maintaining the NRWS in the most cost-effective manner. Parsons suggested that the most cost-effective strategies for maximizing the use of the NRW system were: (1) diverting more high-salinity wastewater flow from the Regional system to the NRWS, thereby reducing the need for expansion of the Regional system; and (2) melding the NRW user rates and charges with the Regional system, "Regionalization". The study confirmed that utilization of the NRWS minimizes IEUA's treatment costs for salt, as illustrated in Figure 6-2.

In 2003, IEUA in partnership with the Regional Technical and Policy Committees, the CBWM and the Santa Ana Regional Water Quality Control Board, developed a strategy to reduce TDS at the IEUA regional water recycling plants and to encourage salt export through optimum utilization of the NRWS consistent with the OBMP.

Figure 6-2:
Relative Costs of Salt Removal From Chino Basin
(Dollars per Ton of Salt Removed)



Implementation of the current Salinity Action Plan is expected to achieve substantial avoided costs and valuable benefits for the region. The Plan consists of the following:

- Water Softener Removal Rebate Program — IEUA developed a "pilot" Automatic Water Softener Removal Rebate Program that was launched in September 2008. Implemented in partnership with the Metropolitan Water District of Southern California, National Water Research Institute, and the Southern California Salinity Coalition, the program developed fact sheets, newspaper and cable TV ads, and even a video that could be shown on local cable stations explaining the impact of the salt from the use of residential self-regenerating water softeners on the regional recycled water supply. As of January 2011, almost 300 residents have participated in the pilot rebate program and an estimated 70 tons of salt has been removed from the Regional system. As a result of this program, approximately 6 Acre-Feet of water have been saved. The second phase of the pilot program kicked off in December 2009, with contracting agencies inserting the rebate offer into residential water bill mailings. A focused campaign promoting the rebate program will continue throughout the year with the goal of achieving the removal of 1,000 self-regenerating water softeners.

The goal of this project is to achieve significant reductions in salinity contributed to the wastewater systems from automatic water softeners. It is estimated that by removing all self-regenerating water softeners, recycled water TDS will be reduced by about 15 to 25 mg/L. This program provides an opportunity to educate the public on why salinity is such an important water quality issue and also places emphasis on the growing importance of recycled water as one of the core water supplies for the IEUA's service area.

- Water Softener Legislation (AB 1366) – In 2009, IEUA successfully sponsored legislation, AB 1366, that now provides local agencies with expanded authority to regulate residential self-regenerating water softeners, especially in areas of the state with water bodies adversely impacted by salinity and high use groundwater basins that are hydrogeologically vulnerable to salinity pollution, such as the Chino Basin.

  Subsequent to the passing of AB 1366, in March 2010, the Santa Ana Regional Water Quality Control Board (Regional Board) amended IEUA's Regional Recycling Water Permit making the necessary finding that controlling the discharge of waste from residential self-regenerating water softeners into the collection systems will contribute to the achievement of the water quality objectives approved in the Basin Plan Amendment.

  IEUA and the contracting agencies are planning to adopt local ordinances that will provide the authority to regulate the residential use of self-regenerating water softeners. These ordinances will prohibit all new or replacement installations of residential self-regenerating water softeners. The water softener public education campaign and IEUA-administered rebate program for the voluntary removal of previously installed self-regenerating water softeners will be continued to reduce salt discharges from these existing systems. The water softener public education campaign will be continued to explain why the prohibition on salt discharging water softeners is so important to protecting the availability and quality of the region's recycled water supplies.

- Implementation of the Maximum Benefit Basin Plan—Ensure compliance with the Maximum Benefit requirements and with the Memorandum of Understanding with the Orange County Water District and Regional Board. Critical near-term action items undertaken include: (1) developing monitoring work plan with Watermaster; (2) evaluating regional wastewater pretreatment ordinance technical TDS increment; and (3) preparing annual reports on salt balance (Watermaster responsibility);

- Buyback Agreement with CSDLAC—IEUA relinquished 3 MGD of owned capacity in the NRW to LACSD in April 2004, which has lowered annual payments to CSDLAC by approximately 23% or approximately $350,000 annually. The savings will be passed on to NRWS customers through more favorable rates and charges. Also encourages the use of the NRWS by new and existing industries to discharge their saline effluent and increase the salt export;

- MWD Dry Year Yield Conjunctive Use Ion Exchange Projects—Construct lateral connections to the NRW system (IEUA implementation responsibility) in conjunction with the Cities of

Upland, Monte Vista Water District, Chino, Chino Hills, and Ontario for five proposed ion exchange projects. The projects have and will continue to improve groundwater basin water quality and yield, especially during dry years;

- NRW "Pass Through" Rates—IEUA staff developed a pass through rates and budget impact analysis for existing industrial customers. This action will encourage export of salts from the Chino Basin by connecting more industries to discharge their brine wastes to the NRWS. "Pass Through" rates provide economic incentives for existing regional industries with effluent TDS concentrations above 500 mg/L to divert their discharge to the NRWS and to use recycled water. This is a key component of the Chino Basin OBMP strategy;

- Chino Desalter "SARI" Capacity Alternatives—In April 2004, IEUA made an agreement with Chino Desalter Authority (CDA) to sell IEUA owned SARI capacity to the CDA to discharge the brine waste from the Chino I Desalter Expansion and the future Chino II Desalter to SARI. As a result of this program more than 24,400 tons of salts were transported outside Chino Basin ground water in Fiscal Year 2009-10.

- Leasing of Temporary SARI Capacity to Lewis Operating Company—IEUA entered into an agreement with Lewis Operating Company (LOC) to lease a portion of the SARI capacity for their Chino Preserve Expansion. IEUA has made this lease available to LOC until the City of Chino completes the design and construction of the Pine Ave. interceptor sewer. In lieu of building the Pine Avenue sewer, the City of Chino is considering building a new sewer lift station on the existing Prado Lift Station site. Once these permanent sewer facilities are completed, the California Institute for Women (CIW) will divert their discharge from the SARI to the new Interceptor, which will flow to RP-5 (Status: In Progress);

6.3 Economic Benefits of the NRWS and Salinity Management Action Plan

IEUA expects to achieve substantial avoided costs as well as benefits for the service area by implementation of the NRWS Action Plan. The IEUA will avoid the cost of treating non-reclaimable industrial wastewater at IEUA's water recycling plants, which would require additional secondary and tertiary treatment capacity to handle the flow plus desalination facilities to remove TDS. A resulting economic benefit to IEUA is the ability to use 35,000 acre-feet per year of recycled water for groundwater recharge instead of more expensive imported water. IEUA expects to avoid an estimated $430 million in future costs over the next ten years as a result of the full implementation of the NRW Action Plan. These avoided costs are summarized in Table 6-2.

TABLE 6-2 COSTS AVOIDED BY THE NRW ACTION PLAN	
Action Avoided	Estimated Future Costs Avoided ($ Millions)
Construction & Operation of Desalination Facilities at Regional Plants	$250
Construction of Secondary and Tertiary Treatment Facilities at Regional Plants for 15 MGD (at a rate of $8 per gallon per day including solids handling)	$120
Purchase Imported Water for Recharge to Replace 35,000 AFY Recycled Water	$6 per year
Total Net Economic Benefits Over Ten Years	$430

There will also be additional revenues from the sale of unused capacity, either: (1) as part of the CSDLAC buyback agreement; (2) for the Chino Desalters; (3) for local ion exchange groundwater treatment projects; or (4) for local development in non-sewered areas. These cost savings are expected to offset the cost of "regionalizing" the NRWS.

6.4 Current Ten-Year Plan

The Ten-Year Plan cost for the NRWS is $27 million. Several actions are being taken to increase the economic value of the NRWS and to improve or retain the integrity of the NRWS. The major CIP projects for the NRWS are described below and listed in Table 6-3.

IEUA is obligated to make annual payments to CSDLAC to cover its proportional share of the capital repair, relocation, reconstruction and rehabilitation (4R) costs into CSDLAC sewer system. The relinquishment of 3 MGD of unused NRWS capacity to CSDLAC reduced the ten-year budget to $6.0 million for 4R capital replacement costs, a savings of $3.3 million.

As a part of the Ten-Year CIP, one of the goals of IEUA is to identify and assess the condition, rehabilitation and replacement costs for the NRWS. IEUA retained the services of PBS&J and performed an exhaustive condition assessment of the NRWS pipelines and infrastructure including manholes using Closed Circuit Tele Vision (CCTV) and Global Positioning System (GPS) technology.

TABLE 6-3 NRW SYSTEM CAPITAL IMPROVEMENT PROGRAM—MAJOR PROJECTS							
Project Number	**Project Title**	**FY10/11 Projected Actual**	**FY11/12**	**FY12/13**	**FY13/14**	**FY14/15-FY20/21**	**Total TYCIP FY11/12-FY20/21**
EC12009	CSDLAC Capital Replacement Costs	$1.2 M	$ 1.5 M	$1.4 M	$1.5 M	$10.4 M	$14.8 M
EN07011	NRW System Upgrades	$0.05 M	$1.0 M	$1.1 M	$1.1 M	$6.9 M	$10.1 M
EN12008 EN12011	Misc. NRWS Construction & Emergency Projects	-	$0.18 M	$0.17 M	$0.15 M	$1.1 M	$1.6 M
	Total —Major NC Projects	**$1.3 M**	**$2.7 M**	**$2.7 M**	**$2.8 M**	**$18.4 M**	**$26.5 M**
	All NC Projects	**$1.5 M**	**$3.0 M**	**$2.8 M**	**$2.8 M**	**$18.5 M**	**$27.1 M**

This assessment indicated the following: 48 miles of pipeline and 571 manholes of the NRWS were inspected. Overall, the pipelines that were inspected were in good condition, with 21% of the segments requiring no action. Nevertheless, the system was in need of cleaning, as over half of the inspected segments had debris accumulation or deposits in the pipeline and about 9% of the system could not be inspected due to the excessive debris. Structural defects were found in 17% of the system that will require point repair and replacement over two years, and rehabilitation of pipelines over the following eight years by Cast in Place Pipe lining techniques. About 5,100 feet of SARI pipeline, 15,000 feet of North, Central and South Trunks of the Northern NRW system, and 4,500 feet of laterals required rehabilitation. Manholes were in relatively good condition, with 61% requiring no action, 17% needing maintenance, 13% needing repair/rehabilitation and 9% needing re-inspection as they could not be located or were buried. A planning level condition assessment of the Philadelphia Avenue Pump Station found that it was aging and in need of improvements and upgrades. It was also recommended that the Philadelphia Pump Station (PPS) needed new pumps, instrumentation, controls and improvements to the ferric chloride system.

IEUA staff had completed cleaning of approximately twelve (12) miles of north NRWS. IEUA staff will continue cleaning, CCTV, and condition assessment of the northern NRWS as an ongoing program to meet the recently adopted requirements of the State mandated Wastewater Discharge Requirement's of Sanitary Sewer Management Program (SSMP).

7.0 FINANCING

7.1 Introduction

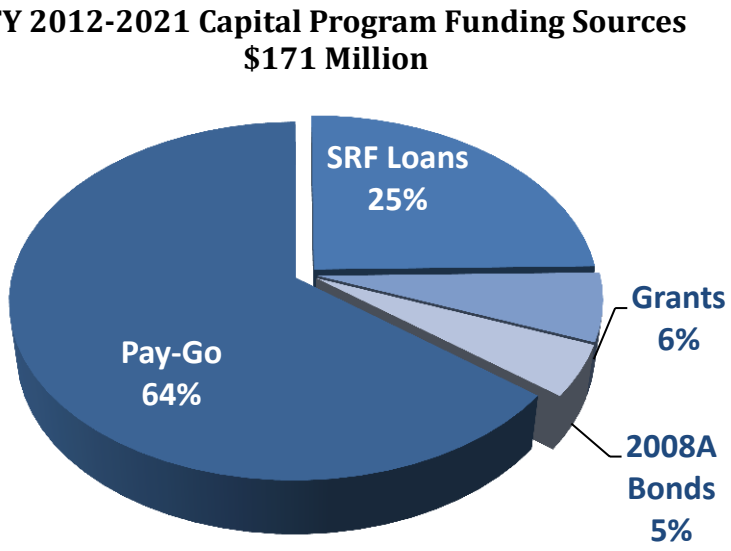
The Inland Empire has been one of the regions hardest hit by the collapse of the housing bubble and the ensuing national recession of December 2007. Employment in the Inland Empire has declined by more than 15% since 2006 while the unemployment rate has risen from 6% to more than 15% in the recent years. These major economic indicators continue to be the key drivers for the Agency's TYCIP planning. According to the Inland Empire Forecast 2011, issued by UCLA/Claremont McKenna College in September 2010, the economic recovery in the Inland Empire will be protracted and sluggish, new development growth will stay stagnant and the unemployment rate will remain in double digits for the next several years. Until this economic downturn, the Agency's service area was part of one of the fastest growing metropolitan areas in the nation. In most national surveys, the Agency's service area ranked consistently in the top ten growth regions over the past several years. Prior to the current ongoing economic recession, the area's moderate growth was expected to continue through 2030 until reaching full build out in approximately 25 years. The Agency's Long Range Plan of Finance (LRPF) adopted in 2007 was based on the assumption of continued growth and included expansion projects in the amount of $1.2 billion for its wastewater infrastructure as part of the 30-year capital program.

According to the recent report in January from the National Association of Realtors**, s**ales of foreclosures and other distressed properties -- where the borrower is behind on the mortgage payment -- made up 36% of the sales market. Dr. John Husing, an economic analyst specializing in the Inland Empire, projected recently that the region has yet to start recovery, with construction remaining as one the weakest drivers, besides manufacturing. In light of the bleak economic conditions, the Agency shifted the focus of its capital program from facility expansion to refurbishment, replacement and upgrade of existing facilities. Beginning in FY 2007/08 and continuing through FY 2008/09, the Agency and the Board deferred over $200 million of non-critical capital projects originally included in the FY 2007/08 – FY 2016/17 Ten-Year Capital Improvement Plan (TYCIP). Most of these projects were slated to begin between fiscal years 2007 through 2010. Capital projects deferred were primarily expansion and improvement projects for the wastewater system that were based on the assumption that the area's population would continue to grow through 2025. One exception is the Recycled Water Business Plan (RWBP), which was adopted by the Board in December 2007 to govern expansion of the Agency's Recycled Water Distribution system. The purpose of the RWBP was to increase the use of recycled water within the Agency's service area. The aggressive three-year period was driven by a shortage of potable water supply that is insufficient to meet the growing demands.

In general, the Agency's capital financing is derived from four (4) primary sources (Figure 7-1):

1. Pay-go cash which for purposes of the model is defined as net system revenues[1]
2. Remaining unexpended 2008A bond proceeds
3. State revolving fund fixed low interest loans (SRF)
4. Federal and State grant revenues

Figure 7-1: Funding Sources



7.2 Agency Capital Funding Sources

Presented below is a brief description of the Agency's primary revenue sources for capital expenditures.

7.2.1 Connection Fees

For all new development within the IEUA service area, the Agency levies a fee to connect to the IEUA regional sewer system. These fees, commonly called "connection fees", are collected by each of the Agency's contracting cities or agencies and held in trust in a Capital Capacity Reimbursement Account (CCRA) until requested or "called" by the Agency. Capital calls or connection fee payments of CCRA funds are based on identified and projected capital needs. Connection fees are restricted to capital acquisition, construction, equipment, and process modifications.

The Agency's objective and contractual obligation (based on the Regional Sewerage Contract) is to have connection fees support only capital improvements associated with new developments. For example, connection fees support new treatment capacity for the Wastewater Program, but are not

to be used to support ongoing operations or capital replacement of existing facilities. The Agency will maintain the current connection fee of $4,766 per new connection, effective July 1, 2011.

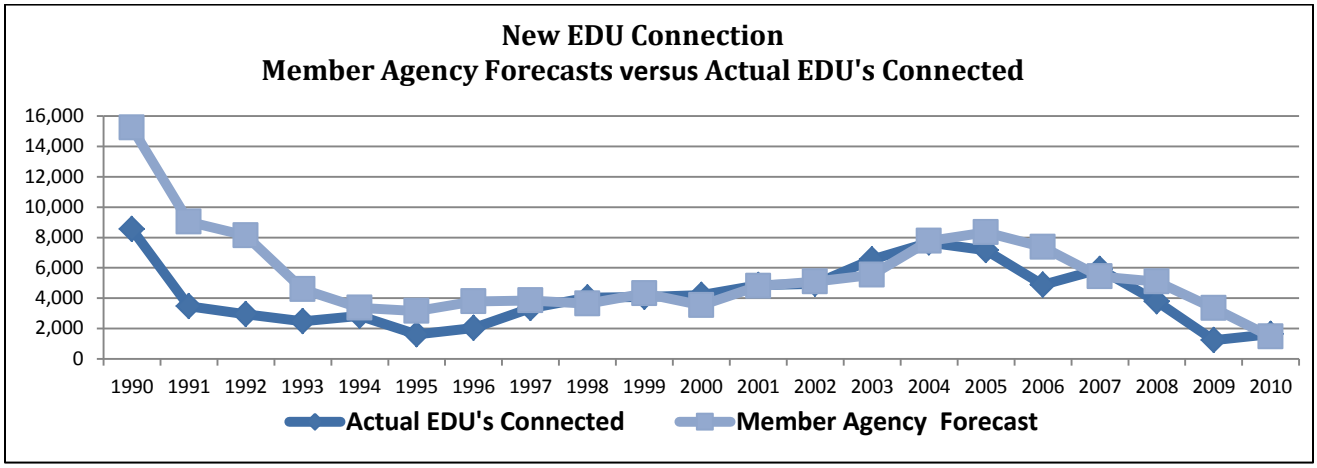
As a consequence of the continuous slowdown in new development in the Agency's service area for several years, a very conservative approach was used to forecast the number of new connections (see Table 7-1). In August 2009, the Agency's Board approved the Regional Committees' recommendation to modify the procedure for the time of collection of sewer connection fees from when the permit is issued to no later than the issuance of a certificate of occupancy. The deferral of the collection of new connection fee permits helps support and encourage new development in the area.

TABLE 7-1
AGENCYS' PROJECTED NEW CONNECTIONS AND FEES

Projected EDU Connections & Fees							
		Member Agencies*		IEUA		Difference	
FY	Rate	EDUs	Fees ($Millions)	EDUs	Fees ($Millions)	EDUs	Fees ($Millions)
2011	$4,766	1,158	$6	1,100	$5	(58)	($1)
2012	$4,766	1,585	$8	1,200	$6	(385)	($2)
2013	$4,814	2,833	$14	1,400	$7	(1,433)	($7)
2014	$4,862	3,804	$18	1,600	$8	(2,204)	($11)
2015	$4,911	4,360	$21	1,800	$9	(2,560)	($13)
2016	$4,960	3,327	$17	2,000	$10	(1,327)	($7)
2017	$5,010	3,333	$17	2,200	$11	(1,133)	($6)
2018	$5,060	3,160	$16	2,400	$12	(760)	($4)
2019	$5,111	3,315	$17	2,200	$11	(1,115)	($6)
2020	$5,162	2,809	$15	2,000	$10	(809)	($4)
2021	$5,214	2,809	$15	2,000	$10	(809)	($4)
FY 2011 – 2021		**32,493**	**$164**	**19,900**	**$99**	**(12,593)**	**($65)**
***Member Agency projections submitted in September 2010**							

Although projections from the member agencies are considerably more optimistic, historical data supports the Agency's conservative growth forecast (see Figure 7-2).

