ADOPTED
FY2019-20 ANNUAL BUDGET

Operations and Capital Budget

Victor Valley Wastewater Reclamation Authority
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JULY 18, 2019

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Victor Valley Wastewater Reclamation Authority
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July 18, 2019

1 Budget Summary

1.1 OVERVIEW – REVENUES AND EXPENSES

This document includes the budget information for the fiscal year ending June 30, 2020 (hereafter referred to as FY 2020) for Victor Valley Wastewater Reclamation Authority (VVWRA or agency). The agency hopes the table of contents and glossary will help you locate information.

VVWRA Percolation Pond

VVWRA uses enterprise accounting to account for three divisions, (1) Operations and Maintenance Fund for daily activities, (2) Repairs and Replacements Fund for periodical repair and replacement work, and (3) Capital Fund for capital projects. VVWRA provides wastewater processing services to four member agencies; City of Victorville, City of Hesperia, Town of Apple Valley, and two areas of San Bernardino County Special Districts. Among the total operating revenue of $17.9 million budgeted for FY 2020, $14.5 million represents user fee revenue. We process wastewater, on the average, of 59% from the City of Victorville, 18% from the City of Hesperia, 17% from the Town of Apple Valley, and the remaining 6% from the two areas of San Bernardino County Special Districts. Other income includes septage processing fees; tipping fees for anaerobically digestible materials, fats, oils, and grease; sludge flow; industrial pretreatment fees; and reclaimed water sales; and high strength surcharge fees. In addition, we estimated the connection fee revenue of $2.3 million for the construction of capital projects stated at pages 56 and 57. The connection fee revenues are based on the connection fee rate $4,679 per EDU that is effective on October 1, 2019.

The FY 2020 budget excludes retention of $3.9 million from the Federal Emergency Management Agency (FEMA) and the California Governor's Office of Emergency Services (Cal OES) for the Upper Narrows Replacement and Emergency Projects that has been outstanding for the previous two years. The only existing grant from California Energy Commission for an energy battery project is not shown as a line item, being offset with payments to a manufacturer and other vendors. A grant from USDA has not been materialized and no loan proceeds are anticipated during the year ending June 30, 2020 for an Oro Grande interceptor project.

VVWRA has a budget of a total expense of $20.9 million consisting of $14.9 million for operations and maintenance, $2.7 million for repairs and replacements, and $3.3 million for capital projects. These expenses exclude non-cash item, such as depreciation expense. The agency predicts the total budgeted *deficit* of $3.0 million for FY 2020 under the assumption that the agency will operate only one of the sub-regional plants during the FY 2020. The agency has postponed various maintenance projects in prior years. As a result, it cannot further delay the necessary maintenance. Under the circumstances, the agency is unable to maintain a balanced budget for FY 2020, where the operating and capital revenues roughly equal the total expenses, and relies on an inter-fund loan from Capital Fund to maintain the operations.

1.2 CAPITAL PROJECTS AND THEIR EXPENDITURES

VVWRA has completed its five-year major capital improvement program during FY 2019 and plans another five year capital projects for FY 2020 through FY 2024, continually providing quality wastewater treatment services to the service areas.

These capital projects are in three categories: (1) wastewater treatment, (2) interceptor, and (3) energy efficiency projects. Most of these projects will be funded by operation and repair/replacement cash reserves, an inter-fund loan from Capital Fund, or the grant from California Energy Commission for the energy battery project (page 4) and potential USDA grant for an Oro Grande Interceptor project.

Regional Plant Digesters

1.2.1 Wastewater Treatment Plants:

VVWRA had predicted less hydraulic load on the Hesperia and Apple Valley interceptors by operating two water reclamation plants in these two areas to handle the agency's increased overall wastewater capacity. However, the economic circumstances due to insufficient operating funds would not give the agency a choice but to postpone the operation of the Apple Valley plant for FY 2020. The plant in the City of Hesperia will continue to provide reclaimed water to residential communities and commercial businesses along the I-15 corridor.

Hesperia Wastewater Reclamation Plant

The plant in the Town of Apple Valley would also provide reclaimed water to the public parks in Apple Valley once the operation starts. In addition to State Revolving Fund loans (page 5), these two plant construction was funded through Title 16 grant from Bureau of Reclamation, United States Department of the Interior; the grants from Propositions 1, 13, and 50 through California State Water Resources Control Board; and the grant from Proposition 84 through Department of Water Resources, State of California.

Apple Valley Wastewater Reclamation Plant

1.2.2 Interceptor Projects:

The gravity interceptors transport a majority of the wastewater from the surrounding cities in the service areas to VVWRA's wastewater treatment plants. While the agency continues to upgrade its treatment facilities to handle the increased flow, the agency has successfully increased its interceptor capacity utilizing the pipelines associated with the Hesperia and Apple Valley plants, the Nanticoke pipeline, and the Upper Narrows Interceptor pipelines.

1.2.3 Energy Efficiency Projects:

In order to cope with high demand on electricity from the Phase III-A ultraviolet infection treatment and to sustain consistent supply of electricity, VVWRA is in process of implementing a series of energy efficiency projects. To attain this goal, the agency has been working with a manufacturer of micro-grid battery storages. The manufacturer has promised to complete this project during the fourth quarter of 2019. With the successful completion of this project, the agency could safeguard itself from unavoidably receiving low voltage electricity from Southern California Edison by storing electricity onsite. This project is funded by a California Energy Commission grant of $1.7 million with VVWRA matching of $902,215 that incurred in previous years.

1.3 ENVIRONMENTAL AND REGULATORY

The State Water Code authorizes VVWRA, the regional sewer service provider, to implement a regional reclaimed water permit program similar to the existing Industrial Pretreatment Program. Under this Master Permit, VVWRA is responsible for permitting and monitoring reclaimed water users, expediting a more efficient permit process rather than relying on individual permits obtained through Lahontan Regional Water Quality Control Board.

1.4 DEBTS – STATE REVOLVING FUND (SRF) LOANS

The agency has conducted its financial planning for the next five years, FY 2020 through FY 2024. The negative budget balance reflects 8% increase in user fees and new connection fees effective October 1, 2019 in order to at least comply with debt coverage ratio of 1.2 as specified in the loan agreements with the State Water Resources Control Board. Reflecting member agencies' comments, our challenge includes a balanced budget where the user fees sufficiently cover the operational expenses without relying on capital revenues, i.e. connection fees, which are exclusively earmarked for capital projects.

Although there are no applicable legal debt limits for VVWRA to adhere to, the agency is challenged with the loan contractual obligation of maintaining the annual debt service reserve for the SRF loans.

During the past years, VVWRA postponed the implementation of its necessary and required several repair and replacement projects. Because of the delay of unavoidable repair work, we now face the necessity to perform these postponed repair and replacement projects during FY 2020.

Regional Secondary Clarifiers

1.5 LONG TERM FINANCIAL PLANS

The assumption for the FY 2020 budget is the agency will increase user rates and connection fees and not receive any of its outstanding or uncollected revenues. The outstanding or uncollected revenues may exceed $3 million. The timing of the collection of this revenue is unknown; therefore, VVWRA will continue to review and update its long term financial plan every six months.

1.6 CONCLUSION

The significant financial issue for the year FY 2020 is the budget is not balanced and illustrates insufficient cash balances in the Operations Fund and the Repairs and Replacements Fund. The agency will utilize the inter-fund loan from its Capital Fund cash balance to cover the insufficient cash. As stated above, VVWRA will continue to review and update its long term financial plan every six months and report those findings to the Board of Commissioners.

Chieko Keagy, CPA

Controller

1.7 GFOA DISTINGUISHED BUDGET PRESENTATION AWARD FOR THE FISCAL YEAR BEGINNING JULY 1, 2018

GOVERNMENT FINANCE OFFICERS ASSOCIATION

Distinguished Budget Presentation Award

PRESENTED TO

Victor Valley Wastewater Reclamation Authority

California

For the Fiscal Year Beginning

July 1, 2018

Christopher P. Morrill

Executive Director

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2 Financial Structure, Policy and Process

2.1 GOVERNANCE

VVWRA is governed by a four-member Governing Board represented by an elected official of member agencies.

Board of Commissioners

As of June 30, 2019

Larry Bird

Treasurer

City of Hesperia

Robert Lovingood

Chair

County of San Bernardino

Scott Nassif

Vice Chair

Town of Apple Valley

Jim Cox

Secretary

City of Victorville

2.2 THE MISSION OF VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

Is…

To cost-effectively provide professional, competent wastewater treatment, reclamation, recycling, and reuse,

To maintain the environment by providing clean effluent to the community,

To provide a service to our customers, and

To keep the public informed.

By…

Selecting quality employees,

Effectively communicating at all levels,

Providing effective training,

Encouraging participation in water and wastewater organizations,

Working together as a 'TEAM', and

Providing the budget for projects and personnel.

Motivated by…

Creating and maintaining a positive work environment,

Recognizing individual and group efforts, and

Providing competitive pay and benefits.

Measured by…

Meeting budgetary goals,

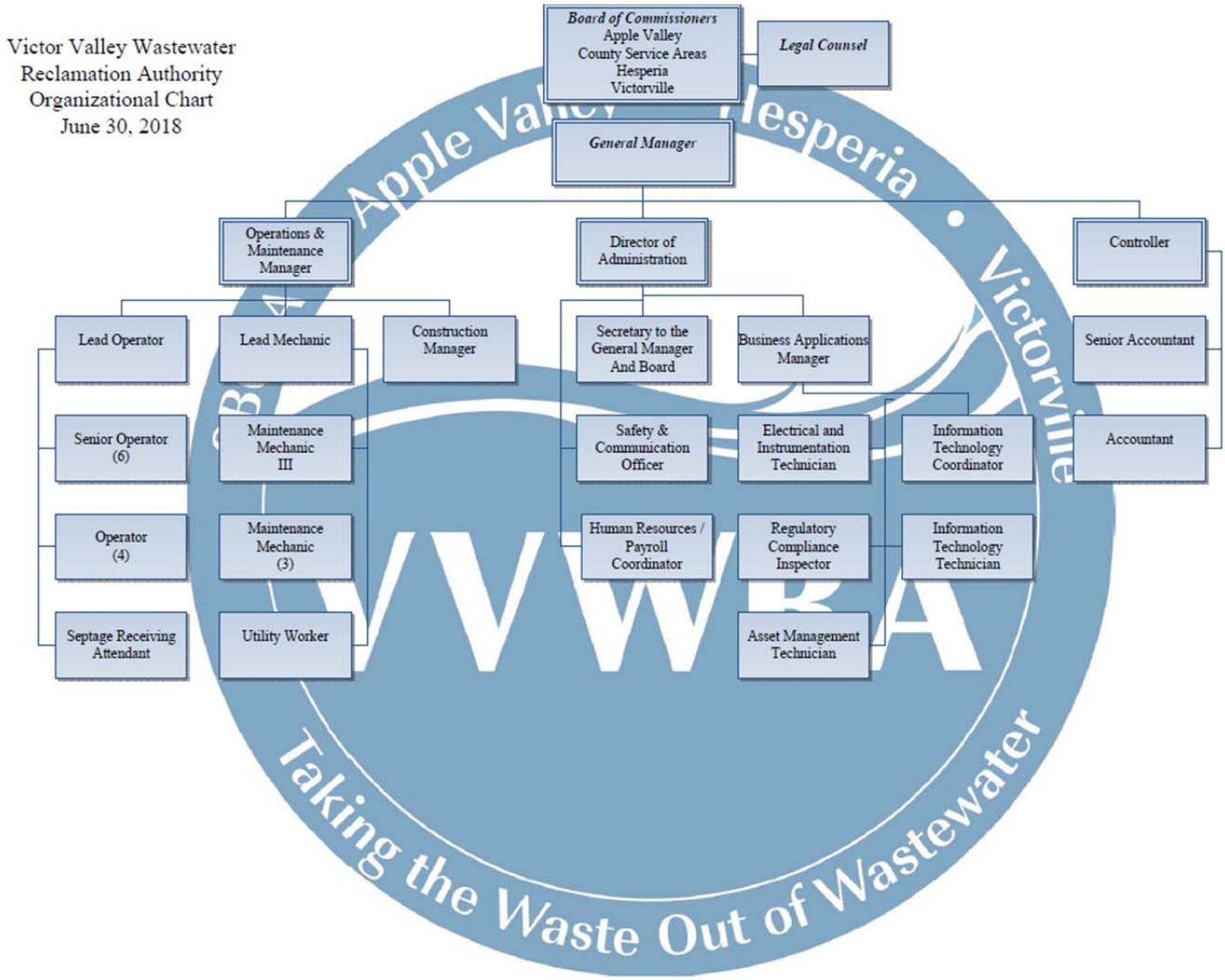
Meeting the standards for regulatory compliance,

The successful completion of projects,

Employee retention, and

A cooperative effort during emergencies.

2.3 ORGANIZATIONAL CHART



2.4 OUR ORGANIZATION

2.4.1 We are Here to Serve Our Member Agencies

The Board of Commissioners consists of four elected officials representing each member agency from the Town of Apple Valley, City of Hesperia, City of Victorville, and County of San Bernardino Two Service Areas.

The main function of Victor Valley Wastewater Reclamation Authority (VVWRA) is to receive wastewater from four member agencies and to process the wastewater then to discharge the cleaned water to the Mojave River. The VVWRA conducts its businesses based on an Enterprise Accounting System that is an accrual accounting system, similar to a regular business accounting method, by recording revenues and expenses as incurred instead of recognizing transactions when cash is received or paid. The enterprise accounting system is established based on three funds, (1) Operations and Maintenance Fund, (2) Repairs and Replacement Fund, and (3) Capital Fund. Please see how each department uses these funds as shown at the illustration below. The Repairs and Replacement Fund is to show periodical repairs and replacement costs separately from normal operations and maintenance. Our main revenues are 'user fees' generated from processing (cleaning) wastewater that the member agencies send and connection fees charged to connect to the agency's system. The main distinction between the user fees and connection fees is that the user fees are associated with daily operations, while the connection fees are used for capital projects as new users will hook up to the system that may require further expansion of our infrastructure. In addition to operation expenses, we normally incur large sums of capital expenditures to improve and expand the infrastructure to fulfill member agencies' needs.

The main functions for each department are explained below.

- **Operations (OM – Fund 01 and 07)** adheres to State and Federal rules and regulations with no or minimum overflow incidences. The OM includes the operations, maintenance, and laboratory functions, which are to perform repairs and maintenance of equipment and to enforce regulatory compliance by testing samples utilizing a third-party laboratory vendor.

- **Construction (Const – Fund 09)** meets the member agency's expansion needs within the limited budget with one staff.

- **Administration (Adm – Fund 01 and 07))** encompasses Environmental Compliance, Management Information System, Finance, and Human Resources with 12 staff.

- Environmental Compliance and Management Information System (EC/MIS) enforces regulatory compliance including safety compliance and maintenance of computer integrity.

- Finance compiles and publishes Comprehensive Annual Financial Reports and annual budgets. The agency maintains high accounting standards that are evidenced by consecutively winning GFOA awards.

2.4.2 Goals and Objectives of Each Function

Below are goals and objectives of each function:

- The goal of **Operations** is to protect Victor Valley's environment and quality of life while creating reusable resources cost-effectively to the residents of the Victor Valley community. The Operations department provides effective and efficient advanced wastewater treatment, high-quality treated effluent that complies with 100% of all local, state and Federal requirements. Consistent with VVWRA's goals, the Operations' goal is summed up to improve water quality to protect the environment, wildlife and recreational uses of the waters from the nearby Mojave River and Downstream Mojave River Basin beneficial uses. The Operations department is staffed 24 hours a day 365 days per year by 14 highly trained wastewater treatment plant operators.

- The goal of **Construction** is to manage infrastructure construction projects to ensure that the scope of work is budgeted and completed to the appropriate quality standards in a safe manner to meet the member agencies' expansion and repair needs.

- The goal of **Maintenance** is to provide a high level of cost-effective services to all sections of the agency. This cost effectiveness is accomplished based on preventive maintenance approaches resulting in control of wasteful maintenance and in the planning of all work activities with the skilled eight staff. The maintenance department maintains the 300 plus acre wastewater treatment plant, in addition to two newly constructed reclamation plants with adjacent pump stations, vehicle fleet, portable auxiliary equipment, and 40 miles of sewer pipeline. The maintenance department consists of eight highly skilled craftsmen who are responsible for maintaining the agency's capital assets worth of 199 million dollars, working effectively and efficiently to comply with local, state and Federal requirements.

- The goal of **Environmental Compliance and Management Information System** (EC/MIS) is to ensure that the agency is in compliance with all environmental laws, providing VVWRA with the latest technologies and support,

educating the users and promoting the new technology as an integral component of VVWRA's vision. This effort includes implementation of computerized maintenance management systems that keep track of the maintenance inventory more efficiently. The EC department implements and enforces VVWRA's Industrial Pretreatment Program to prevent upset, interference, and pass-through at the wastewater treatment facility, to ensure beneficial reuse of plant effluents and bio-solids, to protect the structure and integrity of the sewerage collection system, to ensure the safety of personnel working in the system and to protect the health and safety of the public and environment. The EC/MIS department is staffed by skilled professionals, certified for Environmental Compliance Inspection, Collection System Maintenance, Industrial Pretreatment Plant Operation, Drinking Water Treatment and Drinking Water Distribution.

The MIS department envisions an electronic network capable of distributing voice and data technology to all VVWRA staff. In this vision, VVWRA staff becomes users of the global information network with direct access to information and resources around the world. All of our effort is dedicated to provide the operations, maintenance, and administration personnel with electronic access to information and to enrich communication among them. To achieve our technological mission and materialize our vision, the staff is committed to employ all accessible and financially feasible technologies to support and educate all of our staff.

- The goal of **Finance** is to record approved revenues and expenses in a proper period based on the enterprise accounting and in compliance with the Commissioners-Approved budget and to create the Comprehensive Annual Financial Reports. In addition, its responsibilities include billing timely, collecting fees, establishing and monitoring internal control systems, preparing annual budgets and various financial reports, and administering general accounting including payroll. The Finance department has skilled professionals with certifications of certified public accountants.

- The goal of **Administration** is to ensure a fair and equitable employment selection process, as well as to maintain, administer and implement VVWRA's policies and programs.