Figure 7-2: Connection Forecasts



Connection fee revenues are estimated to increase from $6 million projected in FY 2011/12 to $10 million in FY 2021, a total of $94 million over those ten years. This forecast assumes 8,000 new residential units connect to the system from FY 2012 to FY 2016. The number of new connections, which starts at 1,200 units in FY 2012 is assumed to increase by approximately 200 units per fiscal year through FY 2018 and then decrease to 2,000 units by FY 2021. This forecast reflects moderate recovery in residential development over the next 6 years for the region as economic conditions are anticipated to improve beginning in FY 2013. The connection fee rate increases at 1% annually starting in FY 2013. Increases will support pay-go capital improvement costs. New connection fees are forecasted to increase from the current fee of $4,766 per new connection to $5,214 by FY 2021.

A review of the EDU determination procedure is currently underway with member agencies to evaluate the table and formula set forth in the Regional Sewerage Service Contract (the Regional Contract) Exhibit "J" for determining EDU units and the amount of Capital Capacity Reimbursement Payment. Any modifications to the EDU measurement will apply to new connections after approval of the revised Exhibit "J" by the Regional Policy Committee and Agency Board.

7.2.2 Capital Improvement Fees

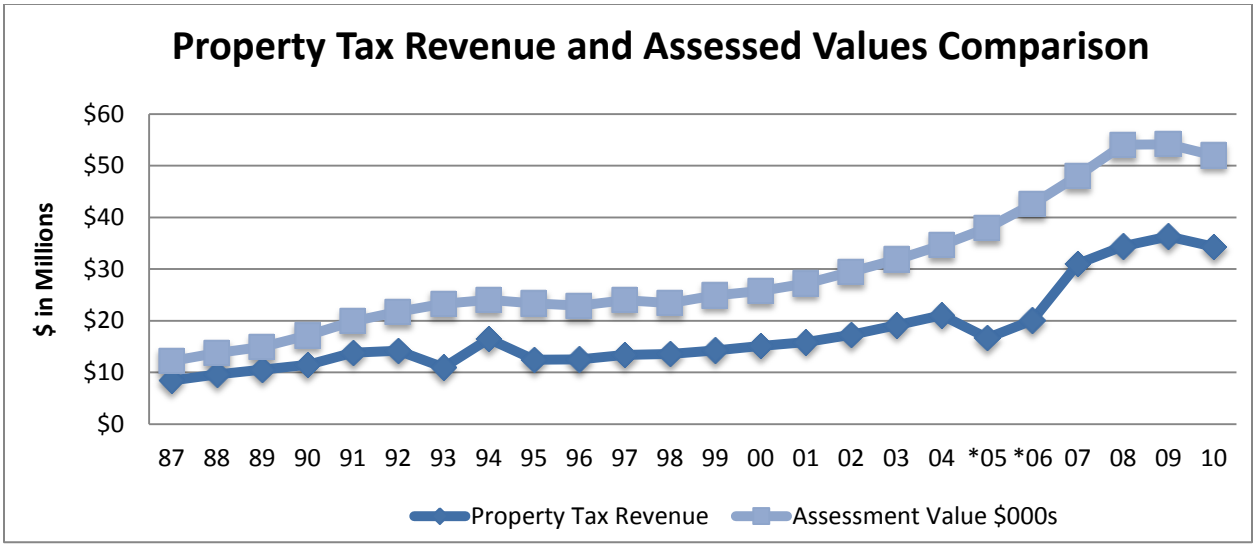
The revenues for the Non-Reclaimable Wastewater (NRW) Program to support capital replacement costs consist of a monthly Capacity Improvement Fee of $90 per capacity unit owned. These fees also support debt service costs related to the NRW system capital improvement financed with 2008A Revenue Bonds.

7.2.3 Property Taxes

The Agency receives an allocated share of the San Bernardino County secured property tax levy pursuant to the California Revenue and Taxation Code. Payments from the County are regulated by the "Teeter Plan" which allows taxing agencies to collect 100% of assessed taxes each year in lieu of receiving only those taxes actually collected by the County during the current year, and receiving penalties and interest when delinquent taxes are collected in future years.

Property taxes have historically been allocated against annual debt service payments, the acquisition of the assets for the Regional Wastewater Program and common Agency assets, and to subsidize operational costs in the Wastewater Program. Property tax revenues have significantly increased in the last decade (see Figure 7-3).

Figure 7-3: Historical Property Assessments and Revenues



1) Property tax shift by State of California for the Education Revenue Augmentation Fund (ERAF) in FY 1993
2) Prop 1A, property tax shift in FY 2005 & 2006 ($7M per fiscal year)

In the past several years, property tax revenues have increased substantially, from $15 million in FY 1999/00 to $36 million in FY 2008/09. The increase was a result of a strong housing market and rising property assessment values in the Agency's service area.

This growth trend is not expected to continue due to the high number of foreclosures in the area as a result of the economic recession. The San Bernardino County Tax Assessor projected a drop in property assessment values in FY 2009/10 of approximately 6% and the actual drop was 4%. RealtyTrac reported that foreclosures in the San Bernardino county area were the fifth highest in the nation at the end of calendar year 2010.

Because of these conditions, property tax receipts through FY 2009/10 were 5.5% lower than the prior year. The estimated total property tax income for FY 2010/11 includes an anticipated drop of 3% from the prior year and an additional 1% decline forecasted for FY 2011/12.

Property taxes are projected to generate $33 million in FY 2011/12, or approximately 26% of the Agency's total revenues. While property taxes are an important source of revenue, they are also the most uncertain due to the ongoing state budget crisis. The risk of a property tax shift by the State was minimized in FY 2009/10 with the suspension of Prop 1A. Rather than taking property taxes from local government under Prop1A, the State borrowed the funds to help solve the FY 2009/10 state budget crisis. A subsequent trailer bill, AB 15, set the guidelines for the state to repay the borrowed property tax funds, (8% plus interest), no later than June 30, 2013, or the end of the first fiscal year following the year of the borrowing. The State then collaborated with local governments to establish a securitization mechanism to help local governments avoid negative cash flows. Under the Prop 1A Securitization Program, local governments had an opportunity to sell their receivable property taxes due from the State to a joint powers authority which then issued notes backed by the State. The Agency elected to participate in the securitization program and received the $2.1M of property taxes borrowed by the State in two equal installments payable in January and May, 2010. With the new State Governor on board and an ongoing budget deficit, any legislative changes regarding property taxes which may occur would have an impact on local agencies' financial resource allocations.

Thus, the goal of the Agency, as stated in the Agency's FY 2011 LRPF, is to have programs that are self-supported by user charges and fees and minimize the reliance on property taxes to support operating costs.

Historically the Agency's policy has been to use property taxes to support debt service costs and capital expenditures for the Administrative Services (GG) Fund, Regional Capital Improvement (RC) Fund, and Regional Operations & Maintenance (RO) Fund. Beginning in FY 2009/10, 8% of property tax was allocated from the RO Fund to the Recycled Water (WC) Fund to support its debt service costs.

The current property tax allocation of 8% to the Recycled Water fund will be reduced to 5% beginning in FY 2011/12 through FY 2013/14. Thereafter, the 8% allocation to the Recycled Water fund from the RO fund will be restored to the full 27% with no property tax allocation to the WC Fund. The change is based on revised revenue projections, the reinstatement of property tax revenue to the RO fund will help mitigate the impact of future EDU Volumetric rate increases.

Property taxes will continue to support 100% of debt service costs in the following funds:

- 65% - Regional Capital Improvement (RC) Fund to support the acquisition, construction and improvement of wastewater facilities.
- 22% - Regional Operations & Maintenance (RO) Fund to support capital replacement of wastewater facilities and operating costs.
- 5% - Recycled Water (WC) Program to support debt service costs.
- 8% - Administrative Services (GG) Fund to support acquisition of Agency wide assets such as fleet vehicles, computers and hardware.

Potential Loss of RDA Taxes in FY 2012/2013

Not reflected in the projected future property tax revenue is the potential shift of redevelopment property taxes from the state authorized redevelopment agencies (RDAs) in FY 2012/13, as proposed in the California FY 2011/12 Overview of the Governor's Budget released in January 2011. If approved, the Agency may lose approximately $8 million in RDA taxes, which is approximately 24% of the Agency's total property tax revenue.

7.2.4 Grant Revenues

As a Special District, IEUA is eligible for various Federal, State and Local grant programs such as the California Water Recycling Grant Program, California State Integrated Regional Water Management Grant Program, Southern California Metropolitan Water District (MWD) Groundwater Conjunctive Use Grant Program, the Federal Reclamation Wastewater and Groundwater Study and Facility Act (Title XVI) Program and recently, the American Recovery and Reinvestment Act 2009 (ARRA) grant program. Grant revenue has become an important source of funds for the Agency. Another important source of funding for Agency programs has been State Revolving Fund (SRF) loans. IEUA has been and will continue to be active in participating in these programs.

Grant revenue projections are based on total expected costs for eligible capital projects. In 2008, the Agency was awarded a $20 million federal Cooperative Agreement from the U.S. Bureau of Reclamation (USBR). A total of $13 million is projected to be received through FY 2010/11, and the remaining $7 million is projected to be fully received by 2012, under the current Federal ARRA economic stimulus funding.

The Groundwater Recharge Program and Water Resources Program also benefit from grant funding. The final grant payment from the California Department of Water Resources (DWR) grant for $5.2 million was received in fiscal year 2009/10 with the completion of the Chino Basin Recharge Facilities Improvement Program Phase II Projects. An additional grant for $1 million from DWR under the Urban Drought Assistance Program was also received to support retrofitting potable water users to use recycled water in 2009 and 2010.

IEUA has also been working with member agencies and with MWD on a groundwater conjunctive use program, known as the Dry Year Yield (DYY) Program. IEUA receives a credit from MWD on water purchased under the program. In FY 2008/09, IEUA received the full amount of reimbursement for which it was eligible under the program.

In December 2008, the IEUA Board approved the Phase II Groundwater Storage Program (DYY) Initial Study/CEQA documentation with a determination of a Mitigated Negative Declaration, prepared by Tom Dodson and Associates (TDA). This approves an expansion of the DYY Program from 100,000 AF to 150,000 AF. Due to the recession, the DYY Program expansion has been put on hold until future funds can be obtained.

7.2.5 Federal and State Stimulus Funding

In February 2009, President Obama signed the American Recovery and Reinvestment Act of 2009 (ARRA) which allocated $6 billion for water and wastewater infrastructure improvements. The following projects have been submitted to the SWRCB and are eligible for ARRA economic stimulus funding (Table 7-2):

TABLE 7-2

ECONOMIC STIMULUS-FUNDED PROJECTS

Federal / State Agency	Project Description	Funding Amount ($ Millions)
US Bureau of Reclamation Title XVI	Recycled Water Distribution System	$ 19.8
US Environmental Protection Agency/SWRCB Clean Water Act	Recycled Water Distribution System	17.9
	Other State Clean Water Act Grants	2.5
	RP-1 Dewatering Facility	27.4
Total		**$ 67.6**

The stimulus bill allocated $126 million to the United States Department of Interior, Bureau of Reclamation (USBR) for Title XVI projects. IEUA has executed funding agreements in the amount of $19.8 million with the USBR through its Title XVI Recycled Water Business Plan Authorization. As of March 2011, the Agency has received 65% of these commitments, for a total of $12.8 million.

A portion of the stimulus funding was also allocated to the US Environmental Protection Agency (EPA) for the Clean Water State Revolving Fund (CWSRF) Program. The California State Water Resources Control Board (SWRCB) will receive $280 million dollars from the EPA through the CWSRF Program. To date, IEUA has executed funding agreements in the amount of $48 million with the SWRCB through the CWSRF Program for recycled water distribution facilities and environmental projects. As of March 2011, the Agency has received 59% of these commitments, for a total of $28.2 million.

7.3 Financing Strategy

This section discusses the Agency's approach to meeting capital needs while managing its policy goals to minimize borrowing costs and maintain target fund balances. The agency will continue to monitor the capital program and pursue vigorously grants and low interest state loans to fund essential projects. To achieve its goal, the Agency seeks to pay for capital projects first with system revenues whenever possible and pursue various forms of debt financing when net revenues are insufficient or inefficient.

In August 2010, the Agency issued $45.6 million of refunding revenue bonds, series 2010A to refinance the outstanding Revenue Bonds, Series 1994 Bonds. By paying the 1994 bond's principal

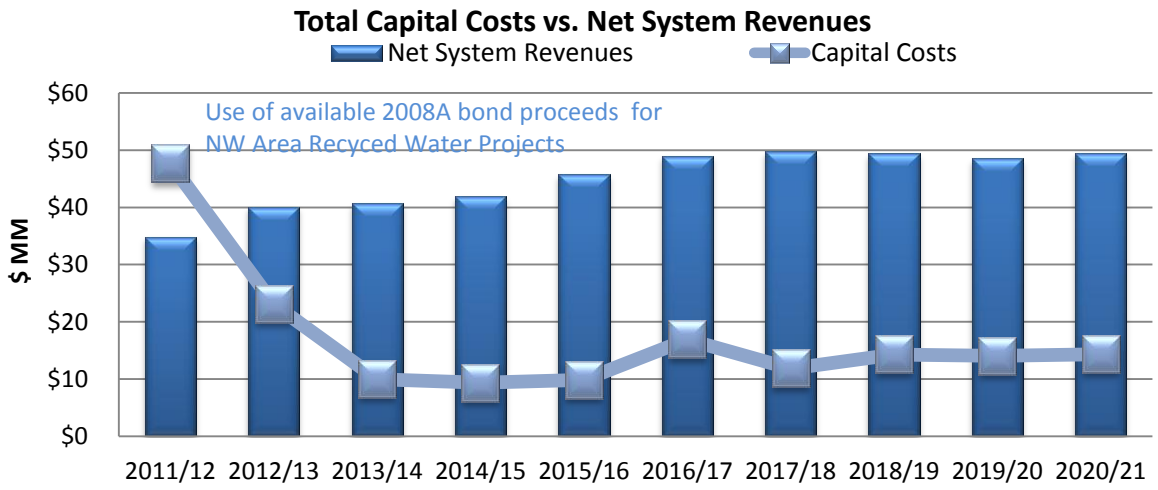
and interest for the 2010 maturity within days of issuance and excluded the payment from the refunding, he Agency was able to; (1) establish up-to-date bond covenants through the termination of the Master Resolution, and (2) facilitate the release of the $6.4 million debt service reserve fund associated with the 1994 bonds. Given this structure, the estimated present value savings for the refunding is $5.6 million.

Aside from the SRF loans financing for the Recycled Water Program and the RP-1 Dewatering Facility Expansion project in the Regional Program, the current TYCIP does not require the issuance of long term bonds during the 10 year period. Deferral of non-essential capital projects, which reduced the total ten year capital program to $171 million, spreads out the costs of improvements to allow for a pay-go financing approach while preserving adequate fund balances.

Nearly 41%, or $70 million, of the total $171 million TYCIP is scheduled over the next two fiscal years (FY 2011/12 and FY 2012/13). Project costs are funded by a combination of Pay-go, 2008A bond proceeds, SRF Loan proceeds, and grants. For the 10-year term, net system revenues are expected to exceed capital costs by $278 million.

Grant revenues projected at $11 million for the ten-year term will help offset capital costs and reduce the borrowing requirements. The Agency has been active in participating in these programs since grant revenue has become an important source of funds for the Agency. The agency will continue to pursue vigorously grants to fund essential projects.

Figure 7-4:



Debt Coverage Ratio Requirement

As legally required by bond covenants, the Agency is required to maintain a total debt ratio of 1.25X or higher on total outstanding debt and 1.6X or higher on total parity debt. Parity debt includes all of the currently outstanding bonds, (2005A, 2008A, 2008B, and the 2010A Refunding the 1994 Bonds), as well as the SRF Loan for the RP-1 Dewatering Facility Expansion and any subsequent

loans, (i.e. Southern Area and Central/Wineville Area projects). Debt coverage ratios are a critical financial measure that impact the Agency's overall credit rating and accessibility to future debt. Sustainability of these debt coverage ratios is not only a legal requirement under current bond covenants but a key objective in sustaining the Agency's financial condition.

The Agency applies a tiered financing strategy to ensure the lowest cost of borrowing while maximizing flexibility. This tiered strategy includes system revenues, fund balance draws and SRF loans. Therefore applying the lowest cost funds first and the most expensive funding sources last.

Projections indicate that in order to fund aggregate capital expenses of $171 million over 10 years, the Agency will require borrowing of approximately $42.5 million in SRF loans. This result reflects the Agency's goal to fund capital expenses on a pay-as-you go basis, or utilize the lowest cost of financing, and minimize the use of bonds.
A summary table of the Agency's projected borrowing is presented below (Table 7-3).

TABLE 7-3
BORROWING REQUIREMENTS

Fiscal Year	Bonds	SRF Loans ($ Millions)	Aggregate Borrowing
2012		$20	$20
2013		7	27
2014		1	28
2015 -2018		0	0
2019		3	31
2020		5	36
2021		6	42
Total	**$0**	**$42**	**$42**

It is important to note that the capital expenditure estimates beyond 2015 carry some uncertainty and that new, unforeseen capital costs may arise in the out-years that have not been contemplated in this current TYCIP program.

7.4 AB-1600 Nexus Test

Each year, IEUA assists its Contracting Agencies to demonstrate compliance with AB1600 (the "Mitigation Fee Act"), which requires that connection fees must be reasonably related to the service provided. As it relates to Capital Capacity Reimbursement Payments, this is accomplished by summarizing the projected needs for the collected funds and the duration that the funds will be held. Table 7-4 summarizes IEUA's projected need for Capital Capacity Reimbursement Payment revenues for the Regional Wastewater Capital Improvement (RC) fund.

TABLE 7-4

Projected Status of Reimbursement Payment Receipts (in $1000s)				
Fiscal Year	*Annual Contracting Agency Receipts (Reimbursement Fees)*	*IEUA Expenditure of Funds (Capital Calls)*	*Balance of Funds Collected*	*Balance of Funds Collected for 5 or More Years*
2000-01	17,216	22,400	12,769	0
2001-02	20,135	48,010	0	0
2002-03	23,999	0	23,999	0
2003-04	29,726	0	53,725	0
2004-05	26,868	51,200	29,393	0
2005-06	20,800	58,270	0	0
2006-07	22,615	20,100	2,515	0
2007-08	16,626	14,676	4,465	0
2008-09	5,752	11,000	0	0
2009-10	7,753	0	7,753	0
2010-11	5,243	15,000	0	0
2011-12	5,719	13,000	0	0
2012-13	6,740	10,000	0	0
2013-14	7,779	4,000	3,779	0
2014-15	8,840	5,000	7,619	0
2015-16	9,920	4,000	13,539	0
2016-17	11,022	10,000	14,561	0
2017-18	12,144	4,000	22,705	0
2018-19	11,244	4,000	29,949	0
2019-20	10,324	4,000	36,273	0
2020-21	10,428	4,000	42,701	0

As indicated in Table 7-4, in the column labeled, "Balance of Funds Collected for 5 or More Years," post-1989 reimbursement payment receipts do not stay on deposit for more than five years during the ten-year program. If funds collected after January 1, 1989 are segregated and used to meet Regional Program needs first, post-1989 funds will be expended within the required five years. Funds in the CCRP balance are expected to be expended for projects throughout the ten year period, and to provide adequate coverage for cash flow shortages. These conservative projections for future capital costs account for the accumulation in the CCRP balance beginning in FY 2013/2014. The TYCIP program will be revisited each year and the CCRP fund will be utilized to meet the growth and needs of the Agency's service area. Therefore, the CCRP balance is projected to meet the statutory requirements of AB-1600.

7.5 Conclusions

The weak economic environment has adversely impacted the Agency's key revenue sources. Connection fees and property tax revenues that are closely tied to local economic health have shown unfavorable decreases. With the on-going chronic state budget challenges, the forecast for the Agency's revenues is cautious and conservative. Nonetheless, the Agency is committed to achieve financial sustainability through balancing the allocation of resources and demands with fiscal discipline, while striving to meet each of its primary policy and financing objectives.

- Following strategic rate adjustments between 2012 and 2021, rate increases to support approximately $171 million in capital projects and $774 million in operations and maintenance expenses, which results in a fund balance of $184 million by end-of-year 2021.

- Financing costs are minimized while maximizing flexibility by balancing pay-go financing with debt financing to fund annual capital needs. Pay-go represents 64% of financing sources and SRF Loans comprise 25% over the 10 year plan.

- Ending fund balances in each fiscal year support four month operating contingency as required by bond covenant, and debt service, throughout the 10 year plan. Continuing effort is committed in strengthening the Agency's financial position for improving the debt coverage ratio.

- Revenue coverage on total debt and Parity lien obligations is maintained above the minimum 1.25 times outstanding debt service in each year.

8.0 EMERGING PLANNING ISSUES

8.1 Introduction

There has been a profound shift in California water supply planning in response to three consecutive years of drought and regulatory restrictions on pumping imported water from the Bay-Delta. California's water crisis led to Governor Schwarzenegger's 2008 declaration of a water emergency and a call for a 20% reduction in water use, state-wide. In 2009, the Metropolitan Water District of Southern California (MWD) prepared and implemented a Water Supply Allocation Plan (WSAP), while IEUA, in collaboration with its member agencies, prepared and implemented a Drought Plan in response to MWD's WSAP. This TYCIP recognizes the need to continue to integrate the Agency's planning activities into Chino Basin's overall water supply management strategy. The Agency is continuing to work with local stakeholders to enhance and expand existing programs that improve local water supply availability and reliability, including:

- Recycled Water Program
- Groundwater Recharge Program
- Desalter Program
- Groundwater Conjunctive Use Programs
- Stormwater Management Programs
- Water Use Efficiency Programs
- Energy Use Sustainability and Management Programs

8.2 Major Water Efficiency and Water Resources Initiatives

The Agency works closely with MWD, CBWM, the retail agencies, and other local stakeholders to implement regional conservation initiatives, coordinate water resource planning efforts, and support water supply programs such as stormwater capture and management, groundwater basin management, conservation, public education, water efficient landscaping, low impact development and water efficiency rebates. Four of the most recently-completed major planning initiatives were:

- Prepared and secured IEUA Board adoption of the Peace II Subsequent Environmental Impact Report (SEIR) in compliance with the requirements of CBWM's obligation to the Court and State Water Resources Control Board, Santa Ana Region.
- Completed the Chino Basin Recharge Master Plan Update, in compliance with the requirements of Watermaster's obligation to the Court. The Update includes assessments on demand, recharge capacity, sage yield and identifies opportunities for enhancing stormwater, recycled water and imported water recharge (including low impact

development, new recharge projects and integrated storm water and supplement water facilities).

- Completed the Chino Basin DYY Program Expansion Project Development Report and Project CEQA requirements. The report describes the facilities, groundwater modeling information and CEQA documentation necessary to substantially expand the groundwater storage program to 150,000 acre-feet.
- Completed IEUA regional long-term conservation business plan that identifies current conservation activities, legislation and initiatives the agency and its member agencies have identified as critical to meeting recently enacted regulatory requirements for demand reduction.
- Completed the 2010 Urban Water Management Plan (UWMP) in compliance with the California Urban Water Management Planning Act, which requires an updated plan every 5 years. It addresses the region's water management needs such as demand and supply balance, water use efficiency, reliability, alternative water supplies, and water shortage contingency plans. Important additions to IEUA's 2010 UWMP, compared to its 2005 UWMP, are sections on Wastewater Flows and Projections, Climate Change, Storm Water Management and development of a Regional Water Efficiency Plan that meets the new 20% reduction in per capita water use by 2020 mandate and other conservation-related requirements that have been adopted by the legislature since 2005.

Major water conservation and water resources initiatives for FY 2011/12 and beyond include:

- ***AB 1420 (Laird/Feuer)*** - Effective January 1, 2009, this bill makes award of all state water management grants and loans contingent on compliance with the implementation of water demand management practices described in the Urban Water Management Planning (UWMP) Act (repeals on July 1, 2016).
- ***SBX 7-7 (Steinburg)*** – Signed into law in November 2009, this bill requires the state to achieve a 20% reduction in urban per capita water use by December 31, 2020 and requires reporting of the 20 percent by 2020 water use reduction goals in urban water management plans.
- ***California Urban Water Conservation Council (CUWCC)*** – A member since 1991, the Agency will continue voluntary membership with the Council for IEUA and its retail members, and support the implementation of regionally cost-effective water management Best Management Practices as annual budgets permit.
- ***Water Softener Rebate Program*** –Continue to implement and work for the success of the water softener rebate program. The program was kicked off in 2008 as a means to protect local groundwater resources by controlling the build-up of salt in the recycled water supply.
- ***IEUA Drought Plan and Extraordinary Water Conservation Measures –*** Implement the Drought Plan that is consistent with MWD Water Supply Allocation Plan and has a regionally coordinated conservation message campaign to reduce area water demands.
- ***2010 Urban Water Management Plan*** – Prepare all elements for the 2010 Regional UWMP. Develop a Water Use Efficiency Plan that is consistent with state and local conservation requirements and can be included as a conservation element in the 2010

Regional UWMP. Assist Public Information Program with implementation of Inland Empire Landscape Alliance, Garden in Every School and Chino Basin Green.

- ***MWD Dry Year Yield Programs*** – Implement Phase I of the MWD Dry Year Yield Program as well as administer and complete negotiations for Phase II of the MWD Dry Year Yield Program, to increase groundwater storage to 150,000 acre-feet.
- ***Water Resource Planning*** – Participate in regional water resource planning initiatives, including the Groundwater Recharge Master Plan led by CBWM, "One Water, One Watershed" led by the Santa Ana Watershed Project Authority to update the Regional Integrated Water Management Plan and the MWD Integrated Resources Plan.
- ***IEUA Long-Term Water Use Efficiency Business Plan*** – Completed in September 2010, the Agency will continue the implementation of key initiatives identified in the regional, long-term business plan that are guiding the water conservation programs over the next three to five years and while identifying new opportunities that if implemented, will result in required demand reduction to comply with AB 1420 and SBX 7-7.
- ***Annual Water Conservation Programs Report*** – Continue to track all annual programs data and activities for IEUA and its member agencies and provide reporting to the IEUA Board and its members.
- ***Regional Residential Landscape Classes and Workshops*** – Implement regional residential landscape classes on behalf of IEUA member agencies in an effort to educate the residential sector on water efficiency, rebates, low water use landscape, and maintaining an efficient irrigation system.
- ***Water Efficiency Rebate Programs*** – Evaluate current programs current funding levels and offer an expanded array of rebates to increase water savings, public awareness and participation.
- ***IEUA Landscape Evaluation Program*** – Continue existing landscape evaluation program that includes all demographic sectors and continue to work with Chino Basin Water Conservation District on the administration of this program.
- ***High Efficiency Nozzle Direct Installation –*** Implement a new direct installation high efficiency nozzle program that will result in a low cost solution for landscape efficiency
- ***Weather Based Irrigation Controller Installation Program*** – Implement a direct installation controller retrofit program for residential and dedicated landscape irrigation meters as funding becomes available.
- ***Water Budget Program -*** Develop a regional structure that provides customers with information on their monthly or bi-monthly usage versus a budget allocation. The budget would provide information and guidance as to reasonable water usage for a customer's site.
- ***GEOSmart Water Conservation Financing Pilot Program*** – Develop and implement a new innovative pilot landscape program to provide incentives and financing opportunities for residential customers seeking to improve landscaping efficiency.
- ***Greater Prado Clean-up Program*** – Administer and implement the SWRCB-funded Greater Prado Cleanup Program in coordination with cities and regional agencies and assist with the implementation of other projects identified as priorities under the Chino Creek Integrated Plan.

8.3 Climate Change

Climate change has become a powerful environmental policy driver, at both the state and federal levels. With the passage of AB 32, the Global Warming Solutions Act of 2006, California launched the nation's most comprehensive initiative in response to climate change concerns.

Regulatory agencies' and legislative bodies' focus on associated issues has continued to grow. Current activities include the State's 2009 Climate Adaptation Plan and President Obama's October 2009 Executive Order providing direction on Federal Leadership in Environmental, Energy and Economic Performance.

In December 2009, the U.S. Environmental Protection Agency issued findings that GHG emissions represent a threat to public health and welfare. Passing federal legislation to respond to climate change remains a top priority in both houses of Congress. Furthermore, recent federal appellate court decisions increase the likelihood of federal regulatory action.

Climate change will exacerbate the existing water management challenges confronting California. Possible consequences include more frequent drought periods, changes in runoff patterns from the Sierra Nevada, increased flooding intensity as well as impacts to the operations of the State's surface water storage facilities. The Department of Water Resources is projecting that the California snowpack will decline by 25 to 40% by 2050, thereby significantly reducing the amount of water that is stored at higher elevations for use during the summer and fall. Higher temperatures in the Sierras will also result in earlier and more rapid runoff of snowmelt and less ability to capture it. Decreased energy production through hydro power may result. All of these trends, in addition to population growth, will result in an increase in demand for water in California coupled with inadequate storage to be able to maintain the reliability of supplies dependent upon snowpack.

For the Santa Ana Watershed, regional temperature increases and precipitation variability would reasonably produce reduced flows in local streams, decreasing groundwater recharge and impacting sources of water supply; increased water demand (increased evapo-transpiration) for urban uses; increased storm intensity and flooding; increased erosion and related water quality problems; and impacts on wildlife habitat. Furthermore, the implications of global sea level rise include increased sea water intrusion into groundwater supplies and physical impacts to infrastructure in coastal communities. In general, the watershed could expect to see reduced water supply availability, higher future costs for meeting water needs, and lower environmental quality.

While the science and the debate over the causes and extent of climate change will continue to evolve, water agencies must position themselves to protect and promote their members' interests. Changing policies related to climate change will create both risks and opportunities for water agencies. In particular, the relationship between water use and energy consumption, and the associated GHG emissions, will likely receive increased scrutiny by policymakers and be subject to more stringent regulation. Conversely, climate change policies will likely create opportunities to help finance and otherwise accelerate local implementation of conservation, recycling, and other

water supply reliability projects, as well as expanding opportunities to develop renewable energy sources.

To meet these climate change challenges, IEUA is working on several fronts:

- Proactively working with state policymakers and legislators to target incentives in support of our energy-saving and water-saving projects;
- Working with the Association of California Water Agencies (ACWA) to encourage federal and state policy to incentivize and provide financial assistance for local resource investment in conservation and water use efficiency, recycling, and renewable energy;
- Working with SAWPA through the OWOW process to develop integrated, regionally-coordinated water resource plans and projects that can be implemented on a watershed basis and that are eligible for Proposition 84 or Proposition 1E funding through the Department of Water Resources;
- Using the "First Thursday" Prado Basin Planning Process to work with local stakeholders, such as regulators, communities, developers, recreation interests and environmental interests, to implement new stormwater programs in a cost-effective way that reduces runoff from hard surfaces and promotes groundwater infiltration and water quality improvement;
- Working with the Southern California Alliance of POTWs (SCAP), California Association of Sanitation Agencies (CASA), and the California Wastewater Climate Change Group (CWCCG) to maintain active and consistent involvement with the State's Air Resources Board, as they develop and implement the AB 32 Scoping Plan and regulations;
- Promoting AB 32 implementation measures that ensure wastewater agencies receive credit for early, voluntary reductions in GHG emissions; are able to participate in the production and exchange of renewable energy credits under a proposed cap-and-trade system; and are treated fairly under proposed mandatory GHG reporting regulations and fee systems; and
- Working with the Metropolitan Water District of Southern California on planning efforts such as the Integrated Regional Planning process and preparing technical tools and decision support models for incorporating climate change uncertainties into the water planning process.

In addition, IEUA is proactively taking advantage of opportunities within its service area to improve water use efficiency because this is recognized as one of the most cost-effective ways to reduce carbon emissions, while imported water is IEUA's most energy-intensive source of supply. By 2025, IEUA expects that its service area will be able to meet nearly 80% of water needs through local sources. Full service imported water supplies are expected to remain roughly at the same level as 2005 or to decline slightly. This is expected to be achieved through:

- Water conservation—33,000 acre-feet (10% of demand)
- Recycled water—70,000 to 90,000 acre-feet
- Groundwater production—220,000 acre-feet (increase of 40,000)
- Desalted groundwater—45,000 acre-feet

Replacement of imported water delivered to IEUA with local water supplies will save California over 225,000 MWh per year by 2025, roughly equivalent to removing 450,000 cars from the road.

IEUA will continue to review the operation of its existing facilities and plans for new facilities to identify opportunities to cost-effectively reduce energy use, thereby reducing GHG emissions while enhancing adaptation to climate change.

8.4 Air Quality Issues and Carbon Reduction Program

IEUA and other Publicly-owned treatment works (POTWs) are working together to evaluate and identify potential technologies that will both comply with air quality regulations and reduce emissions of criteria pollutants and GHGs. Through its strategic Energy Management Plan (discussed in Chapter 4), IEUA is concentrating efforts on innovations that will also increase energy efficiency and on-site generation of renewable energy, and reduce operational costs. The following sections discuss new air quality and carbon reduction requirements that are also driving the Agency's energy program and TYCIP.

8.4.1 South Coast Air Quality Management District Regulations

The Agency's impact on air quality is regulated locally by the South Coast Air Quality Management District (SCAQMD) and on the state level by the California Air Resources Board. The SCAQMD's aggressive regulations have influenced the type and scale of power generation equipment that will be used by the Agency in the coming years.

Throughout 2010, the SCAQMD grappled with revisions to Rule 317, which imposes annual fees for the failure of the South Coast air quality region to attain ambient air quality standards for nitrogen oxides (NO_x) and volatile organic compounds (VOC). Under the initially-propose rule, SCAQMD would have begun collecting penalties in 2012 from stationary sources estimated at $19 to $30 million per year. The penalty fees would have been escalated each year by the CPI until attainment is achieved. For example, the Los Angeles County Sanitation Districts determined that their annual air quality fees would have increased by about $1,000,000. Unfortunately, the rule is based on a Clean Air Act requirement (Section 185) which assumed that attainment could be achieved by imposing stricter controls on stationary sources. In the South Coast air district, this is not the case. Stationary sources contribute less than 10% of the pollution, while mobile sources (cars, trucks, planes and boats) are responsible for the majority of air pollution. Despite SCAQMD's requirements for major stationary sources to comply with the most stringent control requirements anywhere, attainment has not been achieved. To address this issue, SCAQMD amended the proposed rule to allow for emissions reductions from various mobile sources to be credited toward the annual fees. The amended rule was adopted on February 4, 2011. This rule has challenged IEUA to evaluate potential emissions reductions from both stationary and mobile equipment retrofit and replacement. Various legal challenges to the rule have been raised and have not yet been resolved.

IEUA faces a similar challenge in the existing SCAQMD Rule 1110.2, which regulates air emissions from stationary internal combustion engines. On February 1, 2008, SCAQMD amended Rule 1110.2 to substantially reduce emission limits for biogas engines by July 1, 2012. As proposed, many

biogas engines would effectively be forced to shut down due to lack of affordable technology. The SCAQMD governing board, however, specified that a final technology feasibility assessment was required before the standard would go into effect. SCAQMD staff was directed to assure that cost-effective and commercial technologies are available to comply with the proposed limits and that increased flaring of biogas would not occur. Technology assessments are currently underway by SCAQMD to determine the feasibility of achieving the future limits that the rule imposes on VOC and NOx emissions from digester gas-fueled engines. The implementation date for these limits will depend on the conclusions of these assessments, but it appears that the Rule will be reopened in 2011 and that the compliance date may be delayed until results for ongoing demonstration projects can be evaluated.

The Agency has taken the initiative to meet the strict regulatory demands by pursuing a fuel cell that will operate on digester gas and replace the internal combustion engines currently operating at Regional Plant No. 1. When compared to the engines, the fuel cell will drastically reduce VOC, NOx, and greenhouse gas emissions from the facility, and is expected to achieve compliance with all current and future air quality regulations.

Another SCAQMD regulation that is having an immediate impact on the Agency is Rule 1146. This rule substantially reduces the allowable emissions of NO_x from boilers. Compliance with the rule is required by January 1, 2013. Because of this rule, IEUA must replace two boilers at Regional Plant No. 1 and one boiler at Regional Plant No. 2. The Agency's Ten-Year Capital Improvement Plan includes a project to replace these boilers by the end of 2012. The new boilers will have low- NO_x burners and will have enough capacity to accommodate the future digester heating requirements.

8.4.2 California Air Resources Board AB 32 Implementation

With the passage of AB 32 in 2006, the California Global Warming Solutions Act, the California Air Resources Board (CARB) was delegated responsibility to monitor and regulate sources of GHGs. AB 32 sets a GHG emissions cap based on returning statewide GHG emissions back to 1990 levels by the end of the year in 2020.

Implementation of AB 32 by the CARB is proceeding at a rapid pace. During 2010, CARB conducted a series of workshops and public hearings to obtain input on draft rulemakings with potential far-reaching effects. On December 16, 2010, CARB completed the major rulemakings intended to achieve the 2020 target for GHG reduction, including revisions to the mandatory reporting regulations and a future cap-and-trade program.