2.5 BUDGETED POSITIONS

2.5.1 Administration Positions

DESCRIPTION	FISCAL YEAR ENDING JUNE 30				
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Director of Administrative Services	1	1	1	1	1
General Manager	1	1	1	1	1
Administrative Aide	1	1	0	0	0
Secretary - GM/Board	1	1	1	1	1
Public Information Officer	1	1	1	1	1
Director of Finance	0	1	1	0	0
Controller	0	0	0	1	1
Accounting Supervisor	1	1	1	0	0
Senior Accountant	0	0	0	1	1
Accountant I	1	1	1	1	1
Account Technician	1	1	1	0	0
Human Resource Technician	1	1	1	1	1
IT Supervisor	1	0	0	0	0
IS Coordinator	1	1	1	1	1
IT Technician	0	1	0	1	1
IT/Env Comp Supervisor	0	1	0	0	0
Lead Environmental Compliance Inspector	1	0	0	0	0

DESCRIPTION	FISCAL YEAR ENDING JUNE 30				
Environmental Compliance Safety Admin Aide	1	1	1	0	0
Environmental Compliance Inspector-in-Training	1	0	0	0	0
Environmental Compliance Inspector	0	1	1	1	1
EC/IT Supervisor	0	0	1	0	0
Business Applications Manager	0	0	0	1	1
Total Positions - Administration	**14**	**15**	**13**	**12**	**12**

2.5.2 Operations

DESCRIPTION	FISCAL YEAR ENDING JUNE 30				
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Director of Operations	1	1	1	0	0
Operations/Maintenance Manager	0	0	0	1	1
Operations & Maintenance Supervisor	1	1	1	0	0
Lead Operator	1	1	1	1	1
Operator III	6	6	0	0	0
Operator-in-Training	2	2	1	0	0
Operator	4	4	4	4	6
Senior Operator	0	0	5	6	6

DESCRIPTION	FISCAL YEAR ENDING JUNE 30				
Septage Receiving Attendant	1	1	1	1	1
O&M Clerk	1	1	0	0	0
Asset Management Technician	0	0	0	1	1
Lab & Environmental Compliance Supervisor	1	1	0	0	0
Lab Tech I	1	2	0	0	0
Lab Tech II	1	0	0	0	0
Total Positions - Operations	20	20	14	14	16

2.5.3 Maintenance

DESCRIPTION	FISCAL YEAR ENDING JUNE 30				
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Maintenance Supervisor	1	1	0	0	0
Electrical / Instrumentation Tech	2	1	0	0	0
Electrical / Instrumentation Tech II	0	1	0	0	1
Electrical / Instrumentation Tech II	0	0	0	1	1
Electrical / Instrumentation Tech IV	1	1	1	0	0
Maintenance Planner	1	1	0	0	0
Mechanical Tech I	1	1	0	1	0
Mechanical Tech III	2	2	0	1	1

Lead Mechanic	0	0	1	1	1
Maintenance Mechanic	0	0	1	0	5
Maintenance Mechanic in Training	3	3	3	3	0
Utility Worker II	1	1	1	1	1
Total Positions – Maintenance	**12**	**12**	**7**	**8**	**10**

2.5.4 Construction

DESCRIPTION	FISCAL YEAR ENDING JUNE 30				
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Project Construction Manager	0	0	1	1	1
Construction & Energy Efficiency Manager	1	1	0	0	0
Total Positions – Construction	**1**	**1**	**1**	**1**	**1**

2.6 POLICIES

2.6.1 Reserve Policy

The Reserve Policy establishes fund reserve balances to maintain adequate cash reserves to comply with a debt coverage requirement for State Revolving Fund (SRF) loans from State Water Resources Control Board and to handle the possible emergency expenditures in future. The Reserve Policy covers three types of reserves: Operations and Maintenance reserve, Repairs and Replacement reserve, SRF loan reserve. The reserve balances are to be revised annually with adoption of the budget.

The Operations and Maintenance Reserve is funded by operating revenue and equals to 10% of the budgeted total operating expenses for the prior fiscal year. In addition, the Repairs and Replacement Reserve includes 1% of the sum of land improvements, buildings, and interceptors. The SRF loan reserve is funded by both operating and non-operating revenues in order to maintain a sufficient reserve to meet the agreement provision of maintaining one fiscal year's debt service payments.

The Operations and Maintenance Reserve is $1.44 million and the Repairs and Replacement Reserve is $2.95 million as of June 30, 2019. The SRF loan reserve for the year ending June 30, 2019 is $5.29 million.

2.6.2 Procurement Policy

The Procurement Policy lays the guidance for internal controls for the purchases of goods, services and capital expenditures required by VVWRA within the established limits. The policy requires two signatures on a check and a wire transfer issued based on approved purchase orders.

Supervisors are each authorized to approve expenses up to a limit of $5,000 on any one order or contract. The Construction Manager and the Department Directors are authorized to approve expenses up to a limit of $10,000 on any one order or contract. The General Manager is authorized to approve expenses up to a limit of $30,000 on any one order or contract. The VVWRA Board of Commissioners approves all expenses in excess of $30,000, except for certain recurring expenses such as utilities, process chemicals, permit fees, and other expenses as defined in the policy, and must approve all construction contract change orders. Generally, the selection of purchases of materials, supplies, equipment, and contractual services having an estimated value of more than $2,000 should be considered based on a minimum of three quotes. Purchases of goods and services having an estimated value of more than $30,000 should be made through a competitive sealed bid process defined in the policy.

Almost all of our construction contracts fall in this category. Such contracts are awarded through public bids.

2.6.3 Investment Policy

The Investment Policy provides guidelines for the prudent investment of VVWRA's temporary idle cash with the primary objectives of safety, liquidity and yield under provisions of the California Government Code Section 53600.3. Authorized investments include California State Treasurer's Local Agency Investment Fund (LAIF); Investment Trust of California; San Bernardino County Local Agency Investment Fund; United States Treasury Bills, Notes and Bonds; insured Certificate of Deposits; and Money Market Mutual Funds.

The majority of VVWRA's investments is in LAIF and Cal TRUST.

2.6.4 Other Policies

2.6.4.1 Debt Coverage:

VVWRA maintains a cash reserve at least equal to the annual debt payment amount required by State Water Resources Control Board for the existing SRF loans specified as:

1. The financing agreement shall pledge the net revenue of the recipient for repayment of the proposed SRF financing agreement. This pledged revenue source shall be subject to lien and pledge as security for the obligation.

2. The recipient shall establish a restricted reserve fund, held in the recipient's fund, equal to one year's debt service prior to the construction completion date of the project. The reserve fund shall be maintained for the full term of the finance agreement and shall be subject to lien and pledge as security for the obligation.

3. The recipient shall establish rates and charges sufficient to generate net revenues of at least 1.2 times the total annual debt service.

The annual debt principal payment amounts for the year ending June 30, 2019 is $4.00 million. As more SRF loans were added during FY 2015 for Upper Narrows Replacement, Nanticoke, and two Sub-regional projects; the annual due amount including interest payment will be more than $5.00 million during peak years.

Hesperia Lift Station

2.6.4.2 Revenues – Rate Ordinance:

VVWRA specifies fees in Fee Ordinance to meet operation needs and most of reserve requirements. The fees, such as connection fees, user charges, high strength surcharges, and septage receiving fees are posted at http://www.vvwra.com/depts/finance/fee_schedule.htm and updated each year. The connection fees are designed to fund capital projects.

These connection and user fees were determined with several discussions with the member agencies to reflect ideas recommended by a five-year financial plan. Due to recent drastic decline in housing market in the high desert where we serve, the revenues from connection fees are not sufficient to support the capital projects. To supplement the funding of the capital projects, VVWRA has obtained federal and state grants in addition to the SRF loans.

2.6.4.3 Overhead Allocation to Project:

VVWRA records overhead expenses such as legal counsel, engineer consulting, and audit fees as administration costs that are a part of the operation expenses. The personnel costs are also allocated among departments based on the hours the employees spend.

2.7 BUDGET PREPARATION AND REVIEW PROCESS

2.7.1 Basis of Budgeting

Victor Valley Wastewater Reclamation Authority (VVWRA) employs a fiscal year beginning July 1. VVWRA prepares its annual budget based on an accrual accounting method (which recognizes revenues and expenses when they incur) excluding non-cash depreciation expense but including loan proceeds and the related repayments to present the fund inflows and outflows. We have included the reconciliation of FY 2018 actual to FY 2018 Comprehensive Annual Financial Report later in the document.

2.7.2 Balanced Budget

A balanced budget is when VVWRA's overall revenues are equal to or exceed its overall expenses. Regrettably, the FY 2020 budget shows the *deficit* with unavoidable repair and replacement expenses.

2.7.3 Budget Process

VVWRA managerial staff inputs budgetary estimates for the following year with their departmental goals in mind at the beginning of the budgetary process. Based on these inputs, the Finance Department prepares the draft budget. The senior management including the General

Manager reviews the draft budget. The General Manager predicts capital project costs based on the member agency's needs. The Finance Department incorporates the data in to the draft budget.

The draft budget is presented to the External and Internal Financial Committees that consist of the member agencies for their close review. The revised draft budget is presented to the Financial Committees again to incorporate further recommendations in a proposed budget. After the revisions, the proposed budget is presented to the Board of Commissioners. Any additional comments are incorporated into the proposed budget. Then the Financial Committee finalizes the recommendations and the Committee presents the budget to the public hearing and Board for approval.

The Mojave River

VVWRA reviews and compares its performance to the budget at a mid-year point at around January. If any amendments are necessary, the finance staff revises the budget accordingly then present the revised budget to the Board for approval in February. The approved budgets are posted at VVWRA's website.

2.7.4 Budget Calendar

The following budget calendar shows our preparation and review process timeline.

VVWRA BUDGET PLANNING – FY2019-2020	REQUIRED BY DATE
Budget Kickoff Meeting	01/31/19
Update actual numbers and prepare for new budget cycle	01/17/19
Present the budget draft at Managers' meeting	03/07/19
Present the first draft budget to General Manager (GM) for review	03/14/19
Hold a preliminary staff budget review meeting with Supervisors and GM	03/28/19
Provide the draft changes to Controller	04/04/19
Present the budget executive summary to Internal Finance Committee	04/11/19
Finalize the draft budget	04/18/19
Present the budget recommendations to Internal and External Finance Committee	04/25/19
Present the second recommendations to Internal and External Finance Committee	05/02/19
Place a public notice on local newspaper to invite public participation	05/08/19
Circulate the budget document to the Board	05/09/19
Board Meeting - Present the budget	05/16/19
Board budget hearing and adoption	06/20/19
The second Board budget hearing and adoption	07/18/19
Apply for GFOA Award for Excellence in Budget Reporting.	07/25/19

Our budget activities are summarized as:

1. Initiate the budget.
2. Prepare a draft budget based on managers' input.
3. Present the draft to Internal and External Finance Committee.
4. Publish a public hearing notice on local newspaper to invite public participation.
5. Present the budget to the Board of Commissioners.
6. Propose any budget amendments, if applicable, when the staff reviews the performance and budget at around January.

Oro Grande Pump Station

3 Goals, Objectives and Strategies

3.1 STRATEGIC GOALS AND STRATEGIES TO BENEFIT THE COMMUNITIES

The goal *of Victor Valley Wastewater Reclamation Authority (VVWRA) is to provide sustainable and cost effective solutions to benefit the communities we serve.* The VVWRA serves an arid region which has historically depleted its groundwater resources. For this reason, the processed wastewater is valued for projects, such as replenishing groundwater, protecting riparian habitat, and generating power plant cooling water. The energy stored in the organic matter delivered in the wastewater can be used to provide heat and power to operate the wastewater treatment plant. Finally, the organic residual resulting from the treatment process can be beneficially reused to amend soil quality and to provide energy to a local cement manufacture, reducing greenhouse gas emissions.

Recycled Water Pipelines

3.2 LONG-TERM STRATEGIES TO PAY BACK SRF LOANS FOR THE SUB-REGIONAL PROJECTS

As the construction of Sub-regional plants was completed during the FY 2018, VVWRA's SRF loans became due in February 2019 (one year after the completion of the construction of the project). The Board has discussed a long-term strategy to pay back these loans timely; the consensus indicates the need for the proper rate adjustments of user charge fees and connection fees. As these loan payments affect both funds, Operations (Fund 01) and Construction (Fund 09), the rate consideration involves both user charge fees (for the Fund 01) and connection fees (for the Fund 09). In FY 2020, the user charge fee will increase by 8%, from $3,503 per million gallons (MG) to $3,783 per MG; in addition, the connection fee will increase by 17%, from $4,000 per equivalent dwelling unit (EDU) to $4,679 per EDU. The increase of fees is intended to ensure that VVWRA remain in compliance with its debt coverage ratio of 1.20 and to have sufficient cash reserve for repayments as required by the loan covenants.

Apple Valley Wastewater Reclamation Plant

3.3 STRATEGIC MEASURES TO ATTAIN THE OBJECTIVES

The VVWRA strives to accomplish objectives by pursuing four fundamental rules; these rules guide staff to evaluate the needs of the member agencies.

Rule #1: Treat the wastewater to the best means possible given the resources available.

VVWRA strives to optimize the wastewater treatment process, while utilizing the resources on hand in an efficient manner.

Rule #2: Obtain the resources to do #1.

VVWRA endeavors to establish reasonable rates, repair and maintain pipelines, and construct facilities to support Rule #1.

Rule #3: Manage liability.

It is every employee's responsibility to act professionally and be mindful of safety protocols to avoid potential liabilities.

Rule #4: Do not confuse governing authority with managerial authority.

The VVWRA Board determines the actions the agency takes. The General Manager implements those actions.

As the staff evaluates each issue by these rules, the staff can prioritize the tasks and focus his or her energy on projects to meet the goals and objectives of VVWRA.

3.4 MARKETING STRATEGIES

The VVWRA's strategic plan incorporates integrated financial planning, successful marketing of the programs it pursues, and partnerships with a private industry.

The two driving forces behind this agency's strategic plan are community growth and regulatory requirements that determine the amount of resources required to address issues. Additionally, the industry as a whole is changing with more focus on regional watershed-based decision making.

Through a series of capital projects, the VVWRA endeavors to achieve the goal of providing sustainable and cost-effective solutions to the surrounding communities. Capital projects such as Westside Plant Phase III-A, Omnivore projects, and an energy storage project allow VVWRA to improve and to expand the infrastructure at its current regional treatment facility to meet new regulatory requirements as well as to expand the plant's treatment capacity.

To expand the operations outside of this Victorville facility, the VVWRA has furthered its quest for sustainability by constructing additional sewer lines and Sub-regional water reclamation plants in the Town of Apple Valley and the City of Hesperia. In addition, a Nanticoke gravity sewer line, approximately 16,250 feet long of 30" PVC pipe, has eliminated the Nanticoke Pump Station, directly connecting to the existing Town of Apple Valley Otoe Pump Station. These Sub-regional plants would allow VVWRA to have sufficient wastewater flow to provide reclaimed water locally and reduce sewage in our over-capacity interceptors. These plants represent the first step in preparing for the people, business, and industry that would sustain regional growth; reducing the overall load on the collection system; and providing recycled water, the valuable and increasingly important resource in this arid region. Another benefit of locating the sub-regional plants farther up the watershed in the vicinity of residential areas will result in saving of the subsequent energy costs of pumping the recycled water back to the recycled water users.

Water is no longer viewed in simplistic terms of water and wastewater. There are now designer waters produced from recycled wastewater. The production of potable water can now include biological filtration. The public is more broadly aware of the direct injection of recycled water into groundwater. The VVWRA's strategic planning incorporates the elements of sustainability, innovation, and successful marketing.

This concept is best exemplified in the publication building of a *wastewater utility brand*, which discusses how to transition from a traditional monopolistic public utility into an agency of creativity and foresight. Also given the fiscal constraints, it is important to consider opportunities to engage private partnerships and to diversify the revenue sources for the agency.

Hesperia Wastewater Reclamation Plant

3.5 OPERATIONS PERFORMANCE:

The following data shows the performance level during the last five years.

DESCRIPTION	FISCAL YEAR ENDING JUNE 30				
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Removal Efficiency					
Biochemical Oxygen Demand	98.90%	98.50%	99.00%	99.07%	98.78%
Total Suspended Solids	99.20%	99.40%	99.50%	99.45%	99.46%
Ammonia Nitrogen	98.60%	98.50%	99.20%	99.54%	99.51%
Number of Active Basins					
Primary Treatment – Active Sedimentation Basins	6.00	6.00	6.00	6.00	6.00
Secondary Treatment – Active Aeration Basins	12.00	12.00	12.00	12.00	12.00
Wastewater Processed					
Percolation Ponds (MG)	2,303.45	1,613.97	1,889.44	1401.40	2,385.33
Tertiary Treatment (MG)	4,414.67	3,921.47	4,820.55	3,879.10	3,948.56
Average Influent (MGD)	12.01	10.72	10.49	10.63	10.52
Total Effluent (MG)	4,416.67	3.921.47	4,820.55	3,879.10	3,948.56
Miscellaneous Operations					
Septage Waste Received (MG)	5.35	6.54	6.82	7.07	6.27
Recycled Water Sold (MG)	284.20	214.66	160.78	54.8	18.76

Notes:

Removal Efficiency: Removal efficiency refers to the average removal of biochemical oxygen demand, total suspended solids and ammonia nitrogen in the overall treatment of wastewater.

Active Basins: VVWRA utilizes sedimentation basins for primary treatment and aeration basins for secondary treatment. From calendar year 2014 to 2018, the number of sedimentation basins has remained at six (out of existing eight basins) and the number of aeration basins has remained at twelve due to the sustained wastewater flow from the member agencies.

Wastewater Processing: VVWRA uses percolation ponds for disposal of secondary effluent which allow the water to slowly seep into the soil. Tertiary treatment is the final level of treatment before the treated wastewater is discharged into the Mojave River.

Miscellaneous Operations: VVWRA operates a septage receiving facility, where the local septage haulers may dispose their waste at the facility for a fee. Recycled water is provided to neighboring American Organics and the High Desert Power Plant for cooling water.

3.6 OPERATIONS DEPARTMENT:

The Operations Department continued to enhance injection of external feed stocks to anaerobic digesters. The 7,427,242 gallons of anaerobically digestible materials, such as food waste, fats, oil and grease were injected to the digesters, increasing the biogas productions by 262% to generate electrical energy. It also eliminated natural gas import for power production resulting in $109,398 annual savings and annual revenue of $307,151 from tipping fees.

Under private and public partnership with Anaergia, the department continues to operate two 2G biogas-powered heat and power generators (CHP) to provide a total of 6,358,902 kWh Renewable Energy during the reporting year, utilizing biogas from anaerobic digester, and making the facility 90% to 100% energy and carbon neutral (self-sustained). The facility CHP system produced electricity to power 585.5 homes for one-year based on US Energy Information Administration Statistics. In addition, 5.4 million British thermal unit (BTU) per hour heat, available from the exhaust was transferred to water that flows through the system heat exchangers to heat the anaerobic digesters eliminating the need for installation, operation and maintenance of external sources such as boilers.

3.7 CONSTRUCTION DEPARTMENT:

The following are the currently known construction projects for the coming year. Depending on cash flow and urgency needs some of the schedules may be modified.