Major upcoming deadlines in the implementation schedule include:

- By January 1, 2012—GHG rules and market mechanisms adopted by CARB will take effect and be legally enforceable;
- December 31, 2020—Deadline for achieving the 2020 GHG emissions cap based on returning statewide GHG emissions back to 1990 levels;
- December 31, 2050—Deadline to achieve the goal of reducing statewide GHG emissions to 80% below 1990 levels.

IEUA is already implementing several voluntary measures to reduce emissions of criteria pollutants and GHGs. These measures also have the benefits of reducing energy demand, increasing use of renewable energy, and reducing operational costs. Quantifying emissions reductions is also important to eventually receive and market carbon credits. IEUA is seeking to translate its voluntary emissions reductions into creditable reductions consistent with AB 32 implementation strategy. Some of the potential GHG reduction actions at IEUA include:

- Energy efficiency projects
- Improve pump efficiencies
- Renewable energy projects (e.g., solar, wind, in-conduit hydropower, fuel cells)
- Biogas and alternative fuel utilization
- Water recycling/reuse to reduce water import

IEUA is pursuing future opportunities to receive credit for voluntary reductions, such as:

- Credit for reduction in electricity use
- Credit for production of carbon-neutral fuel (e.g., digester gas)
- Credit for use of carbon neutral fuel (e.g., digester gas, biodiesel, solar, etc.).

8.5 Mandatory Reporting of Greenhouse Gas Emissions

Facility power generation plays a vital role in air quality because it triggers annual state greenhouse gas (GHG) reporting requirements. AB 32 required CARB to adopt a GHG reporting regulation. In January 2009, CARB's new mandatory reporting regulation for GHG emissions from stationary combustion sources went into effect. IEUA has been required to report annually under the new rules since 2009. The reported data is meant to support the state's cap and trade regulatory program and other GHG regulatory programs and may therefore trigger the application of additional GHG regulations on publicly-owned treatment works (POTW) facilities. In December 2010, the state's rule was revised to adopt a lower reporting threshold than a similar federal mandatory reporting rule. Currently, IEUA is submitting annual reports but expects to be relieved of reporting after showing emissions are below the threshold for three consecutive years. However, an issue of concern to wastewater treatment facilities is whether biogenic emissions will be regulated in the same manner as non-biogenic sources. The state's mandatory reporting rule includes combustion of biogas in the total emissions calculation, but the federal rule applies only to combustion of fossil fuels and it specifically exempts municipal wastewater treatment process emissions and emissions from combustion of biogas (referred to a "biogenic emissions").

Wastewater agencies have joined together to have a strong unified voice in the debate over regulation of biogenic sources of GHG emissions. The California Wastewater Change Climate Group (CWCCG) has asserted persuasively that biogenic emissions are part of the natural carbon cycle, do not contribute to climate change, and therefore should not be counted toward the regulatory permitting thresholds. IEUA and many other POTWs use biogas as a fuel to produce efficient renewable energy through combined heat and power systems. Biogas is a green energy resource that should be promoted as an environmentally-friendly alternative to fossil fuel. Regulation of

biogenic emissions from combustion of biogas only serves as a disincentive to renewable energy production and use.

For estimating biogas combustion emissions, there are standard protocols and measurement methods available. However, for emissions from liquid wastewater treatment processes, protocols have not been standardized and widely adopted. Development of standard reporting methods would be useful for POTWs that want to develop emissions abatement projects and sell the emissions reduction credits to other regulated entities needing such credits (for example, entities that fall under the AB32 cap). As protocols are developed, POTWs want to be involved in the process in order to be sure that are they are based on accurate scientific techniques. At the same time, POTWs want to continue to develop support for exclusion of all biogenic emissions from regulation.

Biogenic emissions receive favorable treatment under the state's cap and trade regulation. Biogenic emissions from wastewater combustion of digester gas and biological process emissions are excluded from counting towards a compliance obligation. Therefore, only a POTW with stationary combustion fossil fuel emissions greater than the threshold obligation would be a covered entity. Fortunately, IEUA's fossil fuel emissions are low enough that it does not fall under the cap and trade program. Since IEUA is "outside the cap," it would theoretically be able to sell offset credits to businesses that are inside the cap based on emissions reductions that it voluntarily puts in place. An offset credit is a reduction or removal of one metric ton of CO2e resulting from an activity not covered by the cap that can be measured, quantified, and verified. The credit can be purchased by a covered entity to meet a portion of its compliance obligation. The detailed rules and procedures for establishing offset credits are expected to be developed by CARB by 2012 through a public process that includes input from wastewater agencies and associations.

Distinguishing between biogenic and anthropogenic (fossil fuel-based) emissions is an issue related to several other new regulations pertaining to GHG emissions. The new federal "Tailoring Rule" for example, which took effect January 1, 2011, gradually phases in regulation of GHGs under the existing New Source Review program. The rule establishes threshold limits for GHGs for the next six years which could trigger some POTW facilities to obtain Prevention of Significant Deterioration (PSD) permits that would impose requirements to install control technology (called "Best Available Control Technology" or BACT). IEUA has relatively low GHG emissions that would not trigger PSD permitting under the interim limits. However, the rule states that the limits may be lowered after the interim 6-year period. Currently, the Tailoring Rule does not distinguish between biogenic and anthropogenic CO2. So, it would include biogas that is combusted in flares or energy recovery equipment. EPA recently opened this issue for public comment and presumably may adopt changes to the rule in the future.

One of the many lingering questions about EPA's new Tailoring Rule and permitting requirements is how facilities would select BACT for greenhouse gases. EPA released guidance in December 2010 which provides some clarity, but still leaves many jurisdictions claiming that they will be unable to meet the January 2, 2011 deadline for implementing the Tailoring Rule. The EPA guidance requires permitting authorities to make BACT determinations on a case-by-case basis using a five-step

technical and economic analysis. Permitting agencies are allowed to consider the benefits of using biogenic fuels and are expected to emphasize energy efficiency.

8.6 Production of Renewable Energy from Biosolids and Biogas

Over the past decade, there has been an increasing interest in developing sustainable, renewable energy sources. Recently, the nation's Executive Branch set a goal that the United States will obtain 10% of its electricity from renewable sources by 2012, rising to 25% by 2025. This interest is driven by national security concerns, fuel price spikes, climate change concerns, public awareness, and advancements in renewable energy technologies. The energy value from biosolids (the solid material derived from the process of treating wastewater) can be an important component of the country's renewable energy portfolio. Biosolids can be a valuable fuel source used in place of coal or other fossil fuels. Similarly, biogas (the methane derived from biosolids through anaerobic digestion) can be used in place of, or in combination with, natural gas to produce electricity using engines, turbines, or fuel cells.

The number of emerging technologies for energy recovery from biosolids is increasing rapidly. IEUA is an example of a utility which is at the forefront by using biogas in cogeneration engines, combined heat and power systems, and fuel cells. Other technologies which are seldom used in the U.S., but have several installations in Europe, include thermal hydrolysis, mechanical disintegration and electrical pulse treatment. In addition, wastewater biosolids (WAS) pretreatment has the potential to increase the amount of gas produced by 30 to 60%, according to published sources. Recently, there has been increased national interest in combined heat and power systems (systems where the waste heat generated by combustion is captured and used in the heating and air conditioning systems in buildings or in the wastewater treatment process itself). EPA estimated that 2.3 million metric tons of carbon dioxide emissions annually—equivalent to 430,000 cars—could be offset if all existing wastewater treatment plants over 5 MGD installed energy recovery facilities. IEUA has used combined heat and power technology for many years to obtain heat to warm anaerobic digesters.

Utilizing biogas production at wastewater treatment facilities translates into lower operational costs and reduced greenhouse gas emissions, especially in states with high electric rates like California. Technologies are proven and available, yet widespread application is hindered by financial, technological, public perception and awareness, and legislative barriers. Surprisingly, only a small percentage of wastewater treatment plants in the United States as a whole tap the energy embedded in biosolids. There is a need for the federal and state governments to provide incentives for energy recovery from biomass and to view biosolids as an energy resource rather than a waste to be regulated. The National Association of Clean Water Agencies (NACWA) is encouraging legislators and regulators to implement policies and funding for biosolids energy recovery. California has recognized the value of wastewater-derived energy by including biosolids and biogas as eligible renewable energy sources in their Renewables Portfolio Standard (RPS) program. Additional revenue streams as well as special incentives and funding are available to projects that meet the RPS eligibility requirements, as discussed further below.

8.7 Opportunities for Renewable Energy Credits

The Renewable Electricity Standard regulation was adopted by the California Air Resources Board on September 23, 2010. Using its AB 32 authority, the CARB set a target for California electricity providers to obtain a minimum of 33% of their energy from renewable resources by 2020. On April 12, 2011, California's Governor signed the 33% standard into law, making it the strongest renewables portfolio standard in the country. Although this regulation does not directly apply to wastewater treatment facilities, it will further drive the demand for renewable energy credits which may be generated by wastewater agencies.

The RPS authorizes the California Public Utilities Commission (CPUC) to instate rules on tradable renewable energy credits (TRECS) that would establish a TREC market and authorize the use of TRECs by utilities and other load-serving entities to meet RPS requirements. It is anticipated that a TREC market will provide an additional revenue source for POTWs with digester gas-powered energy generation. It is expected that renewable energy credits will be available for energy which is generated by a POTW and used on-site, or for energy which is generated and sold into the external electricity grid, or for biogas that is cleaned and introduced into an external natural gas pipeline.

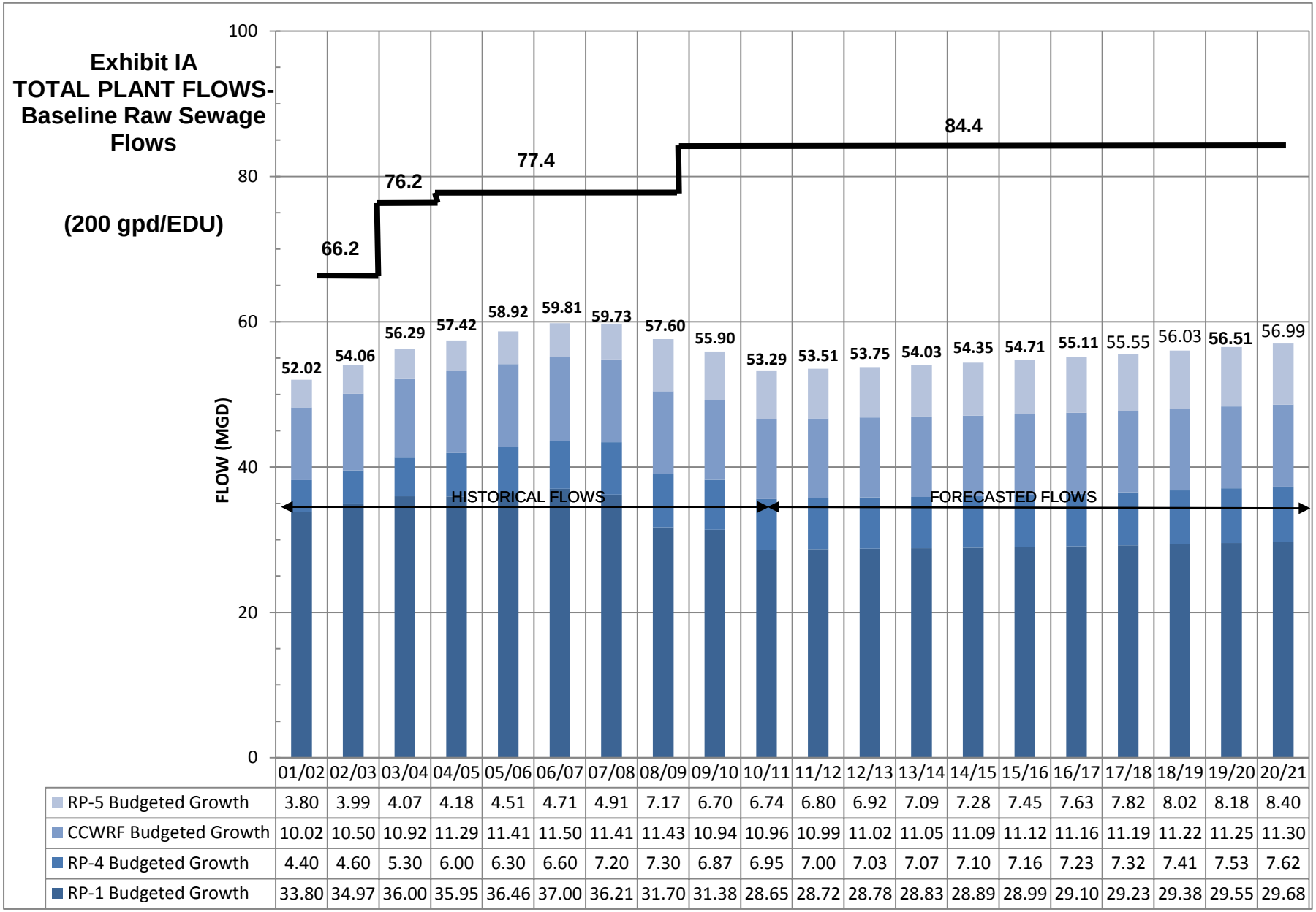
On January 13, 2011 the CPUC voted to instate rules on TRECs. Highlights of the decision include:

- Unbundled renewable energy credits may be procured and traded separately from the underlying energy as TRECs.
- Investor-owned utility's (IOUs) and electrical service provider's use of TRECs for meeting renewable portfolio standard (RPS) requirements is limited to 25 percent of the RPS obligation.
- Each TREC equals one MWh of generation and has a $50/MWh price cap (for investor-owned utilities only).
- The 25 percent usage limit and the price cap restrictions sunset in December 2013.
- The rule applies only to the state's 20 percent renewables portfolio standard. Any new 33 percent standard could establish new rules.
- Virtually all out-of-state renewable generation does not qualify as bundled power and will count toward the 25 percent TREC limit.

The 25 percent limit was opposed by the wastewater industry because it could limit the value of TRECs due to its effect on decreasing demand for TRECs. However, theoretically, POTWs may be able to sell TRECs for qualified on-site renewable power generation projects after going through a certification process. In order to qualify renewable generation for the TREC market, the facility must be certified as renewable by the CEC and be registered with the Western Renewable Energy Generation Information System (WREGIS). Biogas and biomass energy are considered eligible renewable energy resources. Eligibility may be less if state grant funding supported the project. The California Wastewater Change Climate Group has advocated wastewater community perspectives during development of the TREC program. CWCCG commented on the California Energy Commission's draft RPS Eligibility Guidebook and supported eligibility for projects funded through state grants. IEUA and many other wastewater utilities have undertaken solar projects taking advantage of state incentives. Some energy projects, such as biogas fuel cells are more cost-

competitive with state subsidies, which put them on a more even playing field with fossil fuel technologies. Eligibility for these projects is consistent with California's overall goals of promoting renewable energy. The use of tradable RECs encourages distributed renewable energy generation at water and wastewater facilities providing a revenue stream associated with environmental attributes that is not currently available.

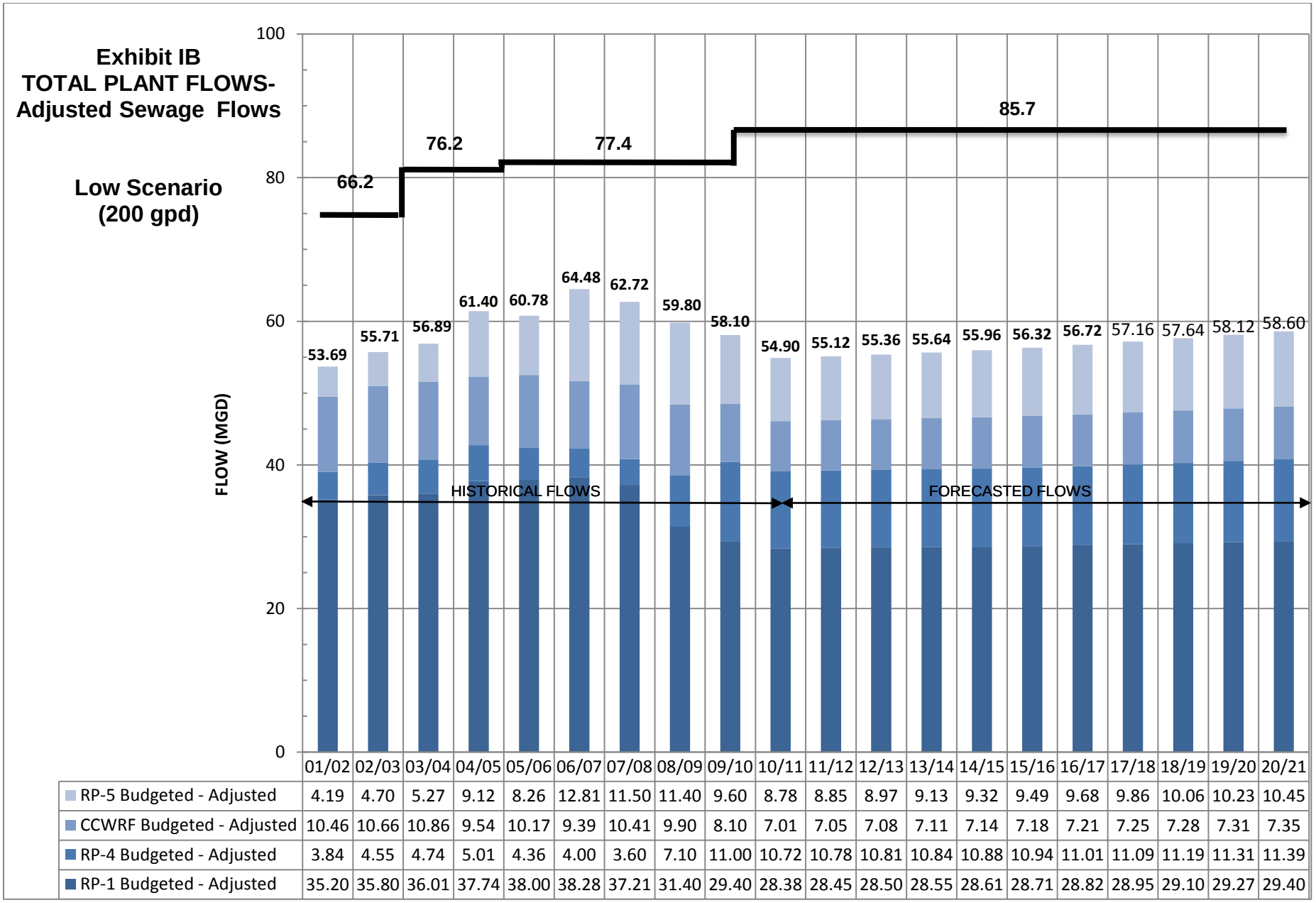
Thirty states and the District of Columbia have implemented renewable portfolio standards. Five more have renewable goals without financial penalties. There are also a number of voluntary TREC markets which generate a substantial share of the demand for renewable energy. Thus, there is potentially a large market for TRECs. There is also a large voluntary GHG reduction credit market in existence and a smaller but growing market for voluntary tradable energy efficiency credits. Various voluntary REC management and tracking systems have been developed nationally and internationally. The value of a tracking system is: 1) substantiation of ownership and sales of RECs; 2) transparency and transactional efficiency; 3) electronic access to REC portfolio from any location; and 4) a single source to manage, transact, acquire, allocate and retire RECs; 5) banking RECs for future use; 6) bundling RECs may increase their value; 7) REC monetization. For example, the Climate Action Reserve (CAR) is reported to have issued over 7.4 million credits so far at a price range of $2.50 to $6.00 per credit. In general, prices are based on the perceived integrity of the standards and on the credits' potential for use in a mandatory or voluntary GHG programs.



	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
RP-5 Budgeted Growth	3.80	3.99	4.07	4.18	4.51	4.71	4.91	7.17	6.70	6.74	6.80	6.92	7.09	7.28	7.45	7.63	7.82	8.02	8.18	8.40
CCWRF Budgeted Growth	10.02	10.50	10.92	11.29	11.41	11.50	11.41	11.43	10.94	10.96	10.99	11.02	11.05	11.09	11.12	11.16	11.19	11.22	11.25	11.30
RP-4 Budgeted Growth	4.40	4.60	5.30	6.00	6.30	6.60	7.20	7.30	6.87	6.95	7.00	7.03	7.07	7.10	7.16	7.23	7.32	7.41	7.53	7.62
RP-1 Budgeted Growth	33.80	34.97	36.00	35.95	36.46	37.00	36.21	31.70	31.38	28.65	28.72	28.78	28.83	28.89	28.99	29.10	29.23	29.38	29.55	29.68

Exhibit IB
TOTAL PLANT FLOWS-
Adjusted Sewage Flows

Low Scenario
(200 gpd)



	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
RP-5 Budgeted - Adjusted	4.19	4.70	5.27	9.12	8.26	12.81	11.50	11.40	9.60	8.78	8.85	8.97	9.13	9.32	9.49	9.68	9.86	10.06	10.23	10.45
CCWRF Budgeted - Adjusted	10.46	10.66	10.86	9.54	10.17	9.39	10.41	9.90	8.10	7.01	7.05	7.08	7.11	7.14	7.18	7.21	7.25	7.28	7.31	7.35
RP-4 Budgeted - Adjusted	3.84	4.55	4.74	5.01	4.36	4.00	3.60	7.10	11.00	10.72	10.78	10.81	10.84	10.88	10.94	11.01	11.09	11.19	11.31	11.39
RP-1 Budgeted - Adjusted	35.20	35.80	36.01	37.74	38.00	38.28	37.21	31.40	29.40	28.38	28.45	28.50	28.55	28.61	28.71	28.82	28.95	29.10	29.27	29.40
	53.69	55.71	56.89	61.40	60.78	64.48	62.72	59.80	58.10	54.90	55.12	55.36	55.64	55.96	56.32	56.72	57.16	57.64	58.12	58.60

Exhibit II: RP-4 FLOW FORECAST

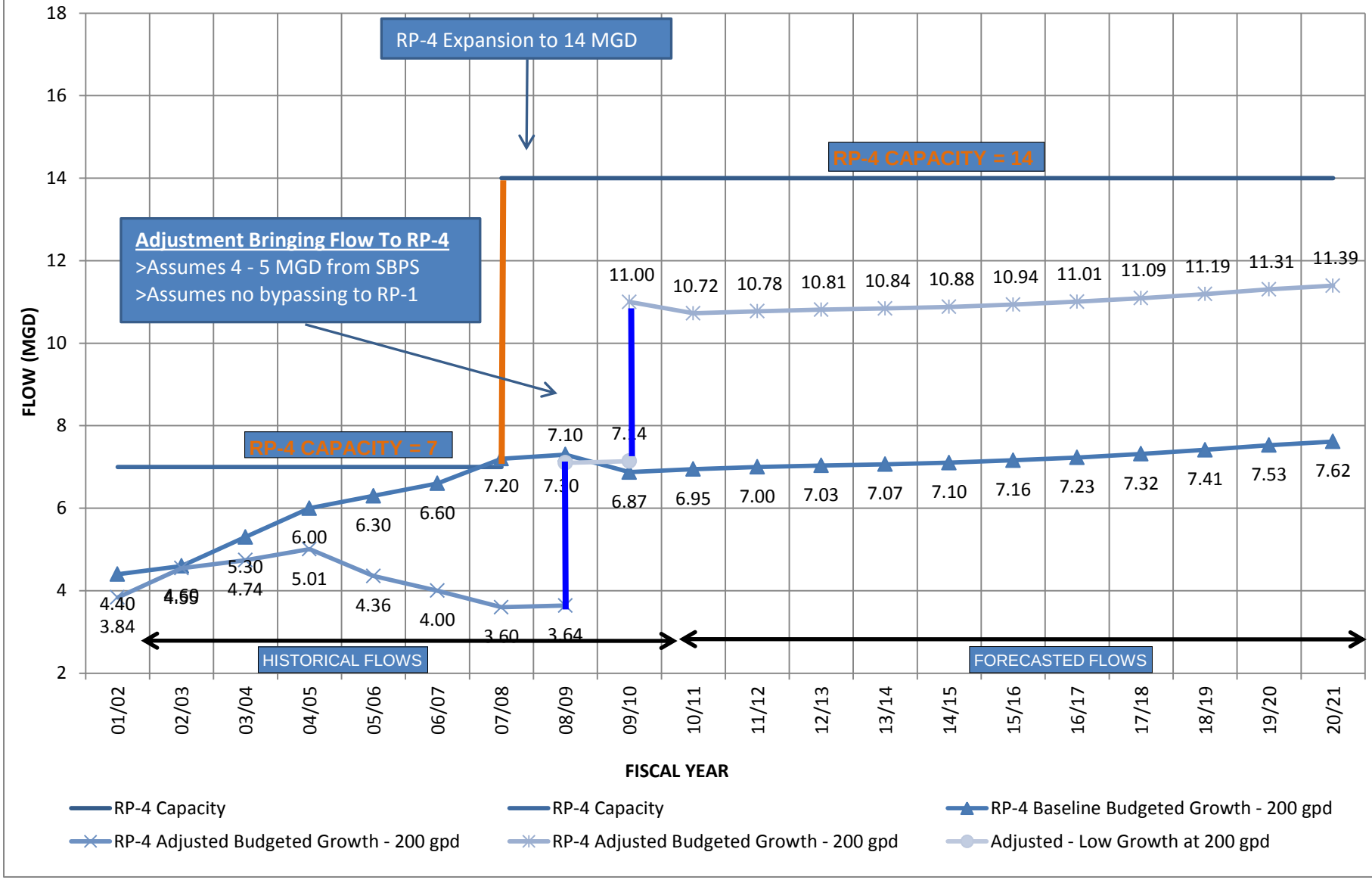
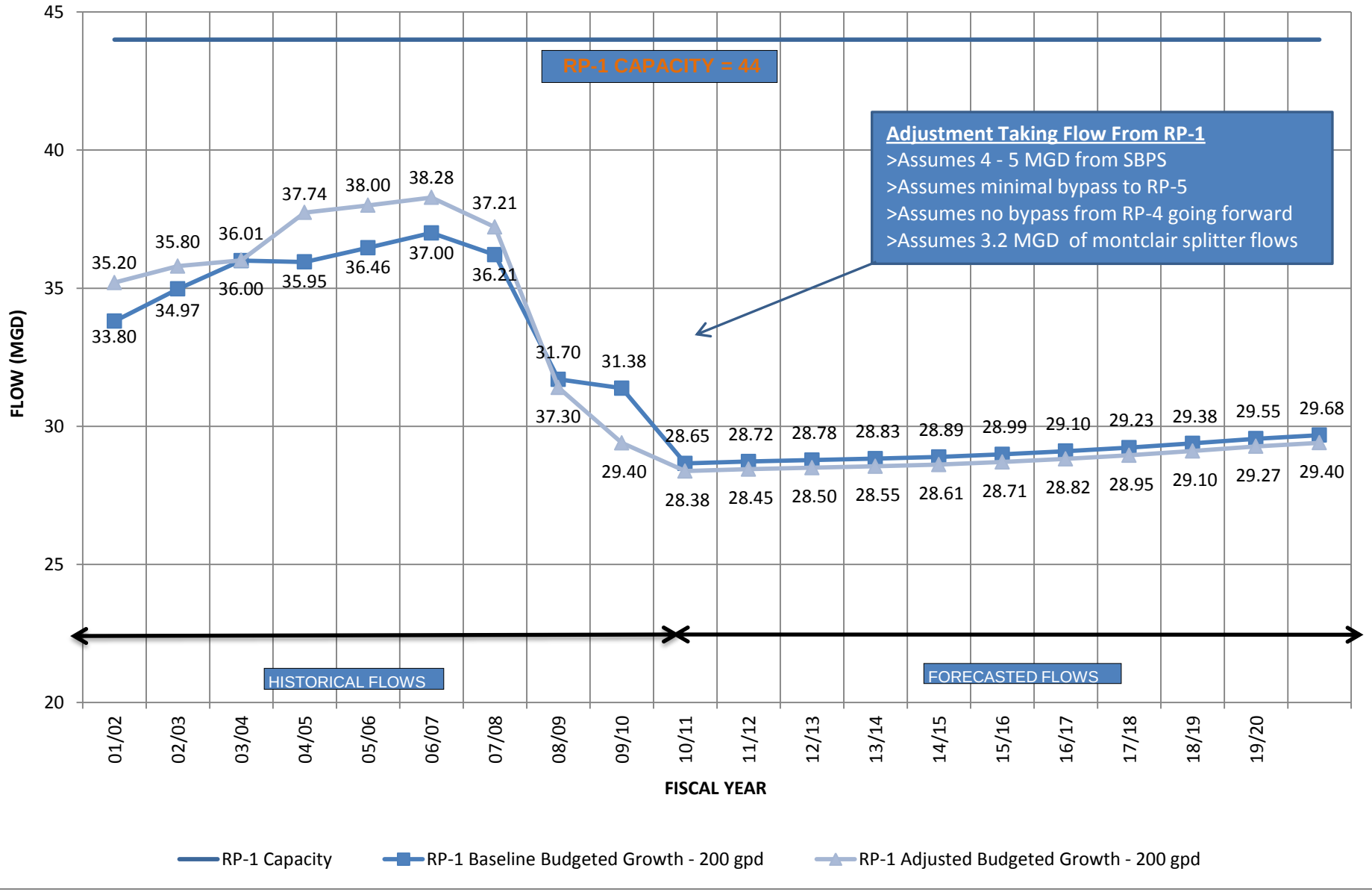
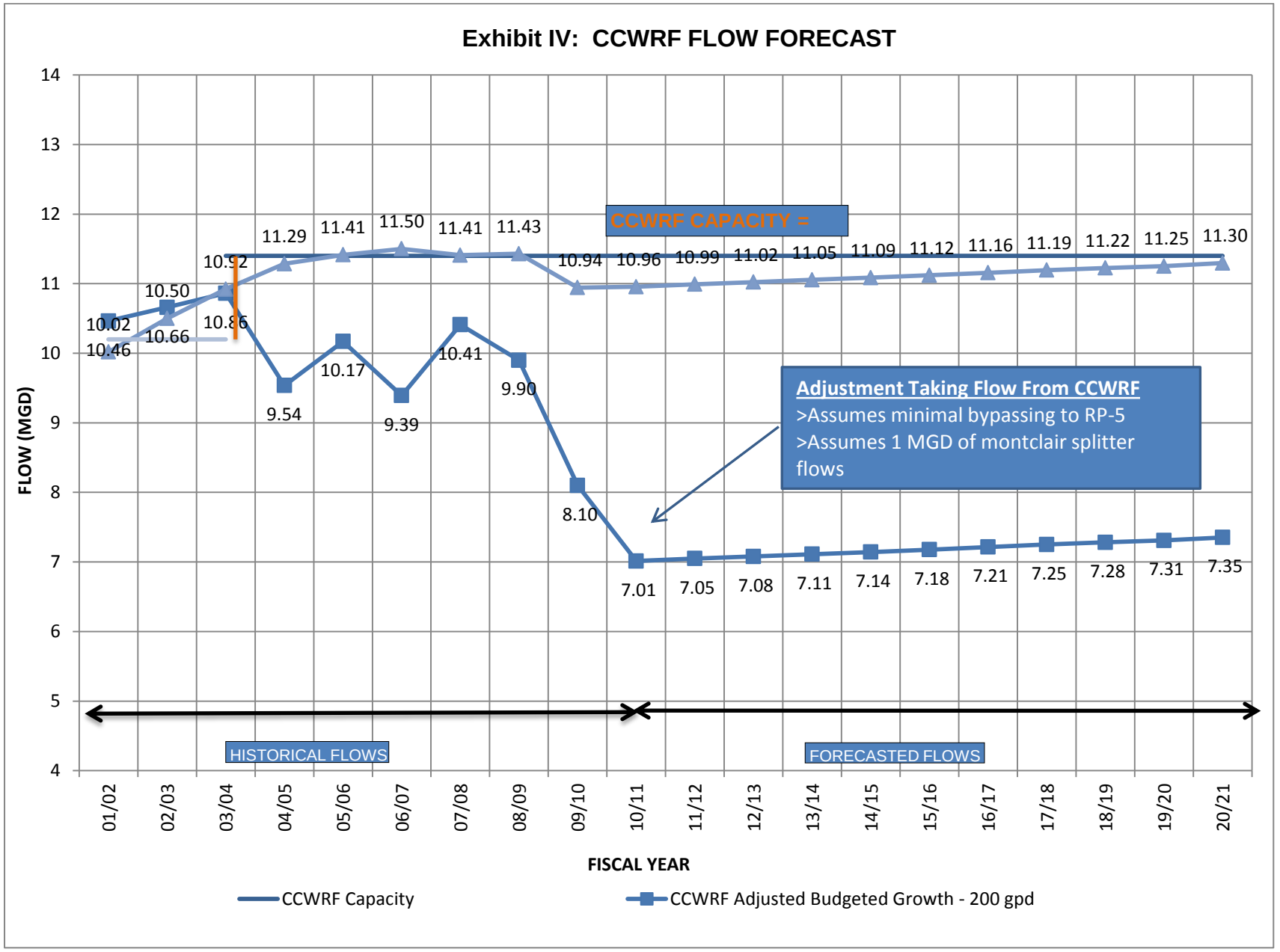
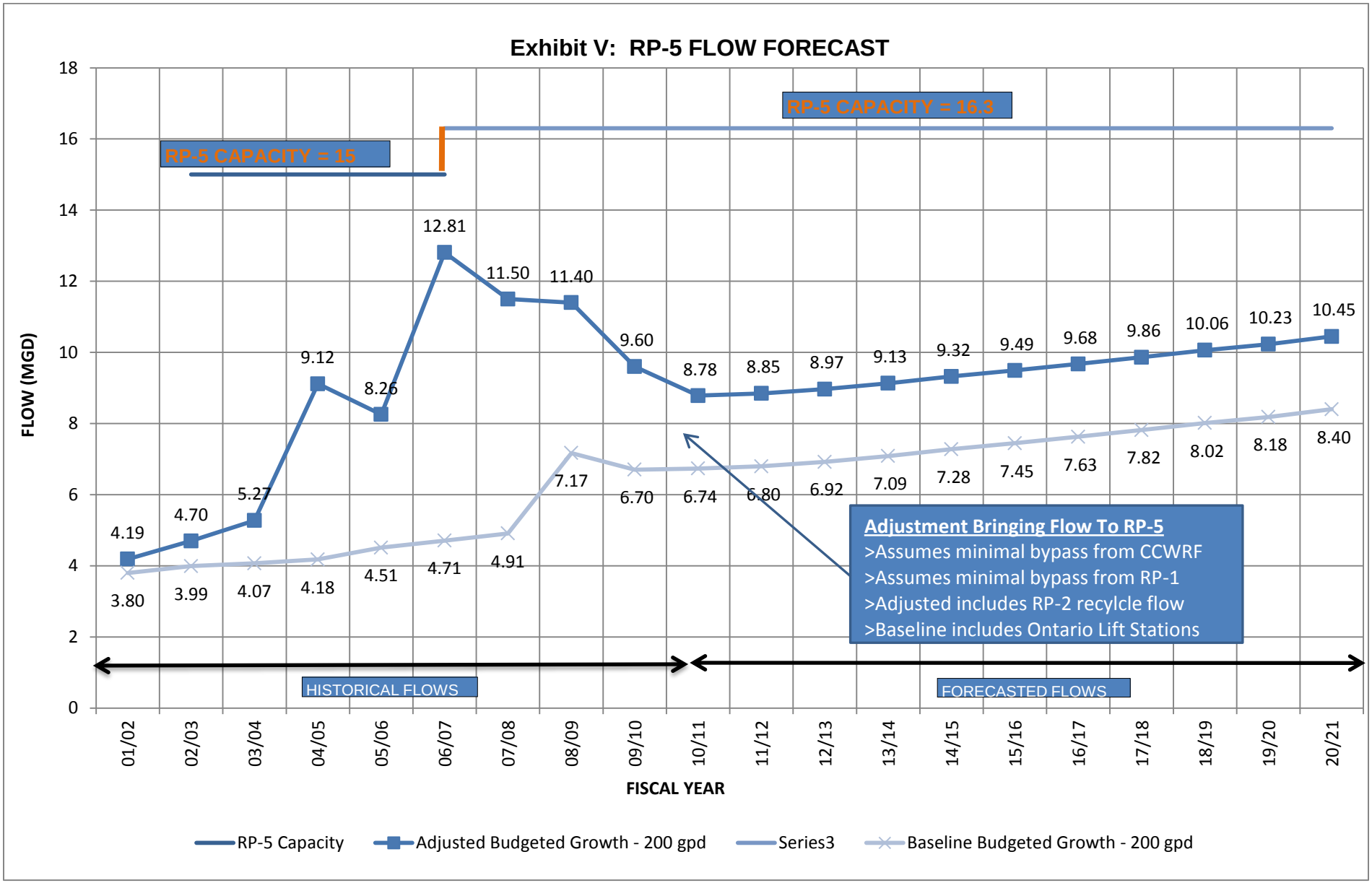


Exhibit III: RP-1 FLOW FORECAST




Exhibit IV: CCWRF FLOW FORECAST
FLOW (MGD)
FISCAL YEAR
CCWRF CAPACITY =
Adjustment Taking Flow From CCWRF
>Assumes minimal bypassing to RP-5
>Assumes 1 MGD of montclair splitter flows
HISTORICAL FLOWS
FORECASTED FLOWS
CCWRF Capacity
CCWRF Adjusted Budgeted Growth - 200 gpd
10.02
10.50
10.92
11.29
11.41
11.50
11.41
11.43
10.94
10.96
10.99
11.02
11.05
11.09
11.12
11.16
11.19
11.22
11.25
11.30
10.46
10.66
10.86
9.54
10.17
9.39
10.41
9.90
8.10
7.01
7.05
7.08
7.11
7.14
7.18
7.21
7.25
7.28
7.31
7.35
01/02
02/03
03/04
04/05
05/06
06/07
07/08
08/09
09/10
10/11
11/12
12/13
13/14
14/15
15/16
16/17
17/18
18/19
19/20
20/21