PROJECT NUMBER	PROJECT NAME	DESCRIPTION
1	Sub-regionals Projects, Apple Valley & Hesperia	Projects Completed
2	Drying Beds Repair and Drainage	Project Completed
3	Desert Knolls Wash, Apple Valley Interceptor Realignment	Construction Completed. Project closeout project August 2019
4	Apple Valley Odor Control	Study will follow the operation of the Apple Valley WRP and the Desert Knolls Wash Realignment. Projected for spring 2020.
5	North Hesperia Relief Interceptor	On hold until evaluation of impact from completed Sub-regionals project
6	Spring Valley Lake Relief Interceptor	On hold until evaluation of impact from completed Sub-regionals project
7	Ossum Wash Interceptor	$650,000, on hold awaiting funding
8	Oro Grande Crossing of Mojave River	$5,700,000, awaiting environmental approvals and funding
9	Shay Plant Storm Water Retention	$300,000 Construction Estimate., Currently in bidding. Anticipate construction complete December 2019
10	Digesters 1 - 3 Rehabilitation	$150,000, VVWRA staff working on having operational September 2019
11	Digesters 4 & 5 Structural Evaluation	$200,000, Anticipate evaluation complete by December 2019
12	Digesters 4 & 5 Structural Repairs	Cost will depend on what is found in evaluation. Complete March 2020
13	O & M Building expansion	Design under contract. Anticipate completed design November 2019.
14	Filter Effluent Pump Station	$250,000, on hold waiting on funding

3.8 REGULATORY COMPLIANCE AND INFORMATION SYSTEMS DEPARTMENT:

Electrical and Instrumentation projects completed:

- Otoe Pump Station new automation controls including, new PLC, New VFDs and a New pump
- Installation of the wet well mixing solution at the Otoe Pump and Hesperia Lift Stations
- Installation of Deraggers at Oro Grande Pump Station
- Review of VVWRA data disaster recovery system (local and cloud backups)
- Warehouse, GBT and Micro-grid LED Lighting replacement
- Master blowers Panels Repair
- Digesters 4&5 Spencer Blowers Replacement

Information System Projects completed:

- **Regional Plant SCADA communication improvement project:**
  A new SCADA software solutions by Ignition Software by Inductive Automation implementation started was completed in June 2019 .The new SCADA software offers the following features:
- Web-Based Deployment: Cross-platform software that will let us quickly launch our SCADA system to any computer or device equipped with a web browser.
- Rapid Development: Powerful and intuitive rapid development tools will allow us to spend less time developing and more time innovating.
- Unlimited Licensing: Everything we will need for one affordable price. We will use our existing server hardware and use unlimited number of clients, connections, tags and possibilities.
- Security and Stability: we will create a secure, reliable control system using modern security protocols and a unified architecture with built-in redundancy.
- Easy Expandability: A flexible modular architecture built upon modern IT standards designed to perfectly fit VVWRA's needs.
- **Timeline of SCADA ignition Implementation**

  1. Staff recommendation to request the conversion of the existing Wonderware to Ignition SCADA: July 2017
  2. Request for proposal to convert existing Wonderware to Ignition SCADA: October 2017
  3. Start of implementation: January 2018
  4. Ignition SCADA went Live: March 2019
  5. Final SCADA Alarming implementation: 6/21/19
  6. Project duration :537 days.
  7. Number of Tags tracked :81533 with 46 devices (PLC's) connected
  8. 4 new Dell servers: $48,879.74
  9. Trimax bid winner cost: $263,372.51 (including the cost of Ignition $47,389)

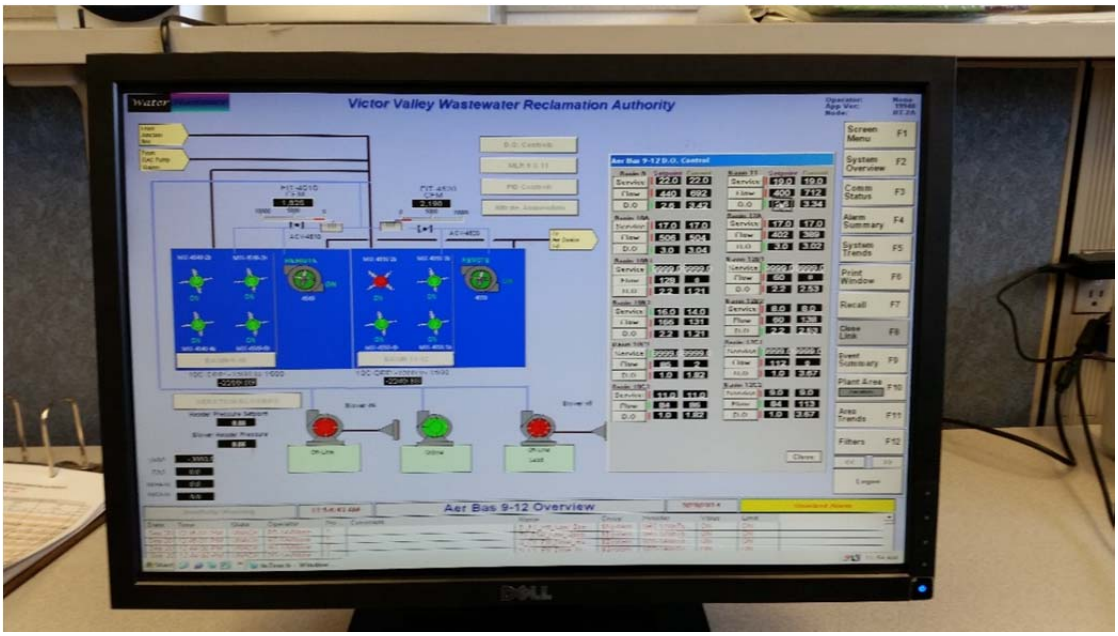
10. If we stayed with Wonderware we needed to pay over $80000 for licensing fees (to increase our tags count) plus $14,803.50/annually which was increasing gradually.
11. Annual Ignition support: $6874 with unlimited tags and unlimited support.
12. Return on the investment :3 years

- **VVWRA Network Assessment was completed**

A common network assessment is a review of VVWRA's existing IT infrastructure, performance, availability, management and security to identify opportunities for improvement and gain a comprehensive view of the state of out IT. The assessment is periodically run and is designed to help the authority make more informed and strategic business decisions.

By having an outside, objective assessment, VVWRA identified which aspects of our network infrastructure needs improvement as well as plan for the future. This assessment brought an abundance of information to the table that is useful in many ways:

- Helped VVWRA IT staff understand the current IT infrastructure.
- It Identified security risk that need to be addressed to avoid adverse impact to our network system and operations.
- It identified network bottlenecks and failures, underused or overused resources. This network assessment also helped us identify real needs and how to allocate resources accordingly.
- And finally, this assessment helped identify equipment that needs to be upgraded, and pinpoints performance issues.



VVWRA SCADA System

3.9 LABORATORY DEPARTMENT:

- Maintained accurate laboratory sampling and testing.

- In preparing for the Sub-regional plants becoming operational in the near future, sampling and testing of groundwater monitoring wells were initiated for four consecutive months starting in February 2015. Groundwater quality data generated from this baseline study will help determine future testing requirements.

The Laboratory/Environmental Compliance groups continued in their efforts to streamline the evaluation process of compliance of industrial permits by adapting existing software reporting features to include analytical data and specific permit requirements.

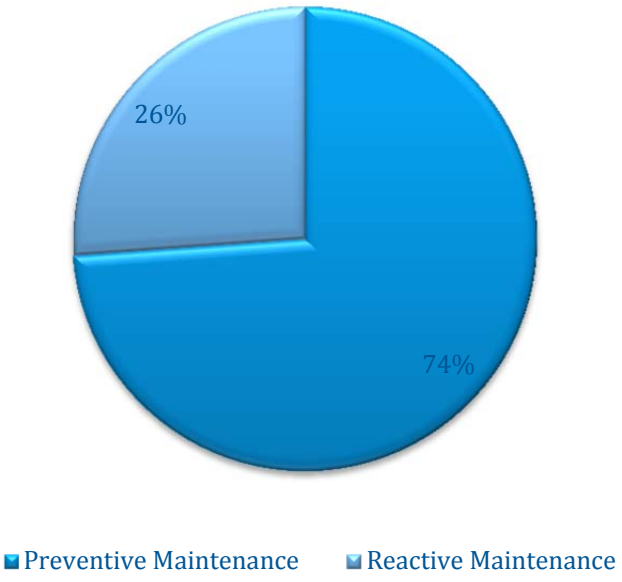
Percolation Pond at the Victorville Plant

3.10 MAINTENANCE DEPARTMENT:

Preventive maintenance: Planned maintenance, also referred to as scheduled maintenance, is a proactive strategy where maintenance and inspections of equipment and other assets are scheduled at regular intervals to ensure that equipment is operating correctly so as to minimize breakdown and downtime levels.

Reactive maintenance: Often referred to as breakdown maintenance or corrective maintenance, is very much a reactive strategy where repairs are performed at the point when equipment fails. This maintenance results in unplanned downtime and damaged equipment.

Assets Management Trend FY 2019



3.11 FINANCE DEPARTMENT:

The Finance Department has achieved its goal of presenting financial projections and results in an easy-to-understand format that has led VVWRA to win the Government Finance Officers Association awards. The awards won are:

1. Budgets: Distinguished Budget Presentation Award in the years beginning July 1, 2012 through 2018 and

2. Comprehensive Annual Financial Reports: Certificate of Achievement for Excellence in Financial Reporting for the years ended June 30, 2010 through 2018.

All the departmental goals and objectives are to pursue the agency's overall goal of serving the member agencies' needs, quantified as much as practically possible.

4 Financial Information and Trend Analyses

4.1 CONSOLIDATED BUDGET STATEMENT OF ALL FUNDS

	2018 Actual $3,503/MG	2018 Budget $3,503/MG	2019 Actual as of 4/30/2019	2019 Projected to the Year End	2019 Budget $3,503/MG	2020 Budget $3,783/MG
Operations & Maintenance Fund Revenues						
User Charges	$ 13,581,133	$ 13,661,700	$ 11,324,052	$ 13,588,862	$ 13,661,700	$ 14,480,700
Allocate Resource to Repairs and Replacements Fund	(247,500)	(247,500)	(1,527,480)	(2,695,580)	(2,749,326)	(2,666,326)
VVIWWTP Sludge	112,780	137,074	85,674	102,809	120,000	120,000
High Strength Waste Surcharges	17,170	25,000	18,526	22,231	20,000	20,000
ADM FOG Tipping Fee Revenue	311,600	205,000	229,075	274,890	200,000	250,000
Septage Receiving Facility Charges	621,155	609,000	503,923	604,708	550,000	600,000
Reclaimed Water Sales	15,213	44,000	6,392	7,670	25,000	25,000
Interest	1,062	-	1,182	1,418	-	-
Pretreatment Fees	52,700	51,200	46,500	55,800	50,000	50,000
Miscellaneous	9,800	1,250	2,725	3,270	1,200	1,200
Grant - Proposition 1	559,205	458,297	-	-	-	-
Grant - Title 16	10,367	-	-	-	-	-
Grant - Water Recycling	269,863	246,466	-	-	-	-
	$ 15,314,548	$ 15,191,487	$ 10,690,569	$ 11,966,078	$ 11,878,574	$ 12,880,574
Other Operating Financing Sources						
SRF Loan Funding	$ 2,438,719	$ 1,684,303	$ 1,967,706	$ 1,967,706	$ -	$ -
	$ 2,438,719	$ 1,684,303	$ 1,967,706	$ 1,967,706	$ -	$ -
Repairs and Replacements Fund Financing Sources						
Transferred from Operations & Maintenance Fund	$ 247,500	$ 247,500	$ 1,527,480	$ 2,695,580	$ 2,749,326	$ 2,666,326
	$ 247,500	$ 247,500	$ 1,527,480	$ 2,695,580	$ 2,749,326	$ 2,666,326
Capital Fund Revenues						
Connection Fees	$ 2,882,239	$ 878,900	$ 1,733,793	$ 2,080,552	$ 2,000,000	$ 2,254,625
Interest	66,090	38,000	210,550	210,550	35,000	50,000
Grant - FEMA/Cal-OES	-	3,105,375	-	-	3,105,375	-
Grant - Water Recycling	172,536	157,577	-	-	-	-
Grant - Proposition 1	357,524	293,010	-	-	-	-
Grant - Proposition 84	-	-	-	-	-	-
Grant - Title 16	6,628	-	-	-	-	-
Grant - CEC Microgrid	991,745	-	20,828	24,994	-	-
	$ 4,476,762	$ 4,472,862	$ 1,965,171	$ 2,316,096	$ 5,140,375	$ 2,304,625
Other Capital Financing Sources						
SRF Loan Funding	$ 1,473,016	$ 593,349	$ 634,344	$ 634,344	$ -	$ -
	$ 1,473,016	$ 593,349	$ 634,344	$ 634,344	$ -	$ -
Total Revenues and Other Financing Sources	**$ 23,950,545**	**$ 22,189,501**	**$ 16,785,270**	**$ 19,579,804**	**$ 19,768,275**	**$ 17,851,525**
Operations and Maintenance Fund Expenses						
Personnel and Benefits	$ 4,428,774	$ 4,086,603	$ 3,362,412	$ 4,034,896	$ 4,080,784	$ 4,589,786
Maintenance	1,596,944	2,919,360	1,296,847	2,186,883	2,194,767	2,236,156
Operations	2,775,629	3,066,985	2,362,128	2,954,552	3,151,072	3,433,513
Administration	1,807,885	2,270,884	1,675,519	2,107,850	2,183,749	1,823,605
Construction	5,183,174	2,389,065	47,515	586,834	-	-
	$ 15,792,406	$ 14,732,897	$ 8,744,421	$ 11,871,015	$ 11,610,372	$ 12,083,060
Emergency Expenses						
Maintenance	$ -	$ -	$ -	$ -	$ -	$ -
Operations	-	-	-	-	-	-
FEMA Expenses	$ -	$ -	$ -	$ -	$ -	$ -
Expected FEMA/Cal-OES Grants	-	(747,034)	-	-	(747,034)	-
	$ -	$ (747,034)	$ -	$ -	$ (747,034)	$ -
Repairs and Replacements Fund Expenses						
Personnel and Benefits	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance	57,846	242,500	472,089	1,198,452	1,204,326	1,896,326
Operations	101,540	-	20,433	24,520	25,000	-
Administration	-	5,000	85,507	102,608	150,000	145,000
Construction	-	-	949,451	1,370,000	1,370,000	625,000
	$ 159,386	$ 247,500	$ 1,527,480	$ 2,695,580	$ 2,749,326	$ 2,666,326
Capital Fund Expenses						
Personnel and Benefits	$ 385,110	$ 416,716	$ 332,546	$ 378,554	$ 378,554	$ 384,912
Maintenance	-	40,000	-	-	-	-
Operations	-	170	-	-	170	170
Administration	(2,054)	140,000	(2,054)	(2,465)	-	50,000
Construction	3,204,631	2,482,435	55,600	646,333	430,000	550,000
	$ 3,587,687	$ 3,079,321	$ 386,092	$ 1,022,422	$ 808,724	$ 985,082
Debt Services						
SRF Principal	$ 2,071,097	$ 2,056,359	$ 3,065,323	$ 3,962,976	$ 4,097,480	$ 4,020,810
SRF Interest	1,768,685	570,419	783,294	1,184,885	1,200,061	1,127,051
	$ 3,839,782	$ 2,626,778	$ 3,848,617	$ 5,147,861	$ 5,297,541	$ 5,147,861
Total Expenses and Debt Services	**$ 23,379,261**	**$ 19,939,462**	**$ 14,506,610**	**$ 20,736,878**	**$ 19,718,929**	**$ 20,882,329**
Interfund Loan						
Interfund Loan to the Operations & Maintenance Fund	$ -	$ -	$ -	$ -	$ -	$ (1,963,621)
Interfund Loan from the Capital Fund	-	-	-	-	-	1,963,621
	$ -	$ -	$ -	$ -	$ -	$ -
Total Agency Net Surplus or (Deficit)	**$ 571,284**	**$ 2,250,039**	**$ 2,278,660**	**$ (1,157,074)**	**$ 49,346**	**$ (3,030,804)**

Our goals, objectives and strategies are transformed into numbers for the budgets with a projection for the rest of FY 2019. The consolidated budget on the previous page shows all functions of the entire organization. The page 37 demonstrates a reconciliation of FY 2018 actual to CAFR for the year ended June 30, 2018. The budget on page 39 is for the Operations and Maintenance Fund, the pages 41 and 42 show the budget for the Repairs and Replacements Fund, and the page 43 shows the budget for the Capital Fund.

VVWRA Regional Plant

4.2 RECONCILIATION FROM ACTUAL TO CAFR FOR THE YEAR ENDED JUNE 30, 2018

	2018 Actual	Reconciliation to CAFR	2018 Per CAFR
Operating Revenues			
User Charges	$ 13,581,133	$ -	$ 13,581,133
Adelanto User Charges	112,780	-	112,780
High Strength Waste Surcharges	17,170	-	17,170
Septage Receiving Facility Charges	621,155	-	621,155
ADM FOG Tipping Fee Revenue	311,600	-	311,600
Reclaimed Water Sales	15,213	-	15,213
Pretreatment Fees	52,700	-	52,700
Grant - Water Recycling	269,863		269,863
Grant - Proposition 1	559,205		559,205
Grant - Title 16	10,367		10,367
Miscellaneous	9,800	-	9,800
	$ 15,560,986	$ -	$ 15,560,986
Capital Revenues			
Connection Fees	$ 2,882,239	$ -	$ 2,882,239
Interest	67,152	-	67,152
Grant - Title 16	6,628	-	6,628
Grant - FEMA/Cal-OES	-	-	-
Grant - Water Recycling	172,536	-	172,536
Grant - Proposition 1	357,524	-	357,524
Grant - Proposition 84	-	-	-
Grant - CEC Microgrid	991,745	-	991,745
	$ 4,477,824	$ -	$ 4,477,824
Other Financing Sources			
SRF Loan Funding	$ 3,911,735	$ (3,911,735)	$ -
	$ 3,911,735	$ (3,911,735)	$ -
Total Revenues and Other Financing Sources	**$ 23,950,545**	**$ (3,911,735)**	**$ 20,038,810**
Operating Expenses			
Personnel and Benefits	$ 4,428,774	$ -	$ 4,428,774
Maintenance	1,596,944	-	1,596,944
Operations	2,775,629	-	2,775,629
Administration	1,807,885	-	1,807,885
Construction	5,183,174	(5,012,370)	170,804
	$ 15,792,406	$ (5,012,370)	$ 10,780,036
Emergency Expenses			
Maintenance	$ -	$ -	$ -
Operations	-	-	-
FEMA Expenses	$ -	$ -	$ -
Expected FEMA/Cal-OES Grants	-	-	-
	$ -	$ -	$ -
Depreciation Expense	$ -	$ 9,226,174	$ 9,226,174
Repair and Replacement Expense			
Personnel and Benefits	$ -	$ -	$ -
Maintenance	57,846	-	57,846
Operations	101,540	-	101,540
Administration	-	-	-
Construction	-	-	-
	$ 159,386	$ -	$ 159,386
Capital Expenses			
Personnel and Benefits	$ 385,110	$ -	$ 385,110
Maintenance	-	-	-
Operations	-	-	-
Administration	(2,054)	-	(2,054)
Construction	3,204,631	(3,204,631)	-
	$ 3,587,687	$ -	$ 383,056
Debt Services			
SRF Principal	$ 2,071,097	$ (2,071,097)	$ -
SRF Interest	1,768,685	-	1,768,685
	$ 3,839,782	$ (2,071,097)	$ 1,768,685
Total Expenses with Debt Services	**$ 23,379,261**	**$ 2,142,707**	**$ 22,317,337**
Total Net Surplus or (Deficit)	**$ 571,284**	**$ (6,054,442)**	**$ (2,278,527)**