Exhibit V: RP-5 FLOW FORECAST
RP-5 CAPACITY = 15
RP-5 CAPACITY = 16.3
FLOW (MGD)
FISCAL YEAR
HISTORICAL FLOWS
FORECASTED FLOWS
Adjustment Bringing Flow To RP-5
>Assumes minimal bypass from CCWRF
>Assumes minimal bypass from RP-1
>Adjusted includes RP-2 recylcle flow
>Baseline includes Ontario Lift Stations
RP-5 Capacity
Adjusted Budgeted Growth - 200 gpd
Series3
Baseline Budgeted Growth - 200 gpd

APPENDIX A--Incremental EDU Growth Data

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
CVWD	**6/30/02 Baseline**	**12,683**	**15,745**	**19,262**					**N/A**	**47,690**
	6/30/03 Baseline	**13,411**	**16,640**	**20,534**					**2,895**	**50,585**
	6/30/04 Baseline	**14,682**	**17,922**	**22,316**					**4,335**	**54,920**
	6/30/05 Baseline	**14,811**	**18,101**	**22,509**					**501**	**55,421**
	6/30/06 Baseline	**15,211**	**18,551**	**23,033**					**1,374**	**56,795**
	6/30/07 Baseline	**16,081**	**19,251**	**23,524**					**2,061**	**58,856**
	6/30/08 Baseline	**16,198**	**19,442**	**23,586**					**370**	**59,226**
	6/30/09 Baseline	**16,289**	**19,522**	**23,719**					**304**	**59,530**
	6/30/10 Baseline	**16,340**	**20,043**	**23,719**					**572**	**60,102**
	10/11	58	63	0					121	**60,223**
	11/12	58	94	0					152	**60,375**
	12/13	58	113	0					171	**60,546**
	13/14	58	63	0					121	**60,667**
	14/15	58	113	0					171	**60,838**
	15/16	58	63	0					121	**60,959**
	16/17	58	63	0					121	**61,080**
	17/18	58	63	0					121	**61,201**
	18/19	158	63	0					221	**61,422**
	19/20	58	63	0					121	**61,543**
	TEN-YR TOTALS	***680***	***761***	***0***	***0***	***0***	***0***	***0***	***1,441***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
FONTANA	**6/30/02 Baseline**	**9,768**	**8,918**	**23,783**					**N/A**	**42,469**
	6/30/03 Baseline	**10,535**	**10,082**	**23,863**					**2,011**	**44,480**
	6/30/04 Baseline	**12,306**	**13,725**	**21,298**					**2,849**	**47,329**
	6/30/05 Baseline	**12,590**	**14,043**	**21,791**					**1,095**	**48,424**
	6/30/06 Baseline	**12,685**	**15,293**	**21,854**					**1,408**	**49,832**
	6/30/07 Baseline	**13,060**	**15,729**	**22,129**					**1,086**	**50,918**
	6/30/08 Baseline	**13,115**	**16,154**	**22,282**					**633**	**51,551**
	6/30/09 Baseline	**13,157**	**16,448**	**22,380**					**434**	**51,985**
	6/30/10 Baseline	**13,233**	**16,746**	**22,560**					**554**	**52,539**
	10/11	180	265	105					550	**53,089**
	11/12	136	201	79					416	**53,505**
	12/13	149	219	87					455	**53,960**
	13/14	174	256	102					532	**54,492**
	14/15	199	292	116					607	**55,099**
	15/16	224	329	131					684	**55,783**
	16/17	248	365	145					758	**56,541**
	17/18	273	402	160					835	**57,376**
	18/19	298	438	174					910	**58,286**
	19/20	298	438	174					910	**59,196**
	TEN-YR TOTALS	***2,179***	***3,205***	***1,273***	***0***	***0***	***0***	***0***	***6,657***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
MONTCLAIR	**6/30/02 Baseline**	**732**			**10,703**				**N/A**	**11,435**
	6/30/03 Baseline	**728**			**10,649**				**-57**	**11,378**
	6/30/04 Baseline	**720**			**10,536**				**-122**	**11,256**
	6/30/05 Baseline	**731**			**10,511**				**-14**	**11,242**
	6/30/06 Baseline	**921**			**10,546**				**225**	**11,467**
	6/30/07 Baseline	**923**			**10,654**				**110**	**11,577**
	6/30/08 Baseline	**949**			**10,716**				**88**	**11,665**
	6/30/09 Baseline	**949**			**10,824**				**108**	**11,773**
	6/30/10 Baseline	**959**			**10,916**				**102**	**11,875**
	10/11	5			15				20	**11,895**
	11/12	15			150				165	**12,060**
	12/13	7			195				202	**12,262**
	13/14	7			205				212	**12,474**
	14/15	7			35				42	**12,516**
	15/16	7			35				42	**12,558**
	16/17	7			35				42	**12,600**
	17/18	7			35				42	**12,642**
	18/19	7			35				42	**12,684**
	19/20	7			35				42	**12,726**
	TEN-YR TOTAL	***76***	***0***	***0***	***775***	***0***	***0***	***0***	***851***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
ONTARIO	**6/30/02 Baseline**	**57,660**				**N/A**		**0**	**N/A**	**57,660**
	6/30/03 Baseline	**58,415**				**N/A**		**0**	**755**	**58,415**
	6/30/04 Baseline	**45,437**				**12,978**		**0**	**0**	**58,415**
	6/30/05 Baseline	**46,037**				**13,182**		**0**	**804**	**59,219**
	6/30/06 Baseline	**46,237**				**13,344**		**0**	**362**	**59,581**
	6/30/07 Baseline	**46,587**				**13,344**		**173**	**523**	**60,104**
	6/30/08 Baseline	**47,304**				**13,344**		**388**	**932**	**61,036**
	6/30/09 Baseline	**47,375**				**13,344**		**456**	**139**	**61,175**
	6/30/10 Baseline	**47,589**				**13,344**		**530**	**288**	**61,463**
	10/11	185						75	260	**61,723**
	11/12	225						259	484	**62,207**
	12/13	300						717	1,017	**63,224**
	13/14	350						1500	1,850	**65,074**
	14/15	400						2038	2,438	**67,512**
	15/16	400						1300	1,700	**69,212**
	16/17	300						1300	1,600	**70,812**
	17/18	250						1200	1,450	**72,262**
	18/19	250						1200	1,450	**73,712**
	19/20	250						900	1,150	**74,862**
	TEN-YR TOTAL	***2,910***	***0***	***0***	***0***	***0***	***0***	***10,489***	***13,399***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
UPLAND	**6/30/02 Baseline**	**19,487**			**6,018**				**N/A**	**25,505**
	6/30/03 Baseline	**19,683**			**6,030**				**208**	**25,713**
	6/30/04 Baseline	**19,898**			**6,042**				**227**	**25,940**
	6/30/05 Baseline	**20,298**			**6,439**				**797**	**26,737**
	6/30/06 Baseline	**20,430**			**6,571**				**264**	**27,001**
	6/30/07 Baseline	**20,489**			**6,602**				**90**	**27,091**
	6/30/08 Baseline	**21,049**			**6,659**				**617**	**27,708**
	6/30/09 Baseline	**21,070**			**6,664**				**26**	**27,734**
	6/30/10 Baseline	**21,109**			**6,675**				**50**	**27,784**
	10/11	23			35				58	**27,842**
	11/12	71			81				152	**27,994**
	12/13	98			112				210	**28,204**
	13/14	121			132				253	**28,457**
	14/15	129			138				267	**28,724**
	15/16	225			140				365	**29,089**
	16/17	325			122				447	**29,536**
	17/18	333			116				449	**29,985**
	18/19	344			115				459	**30,444**
	19/20	374			115				489	**30,933**
	TEN-YR TOTAL	***2,043***	***0***	***0***	***1,106***	***0***	***0***	***0***	***3,149***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
CHINO	**6/30/02 Baseline**	**622**			**14,096**		**0**	**2,304**	**N/A**	**17,022**
	6/30/03 Baseline	**622**			**11,415**		**0**	**2,167**	**-2,818**	**14,204**
	6/30/04 Baseline	**622**			**11,370**		**19**	**2,189**	**-4**	**14,200**
	6/30/05 Baseline	**622**			**12,459**		**1,111**	**2,315**	**2,307**	**16,507**
	6/30/06 Baseline	**622**			**12,734**		**1,689**	**2,411**	**949**	**17,456**
	6/30/07 Baseline	**622**			**12,922**		**1,708**	**3,711**	**1,507**	**18,963**
	6/30/08 Baseline	**622**			**13,025**		**1,713**	**4,111**	**508**	**19,471**
	6/30/09 Baseline	**622**			**13,098**		**1,713**	**4,212**	**174**	**19,645**
	6/30/10 Baseline	**622**			**13,137**		**1,713**	**4,321**	**148**	**19,793**
	10/11	1			5		0	36	42	**19,835**
	11/12	0			0		0	54	54	**19,889**
	12/13	0			0		0	54	54	**19,943**
	13/14	0			0		0	63	63	**20,006**
	14/15	2			5		0	54	61	**20,067**
	15/16	0			0		0	54	54	**20,121**
	16/17	0			0		0	54	54	**20,175**
	17/18	0			0		0	54	54	**20,229**
	18/19	0			0		0	54	54	**20,283**
	19/20	0			0		0	54	54	**20,337**
	TEN-YR TOTAL	***3***	***0***	***0***	***10***	***0***	***0***	***531***	***544***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
CHINO HILLS	**6/30/02 Baseline**				**10,942**		**1,622**	**10,408**	**N/A**	**22,972**
	6/30/03 Baseline				**11,024**		**1,622**	**10,867**	**541**	**23,513**
	6/30/04 Baseline				**11,183**		**1,622**	**11,312**	**603**	**24,116**
	6/30/05 Baseline				**11,275**		**1,622**	**11,494**	**274**	**24,391**
	6/30/06 Baseline				**11,384**		**1,622**	**11,684**	**299**	**24,690**
	6/30/07 Baseline				**11,424**		**1,622**	**12,174**	**530**	**25,220**
	6/30/08 Baseline				**11,606**		**1,622**	**12,574**	**582**	**25,802**
	6/30/09 Baseline				**11,608**		**1,622**	**12,704**	**132**	**25,934**
	6/30/10 Baseline				**11,608**		**1,622**	**12,757**	**53**	**25,987**
	10/11				22		0	85	107	**26,094**
	11/12				30		0	132	162	**26,256**
	12/13				47		0	677	724	**26,980**
	13/14				101		0	672	773	**27,753**
	14/15				252		0	522	774	**28,527**
	15/16				144		0	217	361	**28,888**
	16/17				148		0	163	311	**29,199**
	17/18				117		0	92	209	**29,408**
	18/19				59		0	120	179	**29,587**
	19/20				8		0	35	43	**29,630**
	TEN-YR TOTAL	***0***	***0***	***0***	***12,528***	***0***	***1,622***	***15,437***	***3,653***	

INCREMENTAL EDU GROWTH BY AGENCY/FACILITY (EDUs / YR)										
AGENCY	**YEAR**	**RP-1**	**RP-4**	**RP-1/RP-4**	**CCWRF**	**RP-1/5**	**RP-2/RP-5**	**RP-5**	**INCREMENTAL GROWTH**	**CUMULATIVE TOTAL**
GRAND TOTALS	**6/30/02 Baseline**	**100,952**	**24,663**	**43,045**	**41,759**	**0**	**1,622**	**12,712**	**N/A**	**224,753**
	6/30/03 Baseline	**103,394**	**26,722**	**44,397**	**39,118**	**0**	**1,622**	**13,034**	**3,535**	**228,288**
	6/30/04 Baseline	**93,665**	**31,647**	**43,614**	**39,131**	**12,978**	**1,641**	**13,501**	**7,889**	**236,176**
	6/30/05 Baseline	**95,089**	**32,144**	**44,300**	**40,684**	**13,182**	**2,733**	**13,809**	**5,765**	**241,941**
	6/30/06 Baseline	**96,106**	**33,844**	**44,887**	**41,235**	**13,344**	**3,311**	**14,095**	**4,881**	**246,822**
	6/30/07 Baseline	**97,762**	**34,980**	**45,653**	**41,602**	**13,344**	**3,330**	**16,058**	**5,907**	**252,729**
	6/30/08 Baseline	**99,237**	**35,596**	**45,868**	**42,006**	**13,344**	**3,335**	**17,073**	**3,730**	**256,459**
	6/30/09 Baseline	**99,462**	**35,970**	**46,099**	**42,194**	**13,344**	**3,335**	**17,372**	**1,317**	**257,776**
	6/30/10 Baseline	**99,852**	**36,789**	**46,279**	**42,336**	**13,344**	**3,335**	**17,608**	**1,767**	**259,543**
	10/11	452	328	105	77	0	0	196	1,158	**260,701**
	11/12	505	295	79	261	0	0	445	1,585	**262,286**
	12/13	612	332	87	354	0	0	1,448	2,833	**265,119**
	13/14	710	319	102	438	0	0	2,235	3,804	**268,923**
	14/15	795	405	116	430	0	0	2,614	4,360	**273,283**
	15/16	914	392	131	319	0	0	1,571	3,327	**276,610**
	16/17	938	428	145	305	0	0	1,517	3,333	**279,943**
	17/18	921	465	160	268	0	0	1,346	3,160	**283,103**
	18/19	1,057	501	174	209	0	0	1,374	3,315	**286,418**
	19/20	987	501	174	158	0	0	989	2,809	**289,227**
TOTAL	***TEN-YR TOTAL***	**7,891**	**3,966**	**1,273**	**2,819**	**0**	**0**	**13,735**	**29,684**	

APPENDIX B

PROPOSED CAPITAL PROJECTS SUMMARY

ADMINISTRATIVE SERVICES FUND - GG

Project Type	Project Number	Project Description	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	Total TYCIP 11/12 - 20/21
Capital Construction	CP07009	HQA & HQB Building Mod	-	-	-	-	-	-	-	-	-	-	-
	CP08003	HQ Security Improvements	-	-	-	-	-	-	-	-	-	-	-
	CP08004	HQ Ash Tree Irrigation Modification	-	-	-	-	-	-	-	-	-	-	-
	CP08005	HQ Security System Upgrades	-	-	-	-	-	-	-	-	-	-	-
	CP09003	Headquarters Campus Fencing	75,000	150,000	8,500	-	-	-	-	-	-	-	233,500
	EN09019	IS Service Room Modifications and Air Co	-	-	-	-	-	-	-	-	-	-	-
	IS11006	Future Infomation Technology Initiatives	-	-	-	-	-	-	-	-	-	-	-
Capital Replacement	CP08001	Purchase Copiers/Printers	-	-	-	-	-	-	-	-	-	-	-
	CP08002	Purchase Color Copier/Printer	-	-	-	-	-	-	-	-	-	-	-
	CP09001	IEUA HQ Maintenance Pick up	-	-	-	-	-	-	-	-	-	-	-
	CP09002	CCTV Equipment Replacement	20,000	-	-	-	-	-	-	-	-	-	20,000
	CP09004	Replacement Copiers	-	-	-	-	-	-	-	-	-	-	-
	EN11010	Headquarters Building Central Plant Impr	650,000	-	-	-	-	-	-	-	-	-	650,000
	EP11010	Agency Wide Roof Repair	-	-	-	-	-	-	-	-	-	-	-
	EP11011	Agency Wide Asphalt Repair	-	-	-	-	-	-	-	-	-	-	-
	FA05002	ERP/CMMS Procurement	-	-	-	-	-	-	-	-	-	-	-
	IS08002	Replace 70 Workstations	-	-	-	-	-	-	-	-	-	-	-
	IS11009	Replace Sourcefire Intrusion Prevention	-	-	-	-	-	-	-	-	-	-	-
	IS11010	Business Network Tape Drive Replace	-	-	-	-	-	-	-	-	-	-	-
Major Equipment	CP07004	Secrty Cam & Digital Recrd Sys	-	-	-	-	-	-	-	-	-	-	-
	CP07005	Prox Card Access Control System	-	-	-	-	-	-	-	-	-	-	-
	CP07006	Upgrade Ext Door Hardware HQ	-	-	-	-	-	-	-	-	-	-	-
	EN10002	Construction Mgmt Tracking Projects Sys	14,000	-	-	-	-	-	-	-	-	-	14,000
	GS03006	New Admin Cntr Security Requir	-	-	-	-	-	-	-	-	-	-	-
	IS07007	Video Conference System	-	-	-	-	-	-	-	-	-	-	-
	IS08117	New ECOP Application	-	-	-	-	-	-	-	-	-	-	-
	IS09005	Spare Core Router	-	-	-	-	-	-	-	-	-	-	-
	IS09009	Operations Data Management System	-	450,000	-	-	-	-	-	-	-	-	450,000
	IS10002	Future Information Technology Initiative	-	-	-	140,000	140,000	140,000	140,000	100,000	100,000	100,000	860,000
	IS10016	Replacement PCs/Laptops	-	-	-	-	-	-	-	-	-	-	-
	IS10017	Replace Network Access Switches	-	-	-	-	-	-	-	-	-	-	-
	IS10018	Replace Select PCs with Desktop Streamin	-	-	-	-	-	-	-	-	-	-	-
	IS10019	Replace HQ Network Router	-	-	-	-	-	-	-	-	-	-	-
	IS10020	Replace Server Room UPS	-	-	-	-	-	-	-	-	-	-	-
	IS10022	Storage Attached Network (SAN) for Deskt	-	-	-	-	-	-	-	-	-	-	-
	IS10024	High End Color Laser Printers for HQ (2)	-	-	-	-	-	-	-	-	-	-	-
	IS10025	SAP Public Sector Budget Prep Applicatio	-	-	200,000	-	-	-	-	-	-	-	200,000
	IS10026	Redundant Internet Connection (CCWRF) Fi	-	-	-	-	-	-	-	-	-	-	-
	IS10027	Future Information Technology Initiative	-	-	-	-	-	-	-	-	-	-	-
	IS10028	Document Management System Upgrade (OnBa	-	-	-	-	-	-	-	-	-	-	-
	IS10029	Document Mgmt System - workflow / SAP in	-	-	-	-	-	-	-	-	-	-	-
	IS11008	High end color laser printers	-	-	-	-	-	-	-	-	-	-	-
	IS11011	Business Network Server Hardware Replace	-	-	-	-	-	-	-	-	-	-	-
	IS11012	Storage Attached Network (SAN)	-	-	-	-	-	-	-	-	-	-	-
	IS11013	Redundant Internet Connection	-	-	-	-	-	-	-	-	-	-	-
	IS12005	HQ.A Server UPS Replacement	86,000	-	-	-	-	-	-	-	-	-	86,000
	IS12006	Server Replacement	90,000	-	-	-	-	-	-	-	-	-	90,000
	IS12007	Business Network Workstation Replacement.	65,000	-	-	-	-	-	-	-	-	-	65,000
	IS12008	Sharepoint software purchase and development (phase 1)	15,000	-	-	-	-	-	-	-	-	-	15,000
	IS12009	Two New AutoCAD Computers	6,050	-	-	-	-	-	-	-	-	-	6,050
	IS12010	Payroll Replacement & Time Evaluation	190,000	-	-	-	-	-	-	-	-	-	190,000
	IS12011	Replacement PCs/Laptops	150,000	150,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	860,000
	IS13001	SAP / AWSM SAP Version Upgrade (ver 6 su	-	-	400,000	-	-	-	-	-	-	-	400,000
	IS13002	SAP System Hardware Replacement	-	-	-	-	-	-	-	-	-	-	-
	ZZ10200	Financial Planning WIP Adjustment (Proj TBD)	-	-	-	290,000	290,000	290,000	290,000	330,000	330,000	330,000	2,150,000
O&M Project	CP08010	HQ Pick Up Items	-	-	-	-	-	-	-	-	-	-	-
	CP08011	HQ-Mill Work	-	-	-	-	-	-	-	-	-	-	-
	CW10004	SAWPA SARI 4A2 Meter Maint	-	-	-	-	-	-	-	-	-	-	-
	CW10005	SAWPA SARI Sewer Pipeline Main	-	-	-	-	-	-	-	-	-	-	-
Reimbursable Project	FA10001	Chino II Expansion	-	-	-	-	-	-	-	-	-	-	-
	PL07001	Greater Prado Basin Clean-up	231,357	-	-	-	-	-	-	-	-	-	231,357
			1,592,407	**750,000**	**678,500**	**500,000**	**500,000**	**500,000**	**500,000**	**500,000**	**500,000**	**500,000**	**6,520,907**

NON-RECLAIMABLE (NRW) FUND - NC

Project Type	Project Number	Project Description	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	Total TYCIP 11/12 - 20/21
Capital Construction	EC10007	Linko Software Module	-	-	-	-	-	-	-	-	-	-	-
	EC10009	CSDLAC Capital Replacement Costs - CSDLA	-	-	-	-	-	-	-	-	-	-	-
	EC10010	1 Capacity Purc fr LACSD for Edison Line	-	-	-	-	-	-	-	-	-	-	-
	EC12009	CSDLAC Capital Replacement Cos	1,485,260	-	-	-	-	-	-	-	-	-	1,485,260
	EC12018	EE Hydraulic Calibration	40,000	-	-	-	-	-	-	-	-	-	40,000
	EC13009	CSDLAC Capital Replacement Cos	-	1,429,818	-	-	-	-	-	-	-	-	1,429,818
	EC14009	CSDLAC Capital Replacement 4Rs	-	-	1,475,712	-	-	-	-	-	-	-	1,475,712
	EC15009	CSDLAC Capital Replacement 4Rs	-	-	-	1,422,984	-	-	-	-	-	-	1,422,984
	EC16009	CSDLAC Capital Replacement 4Rs	-	-	-	-	1,471,673	-	-	-	-	-	1,471,673
	EC17009	CSDLAC Capital Replacement 4Rs	-	-	-	-	-	1,421,823	1,473,478	1,526,682	1,526,682	1,526,682	7,475,347
	EN07117	RP2-SARI Dump Site Relocation	25,000	-	-	-	-	-	-	-	-	-	25,000
	EN08025	City of Ontario - Brine Line	-	-	-	-	-	-	-	-	-	-	-
	EN10005	NRWS Conn & Emerg Pipeline Rpr	-	-	-	-	-	-	-	-	-	-	-
	EN11016	CM Misc NRWS Construction & Emerg Proj	-	-	-	-	-	-	-	-	-	-	-
	EN11026	NRWS Conn & Emergency Projects FY1011	-	-	-	-	-	-	-	-	-	-	-
	EN11034	NRW Collection System Repairs Phase 3	123,280	50,000	50,000	-	-	-	-	-	-	-	223,280
	EN11035	Philadelphia Pump Station Upgrades	63,000	-	-	-	-	-	-	-	-	-	63,000
	EN12008	NRWS Conn & Emergency Projects FY1011	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000
	EN12011	CM Misc NRWS Construction & Emerg Proj	85,000	65,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	550,000
	GM10003	CEO/GM NRWS Cap Replacement C	-	-	-	-	-	-	-	-	-	-	-
	GM11003	CEO/GM NRWS Cap Replacement C	20,000	-	-	-	-	-	-	-	-	-	20,000
	GM12003	CEO/GM NRWS Cap Replacement C	-	20,000	-	-	-	-	-	-	-	-	20,000
	GM13003	CEO/GM NRWS Cap Replacement C	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	160,000
Capital Replacement	EC07013	East End Meter Calibration	-	-	-	-	-	50,000	-	-	-	-	50,000
	EN07002	Reliant Energy 21" Valve	-	-	-	-	-	-	-	-	-	-	-
	EN07011	NRW System Upgrades	1,032,500	1,132,500	1,115,000	1,415,000	1,315,000	1,315,000	1,315,000	500,000	500,000	500,000	10,140,000
	EN10003	NRWS Conn & Emerg Pipeline Rpr	-	-	-	-	-	-	-	-	-	-	-
Major Equipment	EC10011	Vactor 0300 Tank Door Replacement	30,000	-	-	-	-	-	-	-	-	-	30,000
	EC11001	CCTV Software/Hardware Upgrade	-	-	-	-	-	-	-	-	-	-	-
	EC12012	Flo-Dar Flow Monitoring and Data Logger	12,000	-	-	-	-	-	-	-	-	-	12,000
	EC12013	Western Mule Bumper Mounted Hoist	5,100	-	-	-	-	-	-	-	-	-	5,100
O&M Project	CW15011	NRW OE Projects FY10/11	-	-	-	-	-	-	-	-	-	-	-
	CW15012	NRW OE Projects FY10/11	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	100,000
	CW25110	NRW Reimb Project - FY 09/10	-	-	-	-	-	-	-	-	-	-	-
	EC08013	NRWS Pipeline Cleaning	50,000	50,000	50,000	-	-	-	-	-	-	-	150,000
Reimbursable Project	CW15009	NRW OE Projects	-	-	-	-	-	-	-	-	-	-	-
	CW15010	NRW OE Projects - FY0910	-	-	-	-	-	-	-	-	-	-	-
	CW15109	NRW Reimb Projects	-	-	-	-	-	-	-	-	-	-	-
			3,081,140	**2,857,318**	**2,870,712**	**3,017,984**	**2,966,673**	**2,966,823**	**2,968,478**	**2,206,682**	**2,206,682**	**2,206,682**	**27,349,174**

REGIONAL CAPITAL IMPROVEMENT FUND - RC

Project Type	Project Number	Project Description	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	Total TYCIP 11/12 - 20/21
Capital Construction	CP07007	RP2 FRONTAGE LANDSCAPE UPGRADE	-	-	-	-	-	-	-	-	-	-	-
	CP07008	Regional Facilities Landscapng	-	-	-	-	-	-	-	-	-	-	-
	CP08006	Regional Landscape Solutions	-	-	-	-	-	-	-	-	-	-	-
	CP08007	RP-1 East Side Landscape	-	-	-	-	-	-	-	-	-	-	-
	CP08008	RP-4 Frontage Landscape Project	-	-	-	-	-	-	-	-	-	-	-
	CP08009	RP-5 Stormwater Lagoon Landscape	-	-	-	-	-	-	-	-	-	-	-
	CP08013	RP-1 Landscape - E Side Imprvmnt	-	-	-	-	-	-	-	-	-	-	-
	EN03023	San Bernardino Ave Pump Station	-	-	-	-	-	-	-	-	-	-	-
	EN03029	RP5 Renewable Energy Efficincy	-	-	-	-	-	-	-	-	-	-	-
	EN04011	RP4 Liquid Expansion to 14 mgd	500,000	-	-	-	-	-	-	-	-	-	500,000
	EN04018	Engineering-As-Builting	-	157,250	-	-	-	-	-	-	-	-	157,250
	EN04030	CCWRP Aeration System Mod.	-	-	-	-	-	-	-	-	-	-	-
	EN05006	RP1TmD(Odor Ctrl Fltr&Redund)	-	-	-	-	-	-	-	-	-	-	-
	EN05011	TP1 Sodium Hypochlorite Stn Ex	-	-	-	-	-	-	-	-	-	-	-
	EN05014	RP1 Pri.Sludge Thickening	-	-	-	-	-	-	-	-	-	-	-
	EN05027	RP2 System Modifications	-	-	-	-	-	-	-	-	-	-	-
	EN05028	TP1 Flash Mixer Access	-	-	-	-	-	-	-	-	-	-	-
	EN05030	RP1 Food Waste Storage Pump St	-	-	-	-	-	-	-	-	-	-	-
	EN05035	Upland Intrcptr Rlf Swr Ph II	-	-	-	-	-	-	-	-	-	-	-
	EN05050	RP2 Digester Gas Sys Mods	-	-	-	-	-	-	-	-	-	-	-
	EN05054	Misc RC Construction Projects & Emergenc	-	-	-	-	-	-	-	-	-	-	-
	EN05056	RP-5 Bottleneck Id Project	-	-	-	-	-	-	-	-	-	-	-
	EN05058	RP2 Solids Handling Automation	-	-	-	-	-	-	-	-	-	-	-
	EN05061	CCW Trty Flt&Chlrn Tnk Expan	-	-	-	-	-	-	-	-	-	-	-
	EN05067	RP2 Decommissioning	-	-	-	-	-	-	-	-	-	-	-
	EN06014	RP2 Dewtr Cake Storage System	25,000	-	-	-	-	-	-	-	-	-	25,000
	EN06015	RP1 Dewatering Facility Expnsn	5,849,160	-	-	-	-	-	-	-	-	-	5,849,160
	EN06020	RP5 System Fac Upgrade & Imprv	1,050,000	-	-	-	-	-	-	-	-	-	1,050,000
	EN07006	RP1 Facilities Improvements	300,000	-	-	-	-	-	-	-	-	-	300,000
	EN07008	RP2 Gravity Thickener	-	-	-	-	-	-	-	-	-	-	-
	EN08004	RP-1 Upgrades	-	-	-	-	-	-	-	-	-	-	-
	EN08005	RP-1 Engine Controls	-	-	-	-	-	-	-	-	-	-	-
	EN08006	RP-2 & RP-5 IPS Overflow	25,000	-	-	-	-	-	-	-	-	-	25,000
	EN08008	San Bern Pump Station By-Pass	-	-	-	-	-	-	-	-	-	-	-
	EN08009	New Operations Laboratory	-	-	-	-	-	-	-	-	-	-	-
	EN08010	Chino Creek Park Phase II	-	-	-	-	-	-	-	-	-	-	-
	EN08020	RP-1 Digester No. 3 Roof Repair	-	-	-	-	-	-	-	-	-	-	-
	EN08022	RP-1 Solar Power Plant	-	-	-	-	-	-	-	-	-	-	-
	EN09023	RP-5 SHF/REEP Independent Evaluation	100,000	-	-	-	-	-	-	-	-	-	100,000
	EN10006	Misc RC Construction Projects & Emergenc	-	-	-	-	-	-	-	-	-	-	-
	EN10011	RP-4 Wind Turbine Power Plant	-	-	-	-	-	-	-	-	-	-	-
	EN11002	RP-1 Tertiary Filter Expansion	-	-	-	-	-	-	-	-	-	-	-
	EN11003	RP-1 Storm Water Contain Improvement Pha	-	-	-	-	-	-	-	-	-	-	-
	EN11004	RP-2 Screening Project	-	-	-	-	-	-	-	-	-	-	-
	EN11006	RP-1 Food Waste Program	-	-	-	-	-	-	-	-	-	-	-
	EN11014	CM Misc WW Construction & Emerg Proj	-	-	-	-	-	-	-	-	-	-	-
	EN11017	Capital Upgrades to RP1, RP2, CCWRF, RP4	3,740,000	2,060,000	1,900,000	1,500,000	1,500,000	7,000,000	2,900,000	1,500,000	2,000,000	2,000,000	26,100,000
	EN11024	Misc WW Construction & Emerg Proj FY1011	-	-	-	-	-	-	-	-	-	-	-
	EN11027	Headquarters Repairs and Drainage Improv	125,000	-	-	-	-	-	-	-	-	-	125,000
	EN11028	RP-4 Pond Repair	-	-	-	-	-	-	-	-	-	-	-
	EN11029	Facilities SCADA Master Plan	50,000	-	-	-	-	-	-	-	-	-	50,000
	EN11031	RP-5 Flow Equalization and Effluent Moni	80,000	-	-	-	-	-	-	-	-	-	80,000
	EN11036	HVAC & Server Rm Fire Suppression Improv	630,000	70,000	-	-	-	-	-	-	-	-	700,000
	EN11038	RP-1 Digester Gas Condensate Sump Improv	150,000	-	-	-	-	-	-	-	-	-	150,000
	EN11041	CCWRF Trty Fltr Media Replacemnt & Rehab	-	-	-	-	-	-	-	-	-	-	-
	EN11043	Chino Creek Wetland LEED Restroom	140,000	-	-	-	-	-	-	-	-	-	140,000
	EN11044	Casing Ext for Reg and NRW Crossing UPRR	175,000	-	-	-	-	-	-	-	-	-	175,000
	EN11051	Central Plant for the New Operations Lab	90,000	-	-	-	-	-	-	-	-	-	90,000
	EN11300	Regional Sewer Special Projects FY1011	-	-	-	-	-	-	-	-	-	-	-
	EN12006	Misc WW Construction & Emerg Proj FY1011	212,500	287,500	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,500,000
	EN12009	CM Misc WW Construction & Emerg Proj	212,500	287,500	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,500,000
	EN12300	Regional Sewer Special Projects FY1011	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000
	EN20046	TP1 Outfall Energy Recovery	-	-	-	-	-	-	-	-	-	-	-
	EP11016	Sub-metering All Facilities	-	-	-	-	-	-	-	-	-	-	-
	PL03006	RP1 Odor Control - Phase I	300,000	-	-	-	-	-	-	-	-	-	300,000

Capital Replacement	CP09005	RP-1 Security Improvements	-	-	-	-	-	-	-	-	-	-	-
	EA08003	RP1/RP4 12KV Meter Testing	-	-	-	-	-	-	-	-	-	-	-
	EA08009	RP4 Maint Office Area	-	-	-	-	-	-	-	-	-	-	-
	EB08007	RP5/CCWTP 12KV Meter Testing	-	-	-	-	-	-	-	-	-	-	-
	EC08012	Regional Interceptor Rehab	-	-	-	-	-	-	-	-	-	-	-
	EN06011	Collection Systm Emerg Upgrade	-	-	-	-	-	-	-	-	-	-	-
	EN07004	Facilities Luminare Replacemen	-	-	-	-	-	-	-	-	-	-	-
	EN07007	Reg Fac Chem & Control Automat	-	-	-	-	-	-	-	-	-	-	-
	EN07013	RP1 Bypass Improvements	-	-	-	-	-	-	-	-	-	-	-
	EN08002	RP-1,RP-2,CarbCny O&M Manual	-	-	-	-	-	500,000	495,998	415,516	-	-	1,411,514
	EN08007	RP4 Gravty Line to SanSvain Ch	-	-	-	-	-	-	-	-	-	-	-
	EN11005	CCWRF Aeration System Replacement	-	-	-	-	-	-	-	-	-	-	-
	EN11039	TP-1 Disinfection Pump Improvements	450,000	50,000	-	-	-	-	-	-	-	-	500,000
	EN11040	RP-1 Outdoor Lighting Improvements	170,000	-	-	-	-	-	-	-	-	-	170,000
	EN11042	RP-1 Flare & RP1/RP2 Boiler Replacements	1,323,000	147,000	-	-	-	-	-	-	-	-	1,470,000
	EP07003	Regional Facilities Rpr/Repl	-	-	-	-	-	-	-	-	-	-	-
	EP11012	Agency Wide Plant Fac Roof Repair	-	-	-	-	-	-	-	-	-	-	-
	EP11013	Agency Wide Operations Asphalt Repair	-	-	-	-	-	-	-	-	-	-	-
	IS11014	Replace Telephone System Server Hardware	-	-	-	-	-	-	-	-	-	-	-
	LB10012	Diones ICS3000	-	-	-	-	-	-	-	-	-	-	-
	PA06010	RP1 Dgstr PD Pmps	-	-	-	-	-	-	-	-	-	-	-
	PA06012	RP1 Prmry Clarifrs	-	-	-	-	-	-	-	-	-	-	-
	PA08017	PC Workstation Replacement	-	-	-	-	-	-	-	-	-	-	-
	PA08020	Upgrade CP30B's to CP60's	-	-	-	-	-	-	-	-	-	-	-
	PA08022	RP1 DH+ To Ethernet Upgrade	-	-	-	-	-	-	-	-	-	-	-
	PA08024	CCWRP DH+ To Ethernet Upgrade	-	-	-	-	-	-	-	-	-	-	-
	PA08025	Upgrade GE CEM System	-	-	-	-	-	-	-	-	-	-	-
Major Equipment	CP11001	Agency-wide Security Equipment Upgrade	120,000	71,100	-	-	-	-	-	-	-	-	191,100
	DL10001	Desalter #1 SCADA Enhancement	-	-	-	-	-	-	-	-	-	-	-
	EM05012	RP4 Wireless LAN Bridge	-	-	-	-	-	-	-	-	-	-	-
	EN08019	Facilities Siloxane Removal	-	-	-	-	-	-	-	-	-	-	-
	EP06005	RP1 Blower #4 Instl	-	-	-	-	-	-	-	-	-	-	-
	EP11002	Broadband Hardened DCS Pentops	-	-	-	-	-	-	-	-	-	-	-
	EP11003	Uninterruptable Power Supply (UPS) Redun	-	-	-	-	-	-	-	-	-	-	-
	EP11004	DCS Server Replacement Wastewtr Ops	-	-	-	-	-	-	-	-	-	-	-
	EP11005	DCS Network Equipment Replacement	-	-	-	-	-	-	-	-	-	-	-
	EP11006	DCS PC Workstation Replacement	-	-	-	-	-	-	-	-	-	-	-
	EP11007	DCS Notebook Replacement - Wastewtr Ops	-	-	-	-	-	-	-	-	-	-	-
	EP11017	SBLS Critical Spare Equip Purchase	-	-	-	-	-	-	-	-	-	-	-
	EP11019	Purchase CCWRF Primary Effluent Pump	-	-	-	-	-	-	-	-	-	-	-
	EP12001	Rockwell Automation PLC Upgrades RP1,RP4	85,000	-	-	-	-	-	-	-	-	-	85,000
	IS09015	Upgrade DCS Foxboro Fiber Optic LAN to A	-	-	-	-	-	-	-	-	-	-	-
	IS09016	DCS ABStation Station Upgrade, All Facil	-	-	-	-	-	-	-	-	-	-	-
	IS09017	RP-5 DCS Upgrade to Version 8.x	-	-	-	-	-	-	-	-	-	-	-
	IS09018	DCS WAN Acceleration	-	-	-	-	-	-	-	-	-	-	-
	IS10009	Wireless communications for Montclair an	-	-	-	-	-	-	-	-	-	-	-
	IS10010	RP-1, RP-2 & CCWRF Upgrade to Version 8.	-	-	-	-	-	-	-	-	-	-	-
	IS10011	Future DCS Initiatives	-	-	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	400,000
	IS11002	Automated Plant Chemical Reordering Syst	-	-	-	-	-	-	-	-	-	-	-
	IS11007	Two Auto CAD Computers	-	-	-	-	-	-	-	-	-	-	-
	IS12001	Upgrade DCS Foxboro I/A to Infusion (Won	-	-	100,000	100,000	-	-	-	-	-	-	200,000
	IS12002	Upgrade DCS AIM Historian to InSQL	-	-	100,000	-	-	-	-	-	-	-	100,000
	IS12004	Process Automation and Controls (DCS) Network Server Replace	40,000	-	-	-	-	-	-	-	-	-	40,000
	LB12001	GCMS Semi Volatiles Wastewater	-	150,000	-	-	-	-	-	-	-	-	150,000
	LB13001	GCMS Volatiles Wastewater	-	250,000	-	-	-	-	-	-	-	-	250,000
	LB14001	GC Pesticides Wastewater	-	-	100,000	-	-	-	-	-	-	-	100,000
	PA08016	Automated Tape Backup	-	-	-	-	-	-	-	-	-	-	-
	PA08019	WAN Emerg Comm Trailer	-	-	-	-	-	-	-	-	-	-	-
	PA08021	Enterprise Historian	-	-	-	-	-	-	-	-	-	-	-
	PA08026	RP5 DCS UPS Expansion	-	-	-	-	-	-	-	-	-	-	-