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4.3 BUDGET STATEMENT OF OPERATIONS AND MAINTENANCE FUND

	2018 Actual $3,503/MG	2018 Budget $3,503/MG	2019 Actual as of 4/30/2019	2019 Projected to the Year End	2019 Budget $3,503/MG	2020 Budget $3,783/MG
Revenues						
User Charges	$ 13,581,133	$ 13,661,700	$ 11,324,052	$ 13,588,862	$ 13,661,700	$ 14,480,700
Allocate Resource to Repairs and Replacements Fund	(247,500)	(247,500)	(1,527,480)	(2,695,580)	(2,749,326)	(2,666,326)
VVIWWTP Sludge	112,780	137,074	85,674	102,809	120,000	120,000
High Strength Waste Surcharges	17,170	25,000	18,526	22,231	20,000	20,000
ADM FOG Tipping Fee Revenue	311,600	205,000	229,075	274,890	200,000	250,000
Septage Receiving Facility Charges	621,155	609,000	503,923	604,708	550,000	600,000
Reclaimed Water Sales	15,213	44,000	6,392	7,670	25,000	25,000
Interest	1,062	-	1,182	1,418	-	-
Pretreatment Fees	52,700	51,200	46,500	55,800	50,000	50,000
Miscellaneous	9,800	1,250	2,725	3,270	1,200	1,200
Grant - Proposition 1	559,205	458,297	-	-	-	-
Grant - Title 16	10,367	-	-	-	-	-
Grant - Water Recycling	269,863	246,466	-	-	-	-
	$ 15,314,548	**$ 15,191,487**	**$ 10,690,569**	**$ 11,966,078**	**$ 11,878,574**	**$ 12,880,574**
Other Financing Sources						
SRF Loan Funding	$ 2,438,719	$ 1,684,303	$ 1,967,706	$ 1,967,706	$ -	$ -
	$ 2,438,719	$ 1,684,303	$ 1,967,706	$ 1,967,706	$ -	$ -
Total Operating Revenues and Other Financing Sources	**$ 17,753,267**	**$ 16,875,790**	**$ 12,658,275**	**$ 13,933,784**	**$ 11,878,574**	**$ 12,880,574**
Expenses ①						
Personnel and Benefits	$ 4,428,774	$ 4,086,603	$ 3,362,412	$ 4,034,896	$ 4,080,784	$ 4,589,786
Maintenance	1,596,944	2,919,360	1,296,847	2,186,883	2,194,767	2,236,156
Operations	2,775,629	3,066,985	2,362,128	2,954,552	3,151,072	3,433,513
Administration	1,807,885	2,270,884	1,675,519	2,107,850	2,183,749	1,823,605
Construction	5,183,174	2,389,065	47,515	586,834	-	-
	$ 15,792,406	$ 14,732,897	$ 8,744,421	$ 11,871,015	$ 11,610,372	$ 12,083,060
Emergency Expenses						
Maintenance	$ -	$ -	$ -	$ -	$ -	$ -
Operations	-	-	-	-	-	-
FEMA OPERATING EXPENSES	$ -	$ -	$ -	$ -	$ -	$ -
Expected FEMA/Cal-OES Grants	-	(747,034)	-	-	(747,034)	-
	$ -	$ (747,034)	$ -	$ -	$ (747,034)	$ -
Debt Services						
SRF Principal	$ 868,529	$ 857,475	$ 1,339,505	$ 2,012,745	$ 2,094,805	$ 2,039,479
SRF Interest	1,106,611	361,138	447,196	748,389	762,842	721,656
	$ 1,975,140	$ 1,218,613	$ 1,786,701	$ 2,761,134	$ 2,857,647	$ 2,761,135
Total Operations & Maintenance Expenses with Debt Services	**$ 17,767,546**	**$ 15,204,476**	**$ 10,531,122**	**$ 14,632,149**	**$ 13,720,985**	**$ 14,844,195**
Interfund Loan from the Capital Fund	-	-	-	-	-	**1,963,621**
Operations & Maintenance Net Surplus or (Deficit)	**$ (14,279)**	**$ 1,671,314**	**$ 2,127,153**	**$ (698,365)**	**$ (1,842,411)**	**$ -**

① Please see detailed expense information at page 38.

4.4 OPERATIONS AND MAINTENANCE FUND – EXPENSES OTHER THAN EMERGENCY EXPENSES

	2018 Actual $3,503/MG	2018 Budget $3,503/MG	2019 Actual as of 4/30/2019	2019 Projected to the Year End	2019 Budget $3,503/MG	2020 Budget $3,783/MG
Personnel Expenses Allocations ①						
Allocation to Maintenance	$ 1,155,331	$ 970,585	$ 812,891	$ 975,470	$ 1,151,161	$ 1,270,080
Allocation to Operations	1,781,136	1,661,723	1,367,134	1,640,562	1,777,237	2,077,907
Allocation to Administrations	1,492,303	1,454,295	1,182,387	1,418,864	1,152,386	1,241,799
	$ 4,428,770	$ 4,086,603	$ 3,362,412	$ 4,034,896	$ 4,080,784	$ 4,589,786
Maintenance Expenses						
Maintenance Equipment	$ 696,952	$ 1,110,560	$ 540,563	$ 1,138,676	$ 1,141,560	$ 1,188,036
Instrumentation	441,035	648,000	243,759	317,511	318,169	308,286
Total Grounds Maintenance & Landscaping	270,831	724,400	287,591	355,109	358,900	406,500
Vehicle Repairs	124,097	251,400	128,318	238,151	241,638	208,334
Interceptor Sewer Maintenance	26,203	105,500	82,086	90,000	90,000	90,000
Maintenance Safety Equipment	15,693	38,000	5,368	6,442	3,000	3,000
Misc. Maintenance Expense	22,133	41,500	9,162	40,994	41,500	32,000
	$ 1,596,944	$ 2,919,360	$ 1,296,847	$ 2,186,883	$ 2,194,767	$ 2,236,156
Operations Expenses						
Process Chemicals	$ 311,566	$ 370,540	$ 198,550	$ 248,260	$ 346,850	$ 331,780
Utilities	1,577,787	1,557,423	1,408,649	1,700,379	1,528,431	1,771,252
Trash and Sludge	128,713	148,000	99,881	129,857	156,000	210,000
Fuel and Lubricants	104,137	159,000	82,537	109,044	110,000	108,000
Lab Supplies and Services	40,940	115,100	19,081	32,897	107,700	112,700
Outside Lab Services	365,995	450,500	296,217	365,460	461,500	497,300
Safety Equipment	60,790	66,422	111,088	143,306	169,291	153,181
Custodial Services and Supplies	39,982	45,500	41,342	59,610	51,500	48,000
Equipment Rental	72,456	55,000	46,813	66,176	120,300	117,300
Uniforms	21,141	21,000	22,191	36,629	11,000	28,000
Security	26,236	18,500	9,227	21,072	28,500	26,000
Permits	25,886	60,000	26,507	41,808	60,000	30,000
Misc. Operating Expense	-	-	45	54	-	-
	$ 2,775,629	$ 3,066,985	$ 2,362,128	$ 2,954,552	$ 3,151,072	$ 3,433,513
Administrations Expenses						
Telephone and Communications	$ 169,485	$ 278,220	$ 116,385	$ 149,662	$ 297,500	$ 192,981
Computer Supplies	77,220	77,000	73,907	98,688	60,000	102,000
Office Supplies	63,587	109,450	46,739	66,087	103,800	106,300
Travel, Meeting, Training	100,956	188,750	100,132	130,158	186,550	107,800
Employee and Community Events	45,566	28,700	9,604	11,525	25,000	14,400
Membership, Fees, Licenses	63,517	41,705	45,786	54,943	54,005	73,630
Professional Services	316,889	729,765	542,326	660,791	636,894	385,394
Legal Services and Fees	543,662	360,000	267,323	330,788	440,000	340,000
Temporary Labor	43,393	133,294	82,748	109,298	40,000	72,143
Bond & Liability Insurance	127,625	125,000	159,013	200,816	130,000	130,000
Finance Fees	1,157	-	215	258	-	-
Misc. Administration Expense	26,020	-	1,252	11,502	-	-
Permit Fees	228,808	199,000	216,227	269,472	210,000	288,000
Interest Accrual	-	-	-	-	-	-
Brown Bear Lease Interest	-	-	13,862	13,862	-	10,957
	$ 1,807,885	$ 2,270,884	$ 1,675,519	$ 2,107,850	$ 2,183,749	$ 1,823,605
Construction Expenses	$ 5,183,174	$ 2,389,065	$ 47,515	$ 586,834	$ -	$ -
Total Operations and Maintenance Fund Expenses Before Emergency	**$ 15,792,402**	**$ 14,732,897**	**$ 8,744,421**	**$ 11,871,015**	**$ 11,610,372**	**$ 12,083,060**

① Please see Allocations of Personnel Expenses at page 43.

4.5 BUDGET STATEMENT OF REPAIRS AND REPLACEMENTS FUND

	2018 Actual $3,503/MG	2017 Budget $3,274/MG	2019 Actual as of 4/30/2019	2019 Projected to the Year End	2018 Budget $3,503/MG	2020 Budget $3,783/MG
Repairs and Replacements Financing Sources						
Transferred from Operations & Maintenance Fund	$ 247,500	$ 247,500	$ 1,527,480	$ 2,695,580	$ 2,749,326	$ 2,666,326
	$ 247,500	**$ 247,500**	$ 1,527,480	$ 2,695,580	$ 2,749,326	**$** 2,666,326
Expenses						
Personnel and Benefits	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance	57,846	242,500	472,089	1,198,452	1,204,326	1,896,326
Operations	101,540	-	20,433	24,520	25,000	-
Administration	-	5,000	85,507	102,608	150,000	145,000
Construction	-	-	949,451	1,370,000	1,370,000	625,000
	$ 159,386	$ 247,500	$ 1,527,480	$ 2,695,580	$ 2,749,326	$ 2,666,326
Emergency Expenses						
Maintenance	$ -	$ -	$ -	$ -	$ -	$ -
Operations	-	-	-	-	-	-
FEMA OPERATING EXPENSES	$ -	$ -	$ -	$ -	$ -	$ -
Expected FEMA/Cal-EMA Grants	-	-	-	-	-	-
	$ -	$ -	$ -	$ -	$ -	$ -
Debt Services						
SRF Principal	$ -	$ -	$ -	$ -	$ -	$ -
SRF Interest	-	-	-	-	-	-
	$ -	$ -	$ -	$ -	$ -	$ -
Total Repairs and Replacements Expenses with Debt Services	**$ 159,386**	**$ 247,500**	**$ 1,527,480**	**$ 2,695,580**	**$ 2,749,326**	**$ 2,666,326**
Repairs and Replacements Net Surplus or (Deficit)	**$ 88,114**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

This Repairs and Replacement (R&R) Fund has been a part of Operations and Maintenance (O&M) Fund in the past-year budget presentations. For FY 2018 through FY 2020, we have presented the R&R Fund separately, as we strongly believe that such presentation better describes the normal operations and maintenance results without skewing them with periodical high repairs and replacement costs. In order to sustain the R&R projects, a transfer from the O&M fund is needed.

4.6 REPAIRS AND REPLACEMENTS FUND EXPENSES

	2018 Actual $3,503/MG	2018 Budget $3,503/MG	2019 Actual as of 4/30/2019	2019 Projected to the Year End	2019 Budget $3,503/MG	2020 Budget $3,783/MG
Personnel Expenses Allocations						
Allocation to Maintenance	$ -	$ -	$ -	$ -	$ -	$ -
Allocation to Operations	-	-	-	-	-	-
Allocation to Administrations	-	-	-	-	-	-
	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance Expenses						
Maintenance Equipment	$ 33,254	$ 153,000	$ 392,877	$ 471,452	$ 353,000	$ 424,000
Instrumentation	12,592	37,000	79,212	270,000	394,326	747,326
Total Grounds Maintenance & Landscaping	12,000	32,500	-	425,000	425,000	725,000
Vehicle Repairs	-	-	-	32,000	32,000	-
Interceptor Sewer Maintenance	-	-	-	-	-	-
Maintenance Safety Equipment	-	-	-	-	-	-
Misc. Maintenance Expense	-	20,000	-	-	-	-
	$ 57,846	$ 242,500	$ 472,089	$ 1,198,452	$ 1,204,326	$ 1,896,326
Operations Expenses						
Process Chemicals	$ -	$ -	$ -	$ -	$ -	$ -
Utilities	-	-	-	-	-	-
Trash and Sludge	-	-	-	-	-	-
Fuel and Lubricants	-	-	-	-	-	-
Lab Supplies and Services	-	-	-	-	-	-
Outside Lab Services	-	-	-	-	-	-
Safety	-	-	20,433	24,520	25,000	-
Custodial Services and Supplies	-	-	-	-	-	-
Equipment Rental	101,540	-	-	-	-	-
Uniforms	-	-	-	-	-	-
Security	-	-	-	-	-	-
Permits	-	-	-	-	-	-
Misc. Operating Expense	-	-	-	-	-	-
	$ 101,540	$ -	$ 20,433	$ 24,520	$ 25,000	$ -
Administrations Expenses						
Telephone and Communications	$ -	$ -	$ -	$ -	$ -	$ -
Computer Supplies	-	-	820	984	50,000	-
Office Supplies	-	5,000	-	-	-	-
Travel, Meeting, Training	-	-	-	-	-	-
Professional Services / Cons	-	-	-	-	100,000	145,000
Membership, Fees, Licenses	-	-	-	-	-	-
Professional Services	-	-	84,687	101,624	-	-
Legal Services and Fees	-	-	-	-	-	-
Temporary Labor	-	-	-	-	-	-
Bond & Liability Insurance	-	-	-	-	-	-
Finance Fees	-	-	-	-	-	-
Misc. Administration Expense	-	-	-	-	-	-
Permit Fees	-	-	-	-	-	-
Rent	-	-	-	-	-	-
Supplemental Environmental Project Payment	-	-	-	-	-	-
	$ -	$ 5,000	$ 85,507	$ 102,608	$ 150,000	$ 145,000
Construction Expenses	$ -	$ -	$ 949,451	$ 1,370,000	$ 1,370,000	$ 625,000
Total Repairs and Replacements Fund Expenses	**$ 159,386**	**$ 247,500**	**$ 1,527,480**	**$ 2,695,580**	**$ 2,749,326**	**$ 2,666,326**

4.7 BUDGET STATEMENT OF CAPITAL FUND

	2018 Actual $4,000/EDU①	2018 Budget $4,000/EDU①	2019 Actual as of 4/30/2019	2019 Projected to the Year End	2019 Budget $4,000/EDU①	2020 Budget $4,679/EDU①
Revenues						
Connection Fees	$ 2,882,239	$ 878,900	$ 1,733,793	$ 2,080,552	$ 2,000,000	$ 2,254,625
Interest	66,090	38,000	210,550	210,550	35,000	50,000
Grant - FEMA/Cal-EMA	-	3,105,375	-	-	3,105,375	-
Grant - Water Recycling	172,536	157,577	-	-	-	-
Grant - Proposition 1	357,524	293,010	-	-	-	-
Grant - Proposition 84	-	-	-	-	-	-
Grant - Title 16	6,628	-	-	-	-	-
Grant - CEC Microgrid	991,745	-	20,828	24,994	-	-
	$ 4,476,762	$ 4,472,862	$ 1,965,171	$ 2,316,096	$ 5,140,375	$ 2,304,625
Other Financing Sources						
SRF Loan Funding	$ 1,473,016	$ 593,349	$ 634,344	$ 634,344	$ -	$ -
	$ 1,473,016	$ 593,349	$ 634,344	$ 634,344	$ -	$ -
Total Capital Revenues and Other Financing Sources	**$ 5,949,778**	**$ 5,066,211**	**$ 2,599,515**	**$ 2,950,440**	**$ 5,140,375**	**$ 2,304,625**
Expenses						
Personnel and Benefits	$ 385,110	$ 416,716	$ 332,546	$ 378,554	$ 378,554	$ 384,912
Maintenance	-	40,000	-	-	-	-
Operations	-	170	-	-	170	170
Administration	(2,054)	140,000	(2,054)	(2,465)	-	50,000
Construction	3,204,631	2,482,435	55,600	646,333	430,000	550,000
	$ 3,587,687	$ 3,079,321	$ 386,092	$ 1,022,422	$ 808,724	$ 985,082
Debt Services						
SRF Principal	$ 1,202,568	$ 1,198,884	$ 1,725,818	$ 1,950,231	$ 2,002,675	$ 1,981,331
SRF Interest	662,074	209,281	336,098	436,496	437,219	405,395
	$ 1,864,642	$ 1,408,165	$ 2,061,916	$ 2,386,727	$ 2,439,894	$ 2,386,726
Total Capital Expenses with Debt Services	**$ 5,452,329**	**$ 4,487,486**	**$ 2,448,008**	**$ 3,409,149**	**$ 3,248,618**	**$ 3,371,808**
Interfund Loan to the Operations & Maintenance Fund	-	-	-	-	-	**(1,963,621)**
Capital Net Surplus or (Deficit)	**$ 497,449**	**$ 578,725**	**$ 151,507**	**$ (458,709)**	**$ 1,891,757**	**$ (3,030,804)**

① EDU = Equivalent Dwelling Unit (250 gallons/day or 20 fixture units)

VVWRA has completed the construction of sub-regional water reclamation plants (sub-regionals) in the City of Hesperia and the Town of Apple Valley during FY 2018. The construction costs of these plants approximate $40 million each. These projects are funded by Clean Water State Revolving Fund (SRF) loans from the California State Water Resources Control Board (SWRCB) and the remaining by Title 16 Grant from the Federal Bureau of Reclamation, by Proposition One Water Quality, Supply, and Infrastructure Improvement Act of 2014 and Proposition 84 Round Two Integrated Regional Water Management Implementation Grant from the California State Department of Water Resources, and by Propositions 13 and 50 under Water Recycling Grant Program from the SWRCB. The SRF loan repayments for the sub-regionals would affect FY 2020 operation costs as the loan repayment process began during FY 2019. As the loan agreements require, VVWRA has set up a loan reserve to cover one-year payment of principal and interest for the sub-regional projects. In order to be in compliance, the member agencies have searched for the long-term solution how to repay the SRF loans for these projects. To adjust for the loss of the flow revenue that was projected in the 2014 financial plan,

the member agencies' consensus is to have a proper rate adjustment to either operate these two plants or pay back the loans as they become due. The FY 2020 budget is currently based on operating only one of these plants as recommended by the Finance Committee. Until the agency can change both the user charge rate and the connection fee rate, it will most definitely face the challenge during FY 2020 of potentially not having enough reserves as required for the sub-regionals loans.

The long-range financial impact of these capital projects on the O&M and Capital budget is significant, as the loan repayment of principal and interest will increase from $3.8 million in FY 2018 to $5.1 million in FY 2020. Under current conditions, in order to maintain the required debt payment reserve level and debt coverage ratio, VVWRA will most likely have to increase the user charge rate connection fee rate. VVWRA is currently working with external financial consultants on a new financial plan that will ensure the Authority's compliance with the debt reserve requirement in future years.