O&M Project	**AM08005**	MSDS Online	-	-	-	-	-	-	-	-	-	-	-	-
	CP08012	Regional Landscape Projects	-	-	-	-	-	-	-	-	-	-	-	-
	CW19011	Sewer OE Projects FY10/11	-	-	-	-	-	-	-	-	-	-	-	-
	CW19012	Sewer OE Projects FY10/11	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	500,000
	CW29010	Sewer OE Projects FY 0910	-	-	-	-	-	-	-	-	-	-	-	-
	CW29110	Sewer Reimb Projects FY 09/10	-	-	-	-	-	-	-	-	-	-	-	-
	EN03300	Regional System Special Proj & Metering	85,000	115,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000
	EN05053	Fac Performance Objective Analysis	-	-	-	-	-	-	-	-	-	-	-	-
	EN11037	Standard Specifications	-	-	-	-	-	-	-	-	-	-	-	-
	EP09001	Regional Facilities Repairs	-	-	-	-	-	-	-	-	-	-	-	-
	PL05002	Surface Wetlands & Habita (MasterPlan)	751,418	-	-	-	-	-	-	-	-	-	-	751,418
	PL05007	FY04/05 Facility Master Plan	75,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	165,000
	TS08002	SOP Upgrade & UPCP Development	-	-	-	-	-	-	-	-	-	-	-	-
	TS09001	RP-4 14 MGD Expansion O&M Manual	-	-	-	-	-	-	-	-	-	-	-	-
	TS09002	Update Existing Facility O&M Manual	-	-	-	-	-	-	-	-	-	-	-	-
	TS09003	Electronic O&M Manual Database-Driven Sy	75,844	-	-	-	-	-	-	-	-	-	-	75,844
Reimbursable Project	**CW19009**	Sewer OE Projects	-	-	-	-	-	-	-	-	-	-	-	-
	CW19010	Sewer OE Projects - FY0910	-	-	-	-	-	-	-	-	-	-	-	-
	CW19109	Sewer Reimb Projects	-	-	-	-	-	-	-	-	-	-	-	-
	CW19110	Sewer Reimb Projects FY 09/10	-	-	-	-	-	-	-	-	-	-	-	-
	EC08006	SARI Fees - CIW FY 07/08	-	-	-	-	-	-	-	-	-	-	-	-
	PL05013	Chino Creek Master Plan - Administration	9,122	-	-	-	-	-	-	-	-	-	-	9,122
	PL05014	Chino Creek Master Plan - Edu/Outreach	13,500	-	-	-	-	-	-	-	-	-	-	13,500
			17,102,044	**3,805,350**	**3,010,000**	**2,410,000**	**2,310,000**	**8,310,000**	**4,205,998**	**2,725,516**	**2,810,000**	**2,810,000**	**49,498,908**

REGIONAL OPERATIONS AND MAINTENANCE FUND - RO

Project Type	Project Number	Project Description	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	Total TYCIP 11/12 - 20/21
Capital Construction	CP08014	Agency-wide entrance gates automatic	-	-	-	-	-	-	-	-	-	-	-
	EN08023	RP-1 Asset Replacement	925,000	850,000	725,000	700,000	250,000	1,300,000	300,000	2,250,000	1,000,000	1,000,000	9,300,000
	EN08024	RP-1 Digester No. 3 Roof Repair	-	-	-	-	-	-	-	-	-	-	-
	EN09021	RP-4 Headworks Retrofit	-	-	-	-	-	-	-	-	-	-	-
	EN09022	SCADA Service Room Modifications and Air	-	-	-	-	-	-	-	-	-	-	-
	EN10010	CCWRF Condition Assessment	60,000	-	-	-	-	-	-	-	-	-	60,000
	EN11032	CCWRF 12 kV Switchgear Repair	-	-	-	-	-	-	-	-	-	-	-
	EP11020	RP2 Digester Cleaning	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	3,500,000
	EP11021	Agency Wide SBS Freezing Protection	-	-	-	-	-	-	-	-	-	-	-
Capital Replacement	EN08013	Plant Equipment Improvements	425,000	575,000	1,000,000	500,000	2,000,000	2,000,000	2,000,000	1,775,000	225,515	-	10,500,515
	EN10012	RP-1 Fuel Cell	100,000	-	-	-	-	-	-	-	-	-	100,000
	EN11045	CCWRF Secondary Clarifiers Rehab Phase 1	290,000	-	-	-	-	-	-	-	-	-	290,000
	EN12003	All Facilities Asset Replacement	-	-	-	-	-	-	-	-	-	-	-
	EP11009	RP1 Aeration Basin Clean Air Panel Repl	-	-	-	-	-	-	-	-	-	-	-
	EP11014	RP1/RP5 Bio-Filter Media Replacement	-	-	-	-	-	-	-	-	-	-	-
	EP11015	Major Facilities Repairs/Replacements	-	-	-	-	-	-	-	-	-	-	-
	EP12002	Major Facilities Repairs/Replacements	500,000	1,000,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	7,100,000
	OA12014	Replacement Automatic Samplers and Refrigerators	-	-	-	-	-	-	-	-	-	-	-
	OA12015	Replacement Automatic Samplers and Refrigerators	-	-	-	-	-	-	-	-	-	-	-
	OA12016	Replacement Automatic Samplers and Refrigerators	-	-	-	-	-	-	-	-	-	-	-
	PA08012	Replace Bio-Filter Media RP1	-	-	-	-	-	-	-	-	-	-	-
Major Equipment	EN12017	Vactor 300 Combination Truck Repairs	-	-	-	-	-	-	-	-	-	-	-
	EP11008	Purchase Motor Circuit Analysis Tool	-	-	-	-	-	-	-	-	-	-	-
	IS09020	Rplace RP-1 and RP-4 DCS WAN Routers	-	-	-	-	-	-	-	-	-	-	-
	IS09021	DCS Notebook Replacement 6 (AA00611)	-	-	-	-	-	-	-	-	-	-	-
	IS09022	DCS Notebook Replacement 6 (AA00611)	-	-	-	-	-	-	-	-	-	-	-
	IS09024	DCS Network Equipment Replacement	-	-	-	-	-	-	-	-	-	-	-
	IS10021	Replace Records Management Scanner	-	-	-	-	-	-	-	-	-	-	-
	IS11016	Replacement PCs/Laptops	-	-	-	-	-	-	-	-	-	-	-
	TS08001	Technical Service Vehicles	-	-	-	-	-	-	-	-	-	-	-
	ZZ10800	Financial Planning WIP Adjustment (Proj TBD)	-	-	-	500,000	500,000	500,000	500,000	500,000	500,000	500,000	3,500,000
O&M Project	CW10003	CSDLAC Contract #2639	-	-	-	-	-	-	-	-	-	-	-
	EC08017	Regional Brine Management Study	-	-	-	-	-	-	-	-	-	-	-
	EC08019	Pilot Water Softener Rebate Program	-	-	-	-	-	-	-	-	-	-	-
	EN05168	Turbidity Analyzer for Filters	-	-	-	-	-	-	-	-	-	-	-
	EP10001	Major Facilities Repairs/Replacements	-	-	-	-	-	-	-	-	-	-	-
Reimbursable Project	PK11001	Water Discovery Field Trip & Bus Grant	44,050	44,050	44,050	44,050	-	-	-	-	-	-	176,200
	PK11002	Annual Earth Day Event	15,400	15,400	15,400	15,400	-	-	-	-	-	-	61,600
			2,709,450	**2,834,450**	**2,834,450**	**2,809,450**	**3,800,000**	**4,850,000**	**3,850,000**	**5,575,000**	**2,775,515**	**2,550,000**	**34,588,315**

RECYCLED WATER FUND - WC

Project Type	Project Number	Project Description	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	Total TYCIP 11/12 - 20/21
Capital Construction	EN05012	Land Phase II Recyc Wtr Proj	-	-	-	-	-	-	-	-	-	-	-
	EN05057	RP5/RP2 Recyc Water Pipelines	-	-	-	-	-	-	-	-	-	-	-
	EN06023	RW Lns Reb Cty Chino	-	-	-	-	-	-	-	-	-	-	-
	EN06025	Wineville Ext Recy Wtr Piplne	8,383,787	3,220,071	-	-	-	-	-	-	-	-	11,603,858
	EN07010	930 W.Reservoir & Pipeline	7,561,747	9,230,599	400,000	400,000	-	-	-	-	-	-	17,592,346
	EN07015	7th & 8th St SB Pipeline	-	-	-	-	-	-	-	-	-	-	-
	EN08018	1630 W Reservoir & Pipeline	2,470,468	-	-	-	-	-	-	-	-	-	2,470,468
	EN09001	Heritage Village Lateral	-	-	-	-	-	-	-	-	-	-	-
	EN09002	Church Street Lateral	25,000	-	-	-	-	-	-	-	-	-	25,000
	EN09003	1630 W Pipeline Phase 2 & Lateral	1,829,841	-	-	-	-	-	-	-	-	-	1,829,841
	EN09007	1630 E Pipeline Segment B	-	-	-	-	-	-	-	-	1,000,000	4,400,000	5,400,000
	EN09008	Chino Hills Storage	-	-	-	-	-	-	-	-	-	-	-
	EN09009	1630 W Pipeline Phase 3	-	-	-	-	-	-	-	-	-	-	-
	EN09012	Victoria & San Sevaine - Wells & Lysimet	25,000	-	-	-	-	-	-	-	-	-	25,000
	EN10001	RP-5 Recycled Water Pump Station Expansi	25,000	-	-	-	-	-	-	-	-	-	25,000
	EN10007	Misc WC Construction Projects & Emergenc	-	-	-	-	-	-	-	-	-	-	-
	EN11015	CM Misc RW Construction & Emerg Proj	-	-	-	-	-	-	-	-	-	-	-
	EN11025	Misc Recycled Water Projects FY1011	-	-	-	-	-	-	-	-	-	-	-
	EN11030	Northwest Communication Tower	150,000	-	-	-	-	-	-	-	-	-	150,000
	EN11033	Temporary Turner Basin Turnout	5,000	-	-	-	-	-	-	-	-	-	5,000
	EN11046	RP-1 930 PS Fifth Pump	100,000	-	-	-	-	-	-	-	-	-	100,000
	EN11048	1630 W. Pump Station Communication Tower	20,000	-	-	-	-	-	-	-	-	-	20,000
	EN11049	1630 W. Reservoir Communication Tower	20,000	-	-	-	-	-	-	-	-	-	20,000
	EN11050	Turner Basin Turnout Capacity Improvemen	450,000	50,000	-	-	-	-	-	-	-	-	500,000
	EN12007	Misc Recycled Water Projects FY1011	170,000	230,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	2,000,000
	EN12010	CM Misc RW Construction & Emerg Proj	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	2,000,000
	EN19002	800 Zone Reservoir	-	-	-	-	-	-	-	1,500,000	1,500,000	400,000	3,400,000
	EN19003	RP-1 Outall Parallel Line	-	-	-	-	-	-	-	1,500,000	3,000,000	1,200,000	5,700,000
	PU09908	Public Retrofit IEUA	-	-	-	-	-	-	-	-	-	-	-
	WR04016	Recycle Wtr Dist Sys - Ph II	-	-	-	-	-	-	-	-	-	-	-
	WR04441	RP-4 1158 & 1270 PZ Pmp Stns	-	-	-	-	-	-	-	-	-	-	-
	WR04444	RP1 South RW Pump Station	-	-	-	-	-	-	-	-	-	-	-
	WR04445	West Edison SAC RW Pipeline-A	-	-	-	-	-	-	-	-	-	-	-
	WR04446	San Antonio Channel Pipelin-B	-	-	-	-	-	-	-	-	-	-	-
	WR08020	Misc Connections and Retrofits	425,000	125,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	950,000
	WR08023	1630 W Pipeline Phase 1	914,338	-	-	-	-	-	-	-	-	-	914,338
	WR08027	1299 E Pipeline	25,000	-	-	-	-	-	-	-	-	-	25,000
	WR08028	1299 E Res Conv & 1630 E Pump Station	25,000	-	-	-	-	-	-	-	-	-	25,000
	WR08029	1630 E Pump Station	-	-	-	-	-	-	-	-	-	-	-
	WR08030	Baseline Regional Pipeline	-	-	-	-	-	-	-	-	-	-	-
	WR08031	1630 E Pipeline Segment A	25,000	-	-	-	-	-	-	-	-	-	25,000
	WR08032	1630 W Pump Station	1,333,662	-	-	-	-	-	-	-	-	-	1,333,662
	WR09012	Recycled Water SCADA Masterplan	-	-	-	-	-	-	-	-	-	-	-
Capital Replacement	EN05055	Misc WC Construction Projects & Emergenc	-	-	-	-	-	-	-	-	-	-	-
Major Equipment	LB11001	Automated Extraction System	-	-	-	-	-	-	-	-	-	-	-
	RW08002	Transmit Time Flow Meter	-	-	-	-	-	-	-	-	-	-	-
O&M Project	CW16011	Recycled Water OE Projects FY10/11	-	-	-	-	-	-	-	-	-	-	-
	CW16012	Recycled Water OE Projects FY10/11	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	500,000
	CW26110	Recycled Water Reimb Projects FY 09/10	-	-	-	-	-	-	-	-	-	-	-
	EC12019	Pilot Water Softener Rebate Program	120,000	120,000	-	-	-	-	-	-	-	-	240,000
	PL05012	Max Benefit Basin Plan Monitor	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	300,000
	PU09909	Public Retrofit IEUA - Other	-	-	-	-	-	-	-	-	-	-	-
	TS09004	Abandon Turner Well #1	-	-	-	-	-	-	-	-	-	-	-
	WR11017	Turner Basin/Guasti Park Multi Use Project	200,000	-	-	-	-	-	-	-	-	-	200,000
Reimbursable Project	CW16009	Recycled Water OE Projects	-	-	-	-	-	-	-	-	-	-	-
	CW16010	Recycled Water OE Projects - FY0910	-	-	-	-	-	-	-	-	-	-	-
	CW16110	Recycled Water Reimb Projects FY 09/10	-	-	-	-	-	-	-	-	-	-	-
	EN11047	Memorial Park Lateral 11th Street Latera	665,000	-	-	-	-	-	-	-	-	-	665,000
	LA05911	Lateral Project MVWD IEUA and Grants	-	-	-	-	-	-	-	-	-	-	-
	LA06911	Lateral Project Ontario IEUA and Grants	-	-	-	-	-	-	-	-	-	-	-
	PR05909	Private Retrofit MVWD Other IEUA Reimb	-	-	-	-	-	-	-	-	-	-	-
	PR06910	Private Retrofit Ontario Other Private R	-	-	-	-	-	-	-	-	-	-	-
	PU05407	Public Rerofit MVWD Schools	-	-	-	-	-	-	-	-	-	-	-
	PU05507	Public Rerofit MVWD Parks	-	-	-	-	-	-	-	-	-	-	-
	PU06407	Public Retrofit Ontario Schools	-	-	-	-	-	-	-	-	-	-	-
	PU06507	Public Retrofit Ontario Parks	-	-	-	-	-	-	-	-	-	-	-
	PU06607	Public Retrofit Ontario Medians	-	-	-	-	-	-	-	-	-	-	-
	PU09709	Public Retrofit IEUA NRW User	-	-	-	-	-	-	-	-	-	-	-
	WR08018	GWR Relative Risk Assessment	50,750	-	-	-	-	-	-	-	-	-	50,750
			25,299,593	**13,255,670**	**930,000**	**930,000**	**530,000**	**530,000**	**530,000**	**3,530,000**	**6,030,000**	**6,530,000**	**58,095,263**

RECHARGE WATER FUND - RW

Project Type	Project Number	Project Description	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	Total TYCIP 11/12 - 20/21
Capital Construction	**EN11012**	Jurupa Pump Station Air Conditioning	-	-	-	-	-	-	-	-	-	-	-
	EN11013	Hickory Basin Conservation Berm Outlet M	-	-	-	-	-	-	-	-	-	-	-
	TS07004	Recharge Enhancement Project	140,000	-	-	-	-	-	-	-	-	-	140,000
Capital Replacement	**GW11001**	FEMA 2010 Storm Damage Basin	269,000	-	-	-	-	-	-	-	-	-	269,000
Major Equipment	**IS13005**	Server Replacement	-	50,075	-	-	-	-	-	-	-	-	50,075
O&M Project	**GW08003**	Vegetation Monitoring @ Prado	-	-	-	-	-	-	-	-	-	-	-
	GW09001	San Sevaine Channel Repair	-	-	-	-	-	-	-	-	-	-	-
	TS07007	Abandon Well Near Turner No.3	-	-	-	-	-	-	-	-	-	-	-
Reimbursable Project	**GW09003**	CEQA Compliance of Peace 2	-	-	-	-	-	-	-	-	-	-	-
	PL05403	8th Street Bsns#1,2,-FEMA	-	-	-	-	-	-	-	-	-	-	-
	PL05415	"Ely Basins #1,2-FEMA Pkg#66"	-	-	-	-	-	-	-	-	-	-	-
			409,000	**50,075**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**459,075**