4.8 ALLOCATIONS OF PERSONNEL EXPENSES

	2018 Actual $3,503/MG	2018 Budget $3,503/MG	2019 Actual as of 4/30/2019	2019 Projected to the Year End	2019 Budget $3,503/MG	2020 Budget $3,783/MG
Operations and Maintenance Salary Expenses						
Regular Salaries	$ 2,840,647	$ 2,850,355	$ 2,452,152	$ 2,942,582	$ 2,884,301	$ 3,187,537
Overtime	138,953	133,400	129,847	155,816	156,500	164,000
Call-Out Pay	59,081	66,120	53,689	64,427	66,120	72,120
Salaries Expense - Capital	(243,094)	-	(237,212)	(284,654)	-	-
	$ 2,795,587	$ 3,049,875	$ 2,398,476	$ 2,878,171	$ 3,106,921	$ 3,423,657
Operations and Maintenance Benefit Expenses						
Longevity	$ 28,836	$ 30,895	$ 32,698	$ 39,238	$ 33,209	$ 39,685
Vehicle Allowance	-	18,000	-	-	18,000	18,139
Sick Leave Buy Back	-	-	-	-	-	-
Medicare	42,842	41,504	37,213	44,656	42,083	46,564
Social Security Expense	771	-	4,168	5,002	-	-
PERS / Health Insurance	347,175	232,969	291,417	349,700	232,969	315,462
Dental / Vision Insurance	30,610	22,436	27,763	33,316	22,436	27,960
Workers Comp Insurance	6,566	87,133	44,969	53,963	88,291	116,915
PERS / Retirement	572,092	420,942	559,744	671,693	252,000	303,035
PERS / Retirement - GASB 68	663,927	-	-	-	-	-
PERS / Retirement-EUL	-	308,170	-	-	366,667	436,059
Life Insurance	13,341	15,168	12,176	14,611	15,370	16,807
Unemployment Insurance	16,014	10,948	18,413	22,096	10,948	11,431
Disability Insurance	18,797	20,064	25,114	30,137	20,331	25,583
Misc Personnel Expense	5,864	9,500	5,595	6,714	11,500	13,750
OPEB Expense	28,364	85,000	-	-	85,000	30,000
Benefits Expense - Capital	(142,016)	-	(95,334)	(114,401)	-	-
	$ 1,633,183	$ 1,302,729	$ 963,936	$ 1,156,725	$ 1,198,804	$ 1,401,390
Capital Salary and Benefits Expenses						
Salaries	$ 243,094	$ 127,607	$ 237,212	$ 284,654	$ 129,872	$ 123,510
Benefits	142,016	23,108	95,334	114,401	23,741	26,141
	$ 385,110	$ 150,715	$ 332,546	$ 399,055	$ 153,613	$ 149,651
Total Personnel Expenses	**$ 4,813,880**	**$ 4,503,319**	**$ 3,694,958**	**$ 4,433,951**	**$ 4,459,338**	**$ 4,974,698**
Allocations of Personnel Expenses						
1. Allocations to Operations and Maintenance Fund						
To Maintenance Department	$ (1,155,331)	$ (970,585)	$ (812,891)	$ (975,470)	$ (1,151,161)	$ (1,270,080)
To Operations Department	(1,781,136)	(1,661,723)	(1,367,134)	(1,640,562)	(1,777,237)	(2,077,907)
To Administration (other departments except Construction)	(1,492,303)	(1,454,295)	(1,182,387)	(1,418,864)	(1,152,386)	(1,241,799)
	$ (4,428,770)	$ (4,086,603)	$ (3,362,412)	$ (4,034,896)	$ (4,080,784)	$ (4,589,786)
2. Allocation To Capital Fund						
To Construction Department	$ (385,110)	$ (416,716)	$ (332,546)	$ (399,055)	$ (378,554)	$ (384,912)
Personnel Expenses After Allocations	$ -	$ -	$ -	$ -	$ -	$ -

4.9 HIGH STRENGTH SURCHARGE

This page shows high strength surcharge rates for FY 2020 and the calculation worksheet.

Worksheet

User Charges from Member Agencies	$ 14,480,700
Unit User Charge per MG	**$3,783.00**
Estimated Treatment Flow (MG)	3,900

	① Influent mg/l	Influent lbs/day	① Effluent mg/l	Effluent lbs/day	Removal lbs/day	Removal lbs/year	Percent of Cost	Removal Cost/lb	Unit Cost $
BOD	376.00	33,506	4.20	374	33,132	12,093,167	35.0%	$5,068,245	$0.4191
TSS	409.00	36,447	2.20	196	36,251	13,231,577	25.0%	$3,620,175	$0.2736
NH3	31.04	2,766	0.13	12	2,754	1,005,379	30.0%	$4,344,210	$4.3210
Annual Flow - MG per Day									
3,900 MG / 365 days		10.68					10.0%	$1,448,070	
							100.0%	$14,480,700	

	BOD $/lb	TSS $/lb	NH3 $/lb
Surcharge Rates:	**$0.4191**	**$0.2736**	**$4.3210**
Applied to Concentrations Above:	**200 mg/l**	**250 mg/l**	**20 mg/l**

FORMULAS

lbs/day = flow (mgd) x concentration (mg/l) x weight of water (8.34 lbs/gal)

BOD

Influent (flow mgd) x (influent mg/l) x 8.34 lbs/gal = lbs/day
Effluent (flow mgd) x (effluent mg/l) x 8.34 lbs/gal = lbs/day

TSS

Influent (flow mgd) x (influent mg/l) x 8.34 lbs/gal = lbs/day
Effluent (flow mgd) x (effluent mg/l) x 8.34 lbs/gal = lbs/day

NH3

Influent (flow mgd) x (influent mg/l) x 8.34 lbs/gal = lbs/day
Effluent (flow mgd) x (effluent mg/l) x 8.34 lbs/gal = lbs/day

REMOVAL

Per day: Influent lb/day - Effluent lb/day = Removal lbs/day
Per year: Removal lb/day x 365 = Removal lb/year

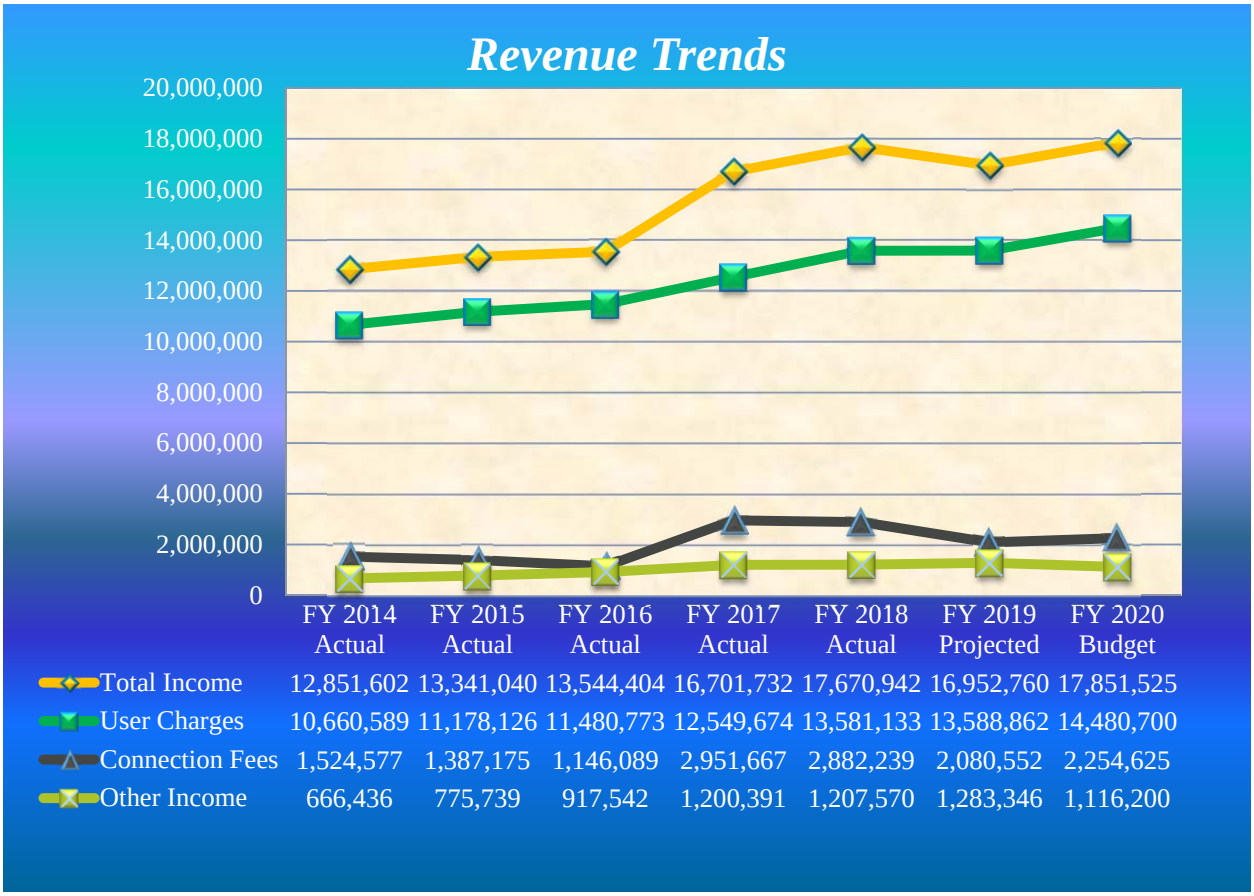
REMOVAL COST

Per lb: Total user cost x 35% = Removal cost/lb
Per unit: Removal cost/lb / Removal lb/year

① Fiscal year basis. From VVWRA Wastewater Data Program (OPS10 in FY 2019)

4.10 REVENUE TREND ANALYSIS

The Victor Valley Wastewater Reclamation Authority (VVWRA) has been recovering from the decreased operating revenues since FY 2014. We have used connection fee revenue $2.3 million for FY 2020 budget to reflect the increased connection fee rate from $4,000/EDU to $4,679/EDU. To further mitigate the impact of the reduced revenues, we are increasing the user charge rate from $3,503/MG to $3,783/MG in FY 2020.



	FY 2014 Actual	FY 2015 Actual	FY 2016 Actual	FY 2017 Actual	FY 2018 Actual	FY 2019 Projected	FY 2020 Budget
Total Income	12,851,602	13,341,040	13,544,404	16,701,732	17,670,942	16,952,760	17,851,525
User Charges	10,660,589	11,178,126	11,480,773	12,549,674	13,581,133	13,588,862	14,480,700
Connection Fees	1,524,577	1,387,175	1,146,089	2,951,667	2,882,239	2,080,552	2,254,625
Other Income	666,436	775,739	917,542	1,200,391	1,207,570	1,283,346	1,116,200

Source: VVWRA *FY = Fiscal Year ended June 30*

The other income also includes high strength surcharges for high contents of certain chemical, reclaimed water sales from the processed water, industrial pretreatment permits charged to businesses, and interest income. Grants are excluded in this revenue analysis for the period from FY 2014 to FY 2020.

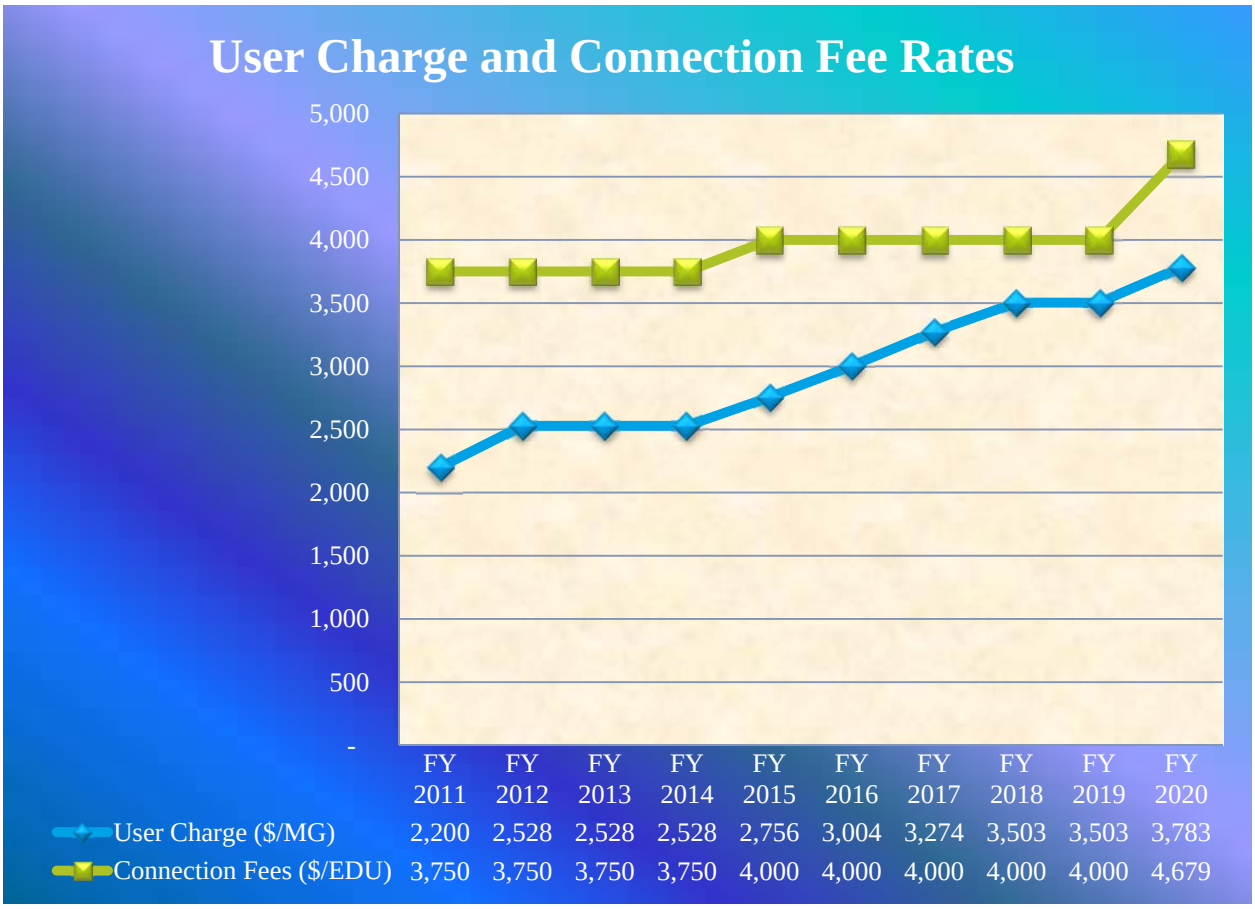
Due to an overall decrease of the net income in coming years, we have to solve urgently how to handle such a substantial decline of income as the decline of income will also affect net position.

Both user charges and connection fees are determined multiplying quantity received by unit prices; multiplying the flow quantity of million gallons (MG) by the user fee rate ($3,783/MG) for the user fee revenue and by multiplying the Equivalent Dwelling Unit (EDU) by the connection fee rate

($4,679/EDU). The four member agencies determined these rates as incorporated in the revenue ordinances to absorb the operating and construction costs. The graph below shows rate changes up to FY 2020 based on the five–year financial plan.

The connection fees are calculated based on sewage quantity discharged by a single family home for a period of twenty-four hours. This single family home unit is referred to as one equivalent dwelling unit (EDU).

The Board of Commissioners reserves the right to change the rates of user fee and connection fee from time to time as necessary to fund its operations, maintenance, repairs, replacements, and expansion of the regional system.

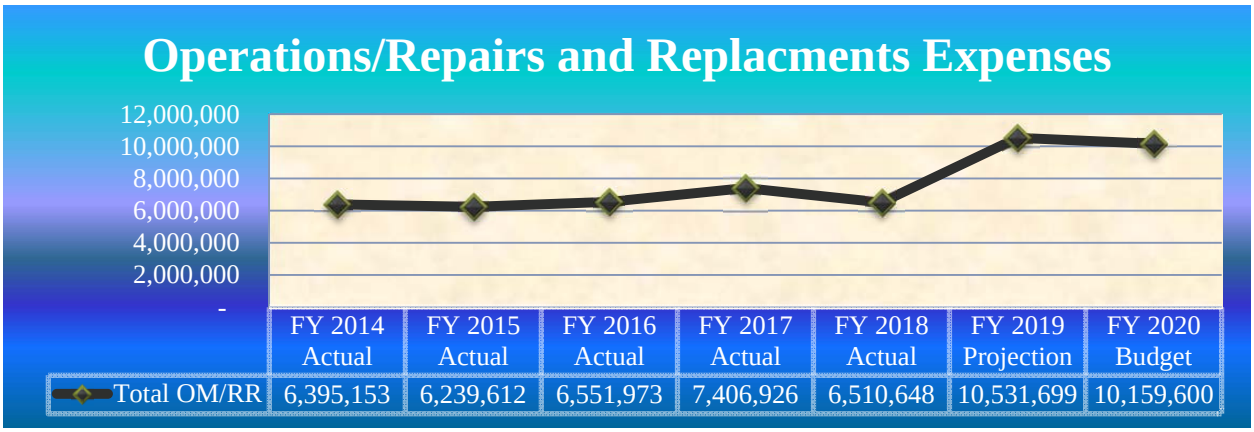


Source: VVWRA FY = Fiscal Year ended June 30

4.11 EXPENSE ANALYSIS

Construction Expenses: The construction costs below reflect the actual expenses per CAFR (except FY 2019 and FY 2020) adjusted by adding the construction costs accounted for as construction in progress that were funded by the grants and loan proceeds. The capital expenditures have risen from FY 2014, as we have constructed the two sub-regional plants in the City of Hesperia and the Town of Apple Valley during the years of FY 2015 through FY 2018. We have budgeted $2.7 million for FY 2020 (pages 41 and 42) to fund the major repair and replacement projects that are related to the current capacity of the plant.

Expenses Incurred by Operations and Repairs/Replacements: The operations and repairs/replacements expenses were at about the same level from FY 2014 to FY 2018. During FY 2018, such costs were kept low forced by a low cash flow level that contradicts to the higher projections for FY 2019 when necessary repairs and replacements can no longer wait without causing alarming level of loss in pipeline and equipment integrity. In addition, these expenses continue to show the high electricity costs for the UV system throughout the period. During FY 2019, VVWRA has continued its micro-grid project to cope with such high electricity costs and unpredictable loss of steady energy level.

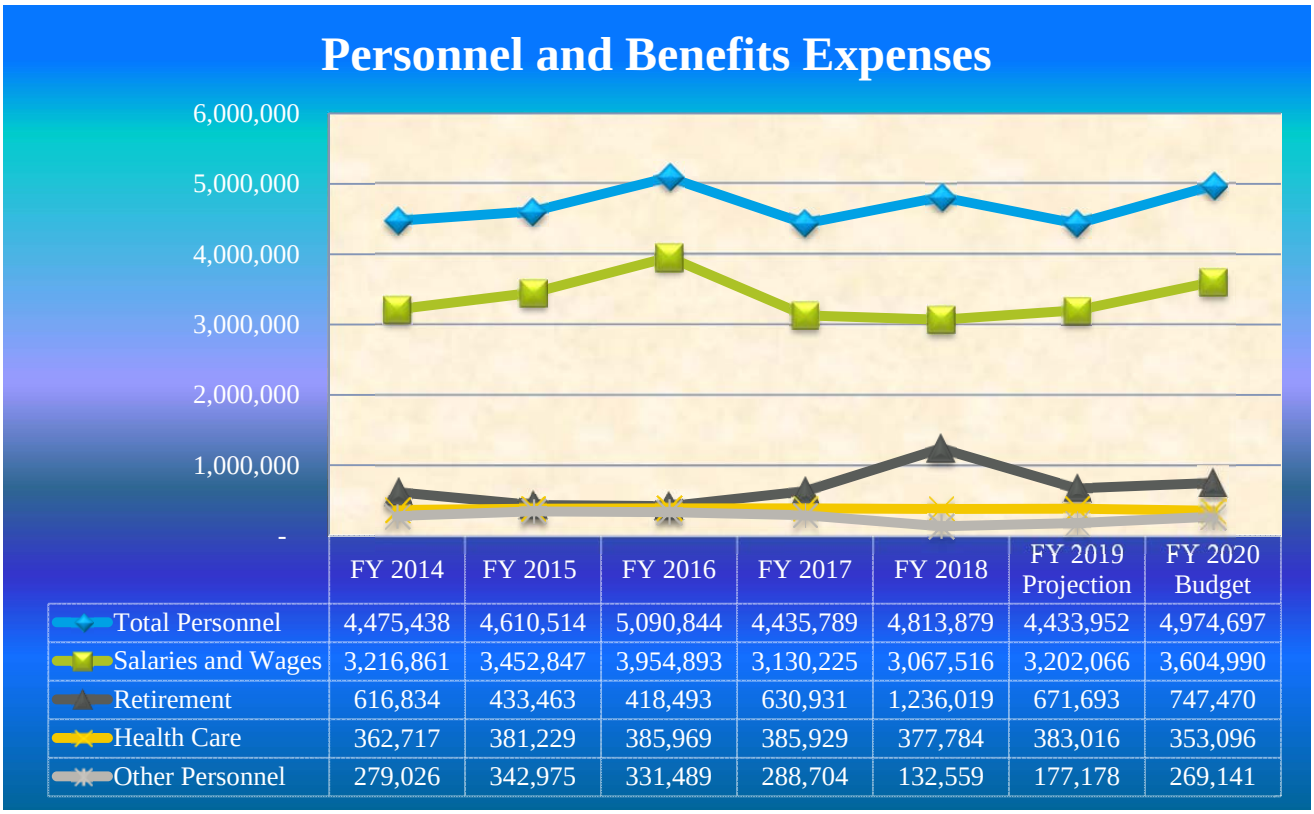


Source: VVWRA - The graphs excludes personnel costs. *FY = Fiscal Year ended June 30*

The personnel costs have remained stable with a slight increase over the years and a jump during FY 2016 when more staff was employed in anticipation of operating those two plants in Hesperia and Apple Valley. However, the personnel costs declined in FY 2017 through FY 2019 to reflect 1/3 lay-off during FY 2017 under the scenario where the agency will not operate those two plants without a sufficient operating fund. The FY 2020 personnel budget reflects additional five positions to provide additional support for operations.

The health care cost has been kept at about the same level throughout the period from FY 2014 to FY 2020.

Other personnel costs include OPEB costs, Medicare, workers comp insurance, life insurance, unemployment insurance, disability insurance, and miscellaneous personnel expense, such as payroll processing fees.



	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019 Projection	FY 2020 Budget
Total Personnel	4,475,438	4,610,514	5,090,844	4,435,789	4,813,879	4,433,952	4,974,697
Salaries and Wages	3,216,861	3,452,847	3,954,893	3,130,225	3,067,516	3,202,066	3,604,990
Retirement	616,834	433,463	418,493	630,931	1,236,019	671,693	747,470
Health Care	362,717	381,229	385,969	385,929	377,784	383,016	353,096
Other Personnel	279,026	342,975	331,489	288,704	132,559	177,178	269,141

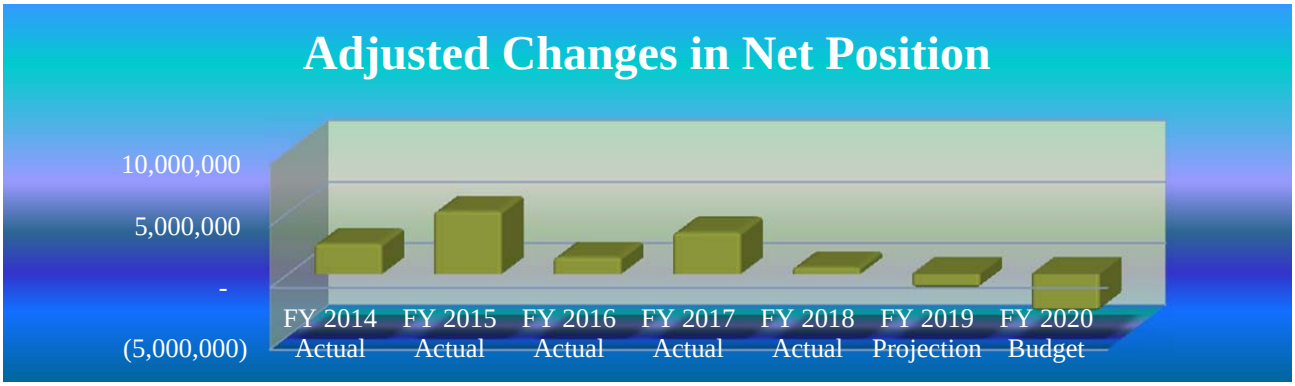
Source: VVWRA. FY = Fiscal Year ended June 30

4.12 HISTORY OF CHANGES IN NET POSITION

The table below shows *adjusted changes in net position* whose amounts are highlighted in navy blue in the table. The graph below shows the fluctuation of adjusted changes in net position during FY 2014 through FY 2020, or the total revenues over total expenses. The decrease is mostly due to the sharp decline of connection fee revenues from member agencies. Although the connection fee revenues shows an increase of 89% from $1,524,577 in FY 2014 to $2,882,239 in FY 2018, $800,000 out of the $2.9 million connection fees accrued during FY 2018 was from the uncollected revenues. On the other hand, the operating expenses have increased by 10%, from $10,090,899 in FY 2014 to $11,129,093 in FY 2018. Grant revenues are recorded in CAFR but most of related construction costs are recorded in a construction in progress, excluded from expenses. For fair comparison purpose, the above actual net positions from FY 2014 to 2018 are adjusted by adding back the grant related capitalized expenses and also adding non-cash depreciation and amortized interest expenses. Please see detailed discussions on capital improvement projects anticipated during FY 2020 at page 54.

FY = Fiscal Year	Beginning Net Position	Changes in Net Position per CAFR *=Per Budget	Ending Net Position	Grants CIP/Interest Amortization and Depreciations Expense	Adjusted Changes in Net Position	Adjusted Ending Net Position*
FY 2014 Actual	100,736,913	(2,228,708)	98,508,205	4,699,735	**2,471,027**	103,207,940
FY 2015 Actual	98,508,205	21,316,749	119,824,954	(16,212,939)	**5,103,810**	103,612,015
FY 2016 Actual	119,824,954	7,686,678	127,511,632	(6,308,679)	**1,377,999**	121,202,953
FY 2017 Actual	127,511,632	2,255,301	129,766,933	1,132,183	**3,388,114**	130,899,746
FY 2018 Actual	129,766,933	(2,278,527)	127,488,406	2,849,811	**571,284**	130,338,217
FY 2019 Projection	127,488,406	(1,157,074)*	126,331,332	-	**(1,157,074)**	126,331,332
FY 2020 Budget	126,331,332	(3,030,804)*	123,300,528	-	**(3,030,804)**	123,300,528

**Note: Adjusted Ending Net Position = Beginning Net Position + Adjusted Changes in Net Position*



Source: VVWRA *FY = Fiscal Year ended June 30*

Percolation Pond by the Apple Valley Wastewater Reclamation Plant

5 Capital Improvement Programs – Overview and Project Descriptions

The Capital Improvement Program (CIP) lists the new capital projects funded in the fiscal year 2020 budget. The presented budget prioritizes the projects in four categories; Wastewater Treatment, Interceptor, Energy Efficiency, and Information Technology. The level of priority of each project determines the individual timing of the project.

Pages 56 and 57 focus on the projects, the funds, and the types of project financing. This page summarizes all the capital projects and related cash flows for the FY 2020. Finally, pages 58, 59, and 60 indicate when VVWRA's existing State Revolving Fund loans mature including annual payment amounts.

The capital expenditures are for construction projects that have an extended life of over five years. Generally, the capital expenditures include capital replacement projects that repair, replace or enhance existing facilities, equipment, or infrastructure, thus significantly expanding the life of or adding more capacity to the facilities that VVWRA owns.

In this section, the term CIP is used to describe capital improvement programs that are in fact construction in progress. Logically, capital expenditures for the CIP are separate from operating expenses. The operating expense items are usually under $5,000 with less than one year of useful life.

The agency has completed its major construction projects, including the sub-regional plants and the related Nanticoke Interceptor project during FY 2018.

PROJECT NUMBER	PROJECT	DESCRIPTION
6	Storm Water Spill Containment System	Several instances have occurred which allowed partially treated wastewater to inadvertently enter the storm drain system. Not all of it was able to be returned to the headworks thus reportable spills occurred. This project will create a valve and a pipeline to redirect flows from the storm water system to the backwash basin.
7	Digester 1-5 Engineering Services	Bringing Digesters 1, 2, and 3 back online requires coordination of the solids, gas, and heating systems. Also Digesters 4 and 5 require inspection of serviceability, design of required repairs, and inspection of repairs prior to putting all digesters back into service.
9	Digester 4&5 Dome Repair	When Digesters 1, 2, and 3 are brought online Digesters 4 and 5 will be emptied and inspected. It is assumed that repair of some extent will be required. The full scope will not be known until they are inspected.
11	Coating Project: UV and DAFTS	The concrete surfaces in these structures need to be coated to extend their working life. This project was identified three years ago and has been repeatedly delayed due to more critical issues. The concrete surfaces are being broken down at the air/water surface interface and need to be addressed.
12	Headworks Replacement	The existing headworks is the original installation from 1980. The concrete has deteriorated to an extent that stop plates used to isolate for service cannot be full installed and makeshift sandbag walls have to be used to limit leakage. It is intended to analyze the extent of required repairs. Evaluate options to improve the situation and present budgetary concepts to evaluate in-place repair versus new location installation.
13	Upgrades to Apple Valley WRP	During the startup of the WRP several items were identified that need to be addressed before we bring the facility online full time. Some of these include better control of the Otoe pump station, flow measurement, check valves on the discharge piping, and electrical enclosures.
15	Oro Grande Interceptor	The line will replace the existing Oro Grande interceptor. The existing line runs across the Mojave River with several manholes out in the channel. The replacement would put a pump station on the Oro Grande side of the river and a force main installed in a micro-tunneled pipe below the river. There would be no manholes and the pipe would be below the scour depth of the river to minimize the risk of failure and spill.
23	Interceptor Risk Assessment Report	The nature of wastewater interceptors includes deterioration of concrete structures by the gas that build in the system. VVWRA has an ongoing program that evaluates and repairs those structures. This Risk Assessment is a tool that helps us identify the priority areas that require repair.

24	Solids Dewatering and Side Stream Study	The liquid side of the Regional Plant has been addressed in several projects in the past 10 years. Water conservancy in the collection system has benefitted the liquid side of the plant. Conversely the solids side has fallen behind. While liquid flows have reduced the solids have increased. Even the Sub-regional plants have helped reduce the liquid flow, but all the solids are still conveyed to the Regional Plant. Septage and ADM flows have also increased the volume of solids we treat. One of the main benefits our site is that we have a large amount of land. Our main dewatering is using solar drying beds, completely at the mercy of the weather. We are currently at a point that the drying beds cannot keep up. VVWRA has a Gravity Belt Thickener (GBT) that helps by mechanically removing water. While this helps it cannot fully solve the problem with expansion of the mechanical dewatering. Also this generates a side stream that is very high in ammonia and needs to be evaporated or treated before running back into the normal flow. This Study would identify options that VVWRA can use in preparing projects to fully address this need.
26	Programmable Logic Control (PLC) Replacement	The Regional Plant used PLCs to control the treatment equipment. These vary in age, capacity, and manufacturers. Many of them are old enough that no replacement parts are available. This replacement project updates these PLCs to newer readily repairable systems
28	Fleet Replacement	VVWRA has an aging fleet of vehicles. This item allows for the oldest to be replaced a few each year.
29	Network Re-design and updates	Electrical control is key to the operation of our facilities. As our systems age there are new systems that provide improved efficiency and cost effective operation.

Percolation Pond at the Regional Plant

5.1 EXPENDITURES BY PROJECTS

The FY 2020 projects are funded by one or combination of the following sources: operating cash reserve and capital cash reserve.

Capital Improvement Programs - Expenditures by Projects

Project Title	FY 2016 Budget	FY 2017 Budget	FY 2018 Budget	FY 2019 Budget	FY 2020 Budget
Operations Building Extension	-	-	205,000	-	-
Golf Cart Recharging Station	-	-	15,000	-	-
Microgrid/Battery Storage Project	-	-	80,000	40,000	-
Digital Information Management System (DIMS) Ope	-	-	150,000	60,000	-
Digesters 4 and 5 Supernatant Line	75,000	-	-	-	-
Digester 4&5 Dome Repair and Misc. Mechanical	-	-	-	-	325,000
Digester 4&5 Dome Repair and Misc. Mechanical	-	-	-	-	50,000
Digester 1-5 Engineering Services	-	-	-	170,000	50,000
Digester 1-3 Equipment	-	-	-	161,000	-
Drying Beds Repair and Drainage Improvements	150,000	-	-	-	-
Stormwater Spill Containment System	-	-	265,000	340,000	400,000
Headworks Replacement	-	-	-	-	50,000
Hesperia Sub-regional Water Reclamation Plant	21,684,959	21,365,176	615,500	-	-
TOAV Sub-regional Water Reclamation Plant	21,684,959	21,365,176	3,301,000	-	-
Upgrades to AV WRP	-	-	-	-	100,000
Tertiary Filter Enclosure	50,000	-	-	-	-
Coating Project: UV and DAFTS	-	-	-	425,000	425,000
SCADA Upgrade Project (Ignition)	-	-	-	139,000	-
Total Wastewater Treatment Projects	**$ 43,644,918**	**$ 42,730,352**	**$ 4,631,500**	**$ 1,335,000**	**$ 1,400,000**
Upper Narrows Interceptor Replacement Project	2,490,738	1,191,000	-	-	-
Interceptor Risk Assessment Report	-	-	-	-	50,000
Nanticoke PS Bypass Sewer	5,000,000	3,990,000	-	-	-
Ossum Wash	650,000	-	-	-	-
Oro Grande Interceptor	-	-	-	190,000	150,000
Desert Knolls Wash	-	-	-	1,340,000	-
Yates Road Sampling Station	84,900	-	-	-	-
Apple Valley Odor Control	100,000	100,000	-	-	-
Apple Valley Interceptor Realignment	100,000	100,000	240,000	-	-
Solids Dewatering and Side Stream Study	-	-	-	-	50,000
Shay Road Diversion Structure	75,000	-	-	-	-
Total Interceptor Projects	**$ 8,500,638**	**$ 5,381,000**	**$ 240,000**	**$ 1,530,000**	**$ 250,000**
Aeration Energy Efficiency Project	900,000	-	-	-	-
Biogas Solids Project	500,000	-	-	-	-
Total Energy Efficiency Projects	**$ 1,400,000**	**$ -**	**$ -**	**$ -**	**$ -**
Document Management System	100,000	-	-	-	-
Network Re-design and updates	-	-	-	-	100,000
Network Re-design and updates	-	-	-	-	35,000
Nitrogen and Capacity Study	-	-	-	100,000	-
Finance Plan and Rate Study	-	-	-	50,000	-
Organizational Performance Assessment	-	-	-	47,000	-
Programmable Logic Control (PLC)	-	-	-	55,000	55,000
Programmable Logic Control (PLC)	-	-	-	-	400,000
Fleet Replacement	-	-	-	-	100,000
Accounting Software	-	-	-	100,000	-
Total Information Technology Projects	**$ 100,000**	**$ -**	**$ -**	**$ 352,000**	**$ 690,000**
TOTAL	**$ 53,645,556**	**$ 48,111,352**	**$ 4,871,500**	**$ 3,217,000**	**$ 2,340,000**

5.2 PROGRAM SUMMARY

Priority	Project Number	Project Title	Project Financing OM/RR Fund	Project Financing Capital Fund	Estimated Expense Total	Year 1 FY 19-20	Year 2 FY 20-21	Year 3 FY 21-22	Year 4 FY 22-23	Year 5 FY 23-24	Year 6 FY 24-25	Year 7 FY 25-26
1	9	Digester 4&5 Dome Repair and Misc. Mechanical	100%		700,000	325,000	375,000					
1	9	Digester 4&5 Dome Repair and Misc. Mechanical	100%		50,000	50,000						
1	10	SCADA Upgrade Project (Ignition)	100%		139,000		139,000					
1	11	Coating Project: UV and DAFTS	100%		425,000	425,000						
2	3	Digital Information Management System (DIMS)	100%		60,000		60,000					
2	12	Headworks Replacement	100%		3,400,000	50,000	150,000	200,000	3,000,000			
2	15	Oro Grande Interceptor First Priority - possible USDA grant	100%		2,600,000	150,000	100,000	2,350,000				
3	14	Ossum Wash	100%		650,000		650,000					
3	20	R4B South Lower Narrows	100%		436,630						50,000	386,630
1	23	Interceptor Risk Assessment Report	100%		50,000	50,000						
1	26	Programmable Logic Control (PLC) Replacement	100%		400,000	400,000						
1	26	Programmable Logic Control (PLC) Replacement	100%		55,000	55,000						
1	28	Fleet Replacement	100%		300,000	100,000	100,000	100,000				
1	29	Network Re-design and updates	100%		150,000	100,000	50,000					
1	29	Network Re-design and updates	100%		35,000	35,000						
1	30	Main Switch Board Upgrade/Replacement	100%		350,000			350,000				
1	31	Motor Control Center (MCC) - Aqua Diamonds	100%		165,000		165,000					
3	32	UV Generator Tie-in to South Perc. Pond PS	100%		375,000			375,000				
					10,340,630	**1,740,000**	**1,789,000**	**3,375,000**	**3,000,000**		**50,000**	**386,630**
1	2	Micro-grid/Battery Storage Project		100%	-							
1	6	Storm Water Spill Containment System		100%	400,000	400,000						
1	7	Digester 1-5 Engineering Services		100%	70,000	50,000	20,000					
2	1	Golf Cart Recharging Station		100%	15,000		15,000					
2	4	Operations Building Extension		100%	500,000		300,000	200,000				
2	5	Digesters 4 and 5 Supernatant Line		100%	75,000		75,000					
2	13	Upgrades to AV WRP		100%	100,000	100,000						
2	17	R4A North Lower Narrows MH 3-1 to MH 3-3	65%	35%	1,877,000		50,000	100,000	50,000	1,677,000		
3	18	R7 Old Town VV MH 4-24 to MH 4-25A	61%	39%	1,500,000				100,000	100,000	1,300,000	
3	19	R5 Cemex MH 4-7 to 4-14	58%	42%	6,840,000			50,000	100,000	100,000	3,295,000	3,295,000
3	20	R4B South Lower Narrows	47%	53%	492,370						50,000	442,370
1	24	Solids Dewatering and Side Stream Study		100%	50,000	50,000						
					11,919,370	**600,000**	**460,000**	**350,000**	**250,000**	**1,877,000**	**4,645,000**	**3,737,370**
		TOTAL OF OM/RR/CAPITAL			**22,260,000**	**2,340,000**	**2,249,000**	**3,725,000**	**3,250,000**	**1,877,000**	**4,695,000**	**4,124,000**

Wastewater Treatment Projects
Interceptor Projects
Administrative Projects

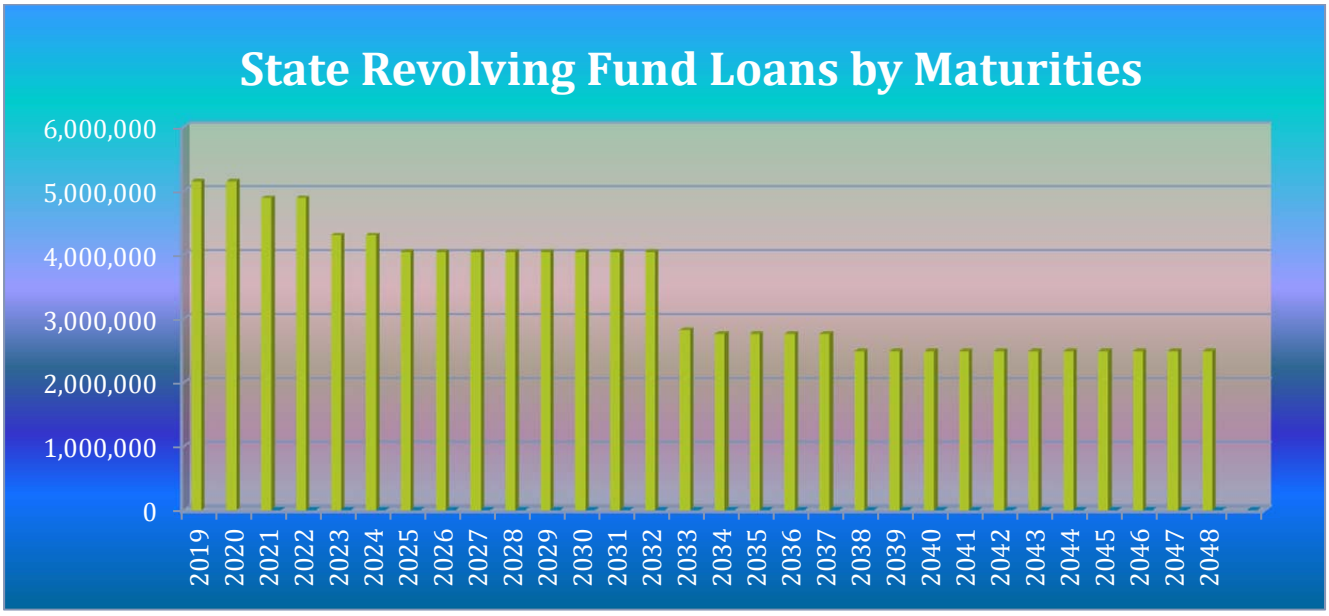
VVWRA Regional Plant

5.3 EXISTING STATE REVOLVING FUND LOAN PAYMENTS BY MATURITIES

The table below represents our debt service payments for the Clean Water State Revolving Fund (SRF) loans. In addition to $4.0 million Water Recycling grant and $9.2 million Proposition One grant, we have obtained a $27.1 million SRF loan for Apple Valley Sub-regional plant and $40.7 million SRF loan for Hesperia Sub-regional plant during FY 2015. In addition, we have added a $4.3 million SRF loan for the Upper Narrows Pipeline Replacement Project and a $4.5 million SRF loan for the Nanticoke Pump Station Bypass Sewer Project during FY 2016. Our debts consist of the SRF loans only, as listed below. As a special district, we are not required to maintain a legal debt limit but are required to adhere to the debt coverage clauses. Next page shows the annual repayments in a graph.

VVWRA Annual Debt Service

Fiscal Year	9.5 MGD Capital Improvements	11 MGD Expansion	North Apple Valley Interceptor	Phase IIIA Regulatory Upgrades	Upper Narrows Replacement	Nanticoke Bypass	Apple Valley Sub-Regional	Hesperia Sub-Regional	**Total**
2019	265,049	579,870	258,151	1,027,610	257,745	271,633	1,024,951	1,462,850	**5,147,859**
2020	265,049	579,870	258,151	1,027,610	257,745	271,633	1,024,951	1,462,850	**5,147,859**
2021	-	579,870	258,151	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,882,810**
2022	-	579,870	258,151	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,882,810**
2023	-	-	258,151	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,302,940**
2024	-	-	258,151	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,302,940**
2025	-	-	-	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,044,789**
2026	-	-	-	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,044,789**
2027	-	-	-	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,044,789**
2028	-	-	-	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,044,789**
2029	-	-	-	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,044,789**
2030	-	-	-	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,044,789**
2031	-	-	-	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,044,789**
2032	-	-	-	1,027,610	257,745	271,633	1,024,951	1,462,850	**4,044,789**
2033	-	-	-	-	60,393	271,633	1,024,951	1,462,850	**2,819,827**
2034	-	-	-	-	-	271,633	1,024,951	1,462,850	**2,759,434**
2035	-	-	-	-	-	271,633	1,024,951	1,462,850	**2,759,434**
2036	-	-	-	-	-	271,633	1,024,951	1,462,850	**2,759,434**
2037	-	-	-	-	-	271,633	1,024,951	1,462,850	**2,759,434**
2038	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
2039	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
2040	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
2041	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
2042	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
2043	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
2044	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
2045	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
2046	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
2047	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
2048	-	-	-	-	-	-	1,024,951	1,462,850	**2,487,801**
Total	**530,098**	**2,319,480**	**1,548,906**	**14,386,540**	**3,668,823**	**5,161,027**	**30,748,530**	**43,885,500**	**102,248,904**



This graph presents the annual SRF loan repayments. At peak years, the repayment amount exceeds $5 million. During FY 2020 the impact on Operations and Maintenance (O&M) Fund is $2,761,135, while the effect on Capital Fund is $2,386,726. For FY 2021, the impact on O&M Fund is $2,749,738 and effect on Capital Fund is $2,133,072. Please refer to page 57 for the detail information.

5.4 STATE REVOLVING FUND LOANS FOR FY 2020 AND FY 2021

Summary: VVWRA has utilized State Revolving Fund (SRF) loans through California State Water Resources Control Board to fund most capital projects. The construction of the projects below was completed during the year ended June 30, 2018. This page shows the next two years of principal and interest repayments per Operations & Maintenance and Capital Funds.

2020	9.5 MGD Capital Improvements	11 MGD Expansion	North Apple Valley Interceptor	Phase IIIA Regulatory Upgrades	Upper Narrows Replacement Project	Nanticoke Bypass Project	Apple Valley Sub-Regional Project	Hesperia Sub-Regional Project	2020 Total
SRF Loan Amount	$ 4,069,859	$ 11,430,726	$ 4,084,688	$ 15,717,668	$ 4,286,380	$ 4,459,190	$ 26,455,229	$ 37,758,385	$ 108,262,125
Annual Payment	$ 265,050	$ 579,870	$ 258,151	$ 1,027,610	$ 257,745	$ 271,633	$ 1,024,951	$ 1,462,850	$ 5,147,860
Payment Date	September 15	April 3	February 13	June 30	December 31	June 30	February 28	February 28	
1. Operations	4.30%	0.00%	0.00%	75.00%	100.00%	75.00%	61.00%	61.00%	
Original Loan	$ 175,004	$ -	$ -	$ 11,788,251	$ 4,286,380	$ 3,344,393	$ 16,137,690	$ 23,032,615	
Principal	$ 11,108	$ -	$ -	$ 545,097	$ 200,921	$ 145,181	$ 468,504	$ 668,668	$ 2,039,479
Interest	$ 289	$ -	$ -	$ 225,611	$ 56,824	$ 58,544	$ 156,716	$ 223,672	$ 721,656
Annual Payment	$ 11,397	$ -	$ -	$ 770,708	$ 257,745	$ 203,725	$ 625,220	$ 892,340	$ 2,761,135
2. Capital	95.70%	100.00%	100.00%	25.00%	0.00%	25.00%	39.00%	39.00%	
Original Loan	$ 3,894,855	$ 11,430,726	$ 4,084,688	$ 3,929,417	$ -	$ 1,114,798	$ 10,317,539	$ 14,725,770	
Principal	$ 247,225	$ 548,803	$ 228,168	$ 181,699	$ -	$ 48,394	$ 299,535	$ 427,507	$ 1,981,331
Interest	$ 6,427	$ 31,067	$ 29,983	$ 75,204	$ -	$ 19,515	$ 100,196	$ 143,003	$ 405,395
Annual Payment	$ 253,652	$ 579,870	$ 258,151	$ 256,903	$ -	$ 67,909	$ 399,731	$ 570,510	$ 2,386,726
Total Principal	$ 258,333	$ 548,803	$ 228,168	$ 726,796	$ 200,921	$ 193,574	$ 768,039	$ 1,096,175	$ 4,020,809
Total Interest	$ 6,716	$ 31,067	$ 29,983	$ 300,814	$ 56,824	$ 78,059	$ 256,912	$ 366,675	$ 1,127,051
Annual Payment	$ 265,049	$ 579,870	$ 258,151	$ 1,027,610	$ 257,745	$ 271,633	$ 1,024,951	$ 1,462,850	$ 5,147,860

2021	11 MGD Expansion	North Apple Valley Interceptor	Phase IIIA Regulatory Upgrades	Upper Narrows Replacement Project	Nanticoke Bypass Project	Apple Valley Sub-Regional Project	Hesperia Sub-Regional Project	2021 Total
SRF Loan Amount	$ 11,430,726	$ 4,084,688	$ 15,717,668	$ 4,286,380	$ 4,459,190	$ 26,455,229	$ 37,758,385	$ 104,192,266
Annual Payment	$ 579,870	$ 258,151	$ 1,027,610	$ 257,745	$ 271,633	$ 1,024,951	$ 1,462,850	$ 4,882,810
Payment Date	April 3	February 13	June 30	December 31	June 30	February 28	February 28	
1. Operations	0.00%	0.00%	75.00%	100.00%	75.00%	61.00%	61.00%	
Original Loan	$ -	$ -	$ 11,788,251	$ 4,286,380	$ 3,344,393	$ 16,137,690	$ 23,032,615	
Principal	$ -	$ -	$ 559,814	$ 204,738	$ 147,939	$ 473,189	$ 675,355	$ 2,061,035
Interest	$ -	$ -	$ 210,893	$ 53,007	$ 55,786	$ 152,032	$ 216,985	$ 688,703
Annual Payment	$ -	$ -	$ 770,707	$ 257,745	$ 203,725	$ 625,221	$ 892,340	$ 2,749,738
2. Capital	100.00%	100.00%	25.00%	0.00%	25.00%	39.00%	39.00%	
Original Loan	$ 11,430,726	$ 4,084,688	$ 3,929,417	$ -	$ 1,114,798	$ 10,317,539	$ 14,725,770	
Principal	$ 558,956	$ 233,872	$ 186,605	$ -	$ 49,313	$ 302,530	$ 431,782	$ 1,763,058
Interest	$ 20,914	$ 24,279	$ 70,298	$ -	$ 18,595	$ 97,200	$ 138,728	$ 370,014
Annual Payment	$ 579,870	$ 258,151	$ 256,903	$ -	$ 67,908	$ 399,730	$ 570,510	$ 2,133,072
Total Principal	$ 558,956	$ 233,872	$ 746,419	$ 204,738	$ 197,252	$ 775,719	$ 1,107,137	$ 3,824,093
Total Interest	$ 20,914	$ 24,279	$ 281,191	$ 53,007	$ 74,381	$ 249,232	$ 355,713	$ 1,058,717
Annual Payment	$ 579,870	$ 258,151	$ 1,027,610	$ 257,745	$ 271,633	$ 1,024,951	$ 1,462,850	$ 4,882,810

6 History and Demographics

6.1 HISTORY

Victor Valley Wastewater Reclamation Authority (VVWRA) was originally formed by the Mojave Water Agency to help meet the requirements of the Federal Clean Water Act and provide wastewater treatment for the growing area. Our original treatment plant, with supporting pipelines and infrastructure, began operating in 1981, providing tertiary level treatment for up to 4.5 million gallons per day. VVWRA is now a joint power public agency of the State of California handling 12.05 million gallons a day.

Over the years, VVWRA has completed treatment plant upgrades and several capacity increases. This regional treatment plant is currently capable of treating a portion of the flow to a tertiary level and the remaining flow to a secondary level for percolation. A majority of the highly treated wastewater is discharged into the Mojave River Basin, while a smaller quantity is sold to Victorville power plant and American Organics.

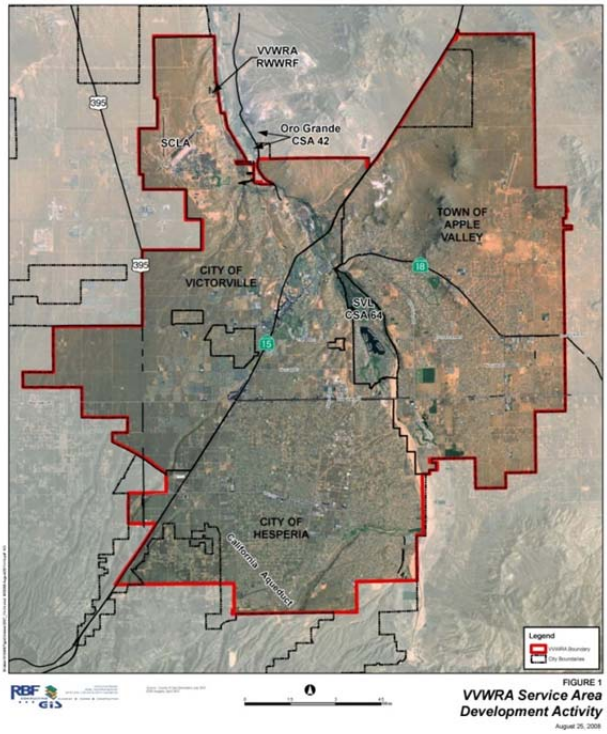


Figure 6-1 VVWRA Service Area

6.2 GOVERNANCE

VVWRA is a quasi-governmental agency called a Special District of the State of California. It is not regulated by California Public Utilities Commission but governed by a Board of four Commissioners who are publicly elected for a four-year term from each member agency. Our affairs are bound by a joint powers agreement between VVWRA and member local government agencies consisting of City of Victorville, City of Hesperia, Town of Apple Valley and the County of San Bernardino Service Areas No. 42 (Oro Grande) and No. 64 (Spring Valley Lake) for the purpose of construction; operation; and maintenance of sewer collection, transmission, and treatment facilities within the region. The General Manager is responsible for carrying out the policies and ordinances approved by the Board (and by the community residents) and for overseeing the day-to-day operations of VVWRA.

6.3 SAN BERNARDINO COUNTY

San Bernardino County is the largest county in the United States. According to the 2010 U.S. Census, the San Bernardino County has a population of 2,035,210. With an area of 20,160 square miles, the San Bernardino County is larger than the combined area of the four smallest states in the nation. Over 90% of this county is desert, while the remaining 10% is mountains and valleys that rest in the Inland Empire.

6.4 DEMOGRAPHICS

The service area has a population of 292,534 in 2017 with a slow and steady population growth from 2008 to 2017.

Unemployment in the San Bernardino County has risen from 8% in 2008 to 10.1% in 2013 due to the economic downturn that started in late 2008. The increased unemployment has also impacted the personal income per capita, which decreased from $30,363 in 2008 to $21,792 in 2009, then increased to $37,091 in 2017.

The figures below represent data for the County of San Bernardino based on information from State of California Employment Development Department.

Figure 6-2: Population Growth

Figure 6-3: Unemployment Rate

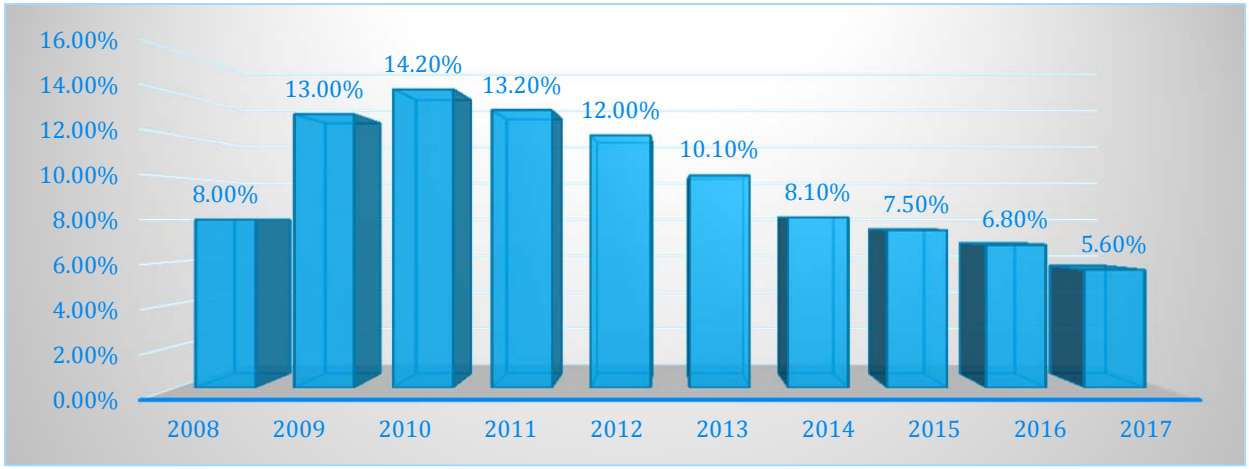


Figure 6-4: Personal Income Per Capita

7 Performance Benchmarked Against Industry

7.1 SEWER OVERFLOW

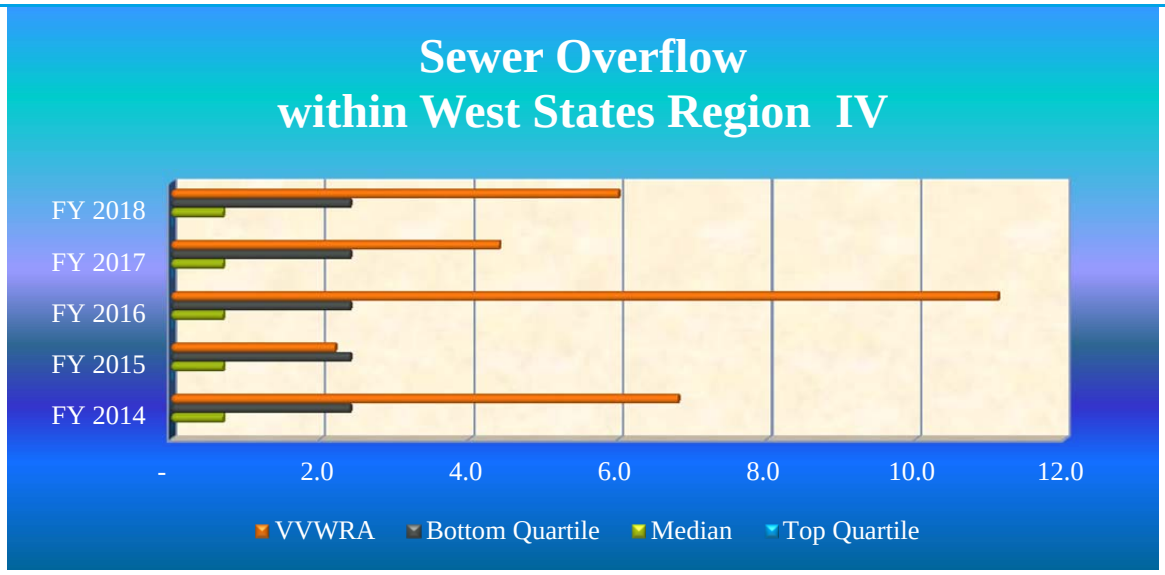
The sewer overflow rate is an indicator that tracks the condition and the effectiveness of the maintenance of the wastewater collection system.

San Bernardino County, including Upper and Lower Narrows of the Mojave River, experienced a severe rain storm during December 2010. President Obama declared this storm as a National Disaster on January 26, 2011. The flood and debris damaged pipelines that lead to an unexpectedly high sewer overflow rate of 12.2 for FY 2011. VVWRA installed an emergency temporary pipeline to divert the flow from the damaged pipeline. This rain storm caused unusual overflows including one at the "I" Avenue pipeline in the City of Hesperia. To remedy overflow in this area, VVWRA constructed the Santa Fe relief pipeline during FY 2012.

VVWRA had two reported spills at the Town of Apple Valley and another reported spill at a pump station during FY 2018 which resulted in a sewer overflow rate of 6.00. VVWRA has completed the construction of a permanent interceptor during FY 2017 to replace the temporary bypass line.

Sewer Overflow-West States Region IV Benchmark

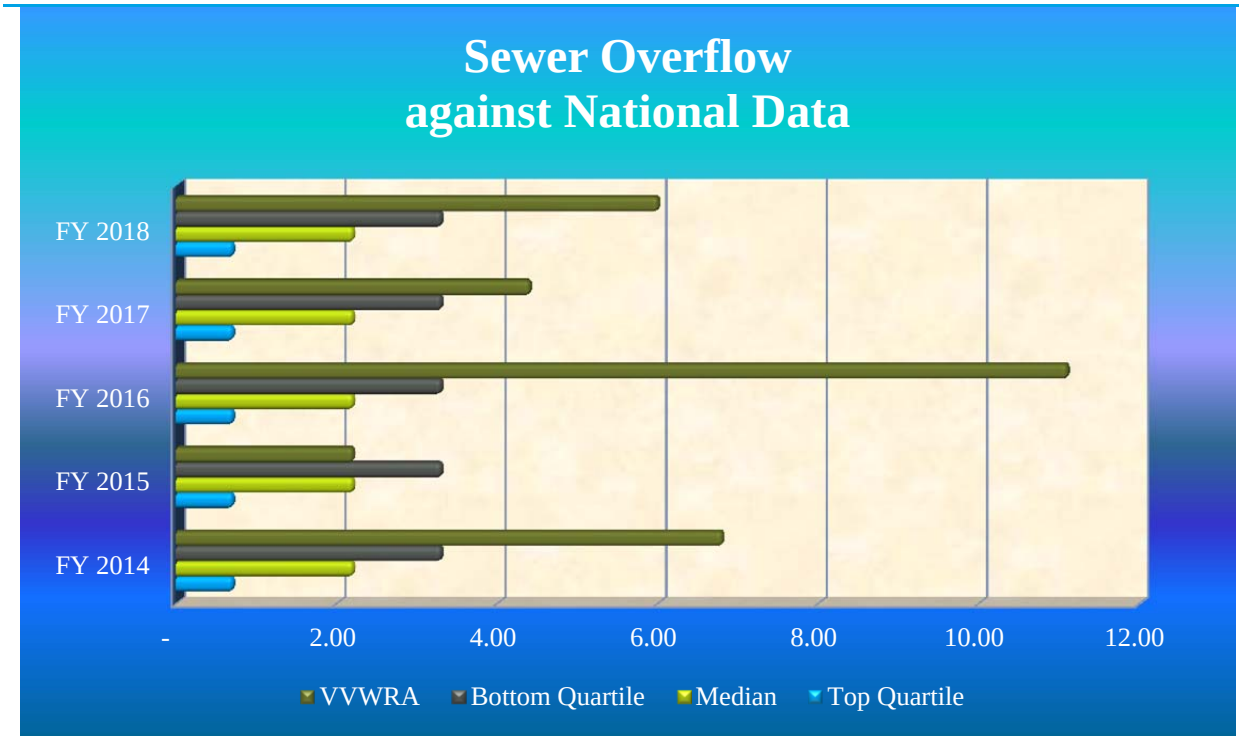
	Top Quartile	Median	Bottom Quartile	VVWRA
FY 2018	*Data Not Available*	0.70	2.40	6.00
FY 2017	*Data Not Available*	0.70	2.40	4.40
FY 2016	*Data Not Available*	0.70	2.40	11.10
FY 2015	*Data Not Available*	0.70	2.40	2.20
FY 2014	*Data Not Available*	0.70	2.40	6.80



Source: 2012 American Water Works Association Benchmarking analysis *FY = Fiscal Year ended June 30*

Sewer Overflow-National Benchmark

	Top Quartile	Median	Bottom Quartile	VVWRA
FY 2018	0.70	2.20	3.30	6.00
FY 2017	0.70	2.20	3.30	4.40
FY 2016	0.70	2.20	3.30	11.10
FY 2015	0.70	2.20	3.30	2.20
FY 2014	0.70	2.20	3.30	6.80



Source: 2012 American Water Works Association Benchmarking analysis *FY = Fiscal Year ended June 30*

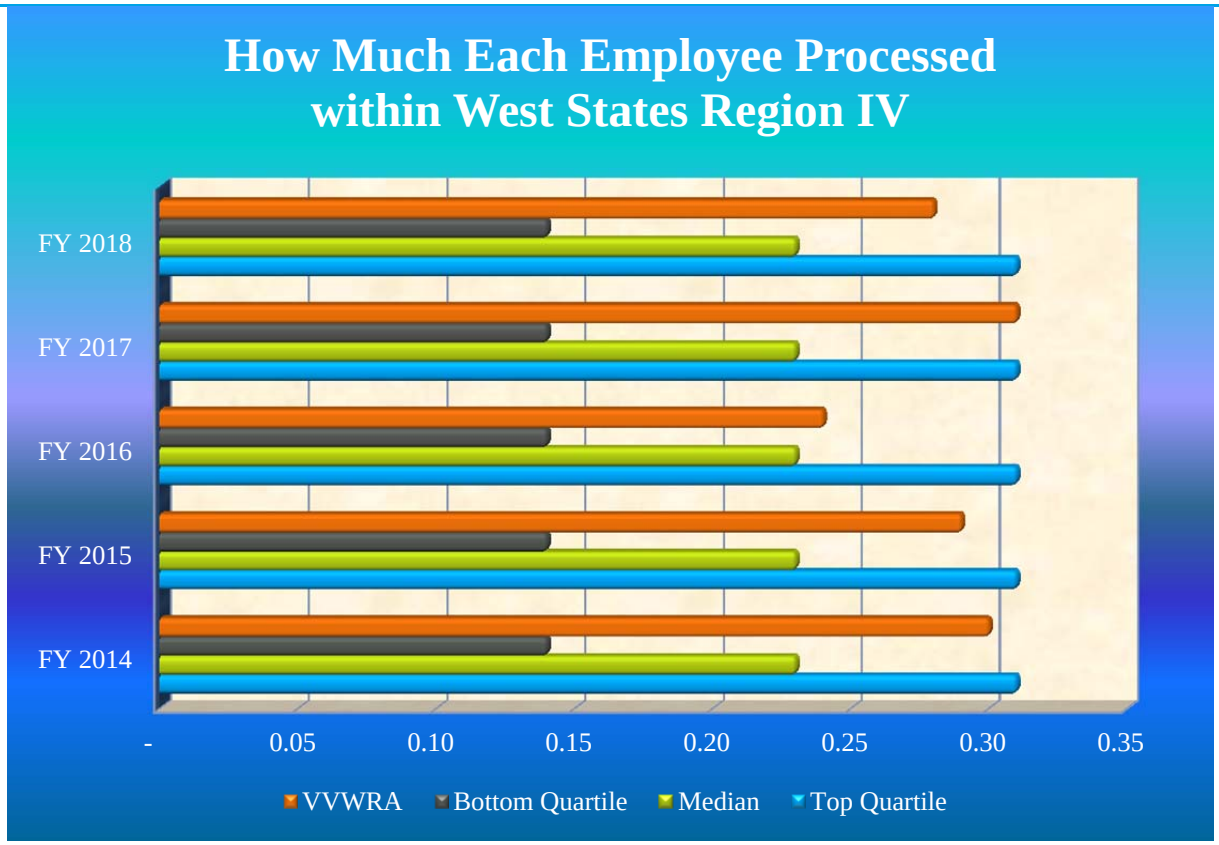
7.2 HOW MUCH EACH EMPLOYEE PROCESSED

The quantity of wastewater processed by each employee has decreased from 0.30 million gallons per day (MGD) in FY 2014 to 0.24 MGD in FY 2016 and increased back to 0.28 MGD in FY 2018. The total amount of wastewater that VVWRA has processed has decreased by 12%, from 4,423 MG in FY 2014 to 3,888 MG in FY 2018. The total number of employees that VVWRA employed has also decreased as well by 7%, from 41 to 38 during the comparative period per CAFR's.

Compared to West States Region IV, VVWRA has almost continuously remained at the top quartile during FY 2013. Compared nationally, the quantity of wastewater processed by each employee has surpassed the median since FY 2013.

How Much Each Employee Processed-West States Region IV Benchmark

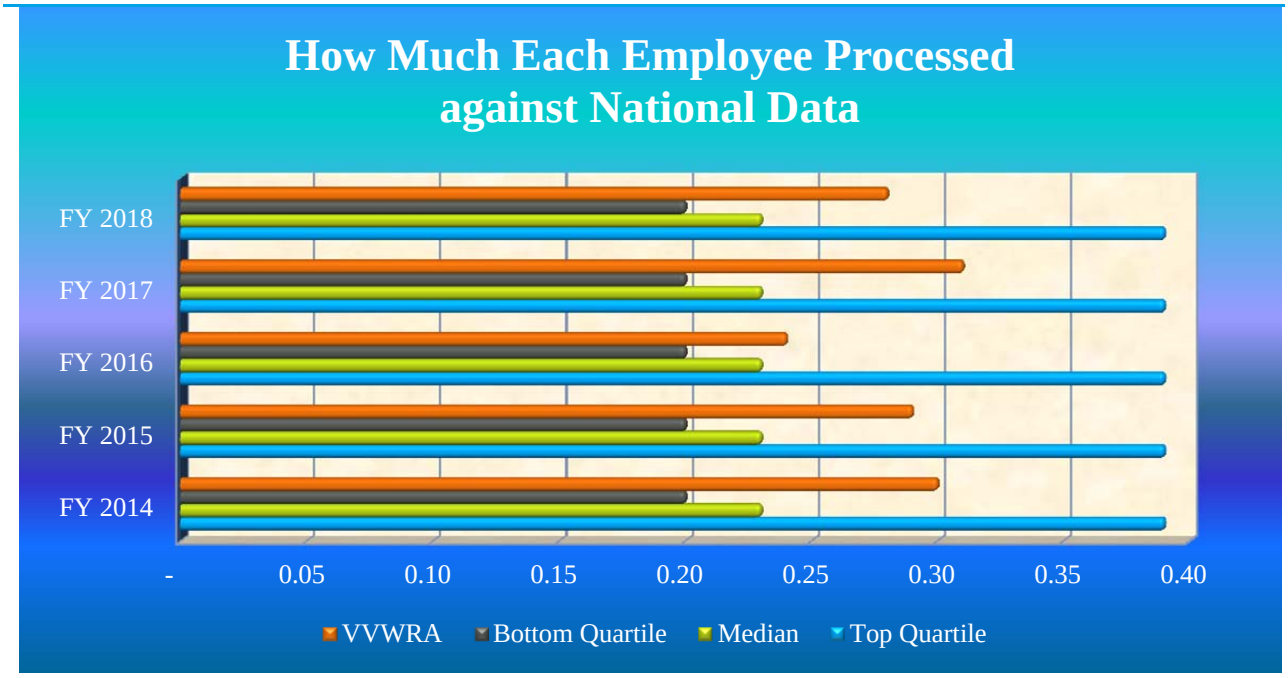
	Top Quartile	Median	Bottom Quartile	VVWRA
FY 2018	0.31	0.23	0.14	0.28
FY 2017	0.31	0.23	0.14	0.31
FY 2016	0.31	0.23	0.14	0.24
FY 2015	0.31	0.23	0.14	0.29
FY 2014	0.31	0.23	0.14	0.30



Source: 2012 American Water Works Association Benchmarking analysis *FY = Fiscal Year ended June 30*

How Much Each Employee Processed-National Benchmark

	Top Quartile	Median	Bottom Quartile	VVWRA
FY 2018	0.39	0.23	0.20	0.28
FY 2017	0.39	0.23	0.20	0.31
FY 2016	0.39	0.23	0.20	0.24
FY 2015	0.39	0.23	0.20	0.29
FY 2014	0.39	0.23	0.20	0.30



Source: 2012 American Water Works Association Benchmarking analysis *FY = Fiscal Year ended June 30*

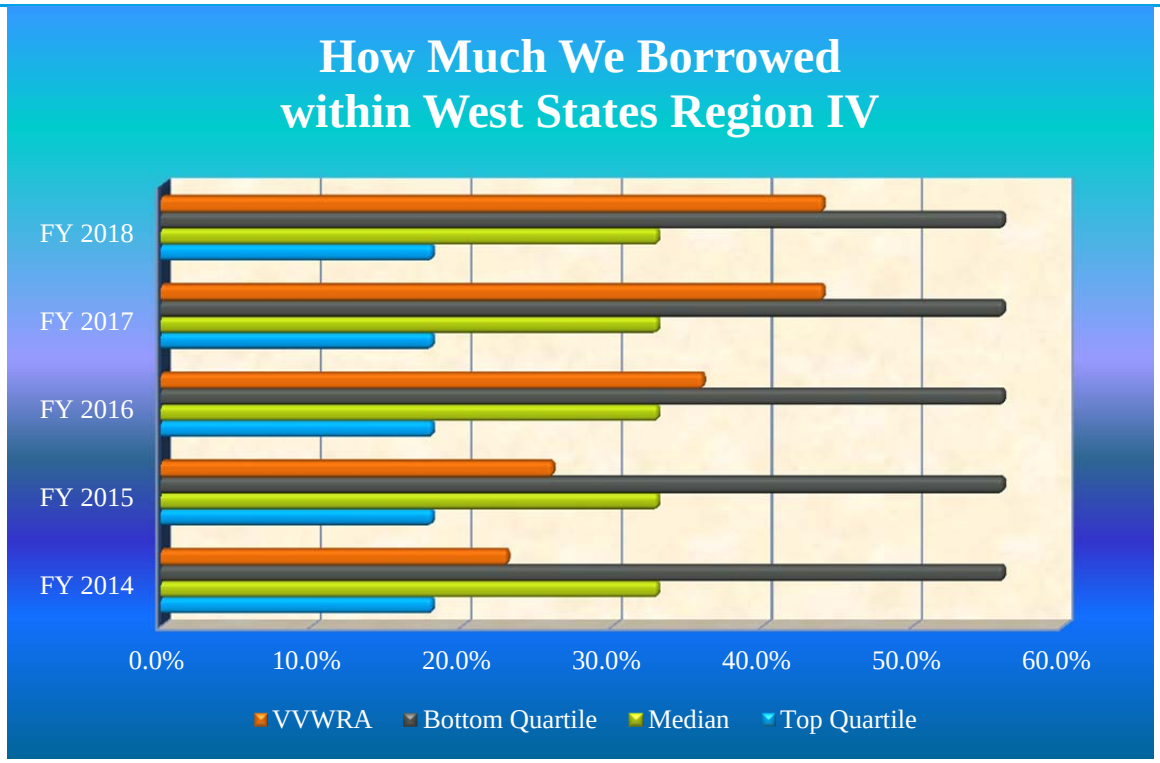
7.3 HOW MUCH VVWRA BORROWED

When you compare what you owe (liabilities) to what you have (assets), you will obtain a debt ratio. The debt ratio can be used to measure the health of a business. Lower value of debt ratio is favorable and a higher value indicates that a higher portion of the organization's assets are claimed by its creditors which means there is a higher risk in operation since the entity would find it difficult to obtain loans for new projects. VVWRA's debt ratio has increased from 23.00% in FY 2014 to 44.00% in FY 2018 due to the increase in the amount of State Revolving Fund loans for the construction projects.

VVWRA surpassed the median quartile in FY 2014 and performed better than the median quartile of the West States Region IV in later years. Compared nationally, VVWRA is ranked between median and top quartiles for the same period. The national data for top and bottom quartiles is not available.

How Much We Borrowed-West States Region IV Benchmark

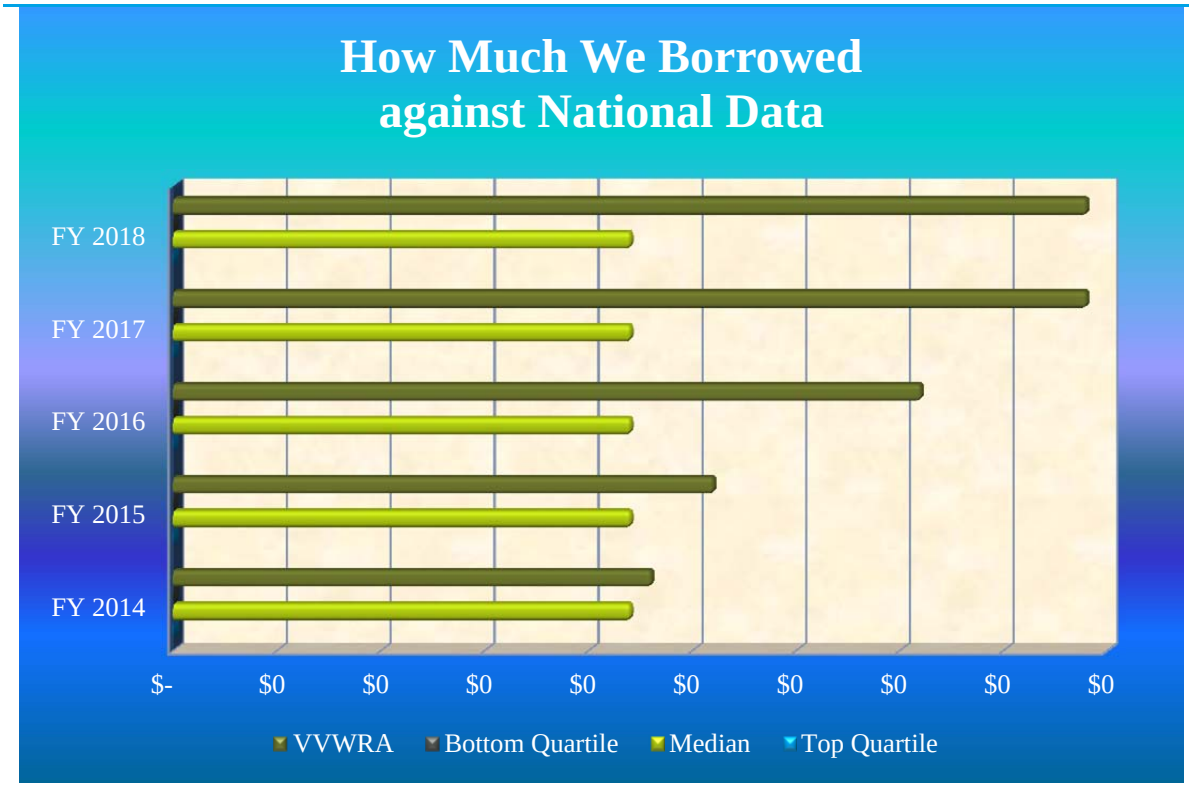
	Top Quartile	Median	Bottom Quartile	VVWRA
FY 2018	18.0%	33.0%	56.0%	44.00%
FY 2017	18.0%	33.0%	56.0%	44.00%
FY 2016	18.0%	33.0%	56.0%	36.00%
FY 2015	18.0%	33.0%	56.0%	26.00%
FY 2014	18.0%	33.0%	56.0%	23.00%



Source: 2012 American Water Works Association Benchmarking analysis *FY = Fiscal Year ended June 30*

How Much We Borrowed-National Benchmark

	Top Quartile	Median	Bottom Quartile	VVWRA
FY 2018	Data Not Available	22.0%	Data Not Available	44.00%
FY 2017	Data Not Available	22.0%	Data Not Available	44.00%
FY 2016	Data Not Available	22.0%	Data Not Available	36.00%
FY 2015	Data Not Available	22.0%	Data Not Available	26.00%
FY 2014	Data Not Available	22.0%	Data Not Available	23.00%



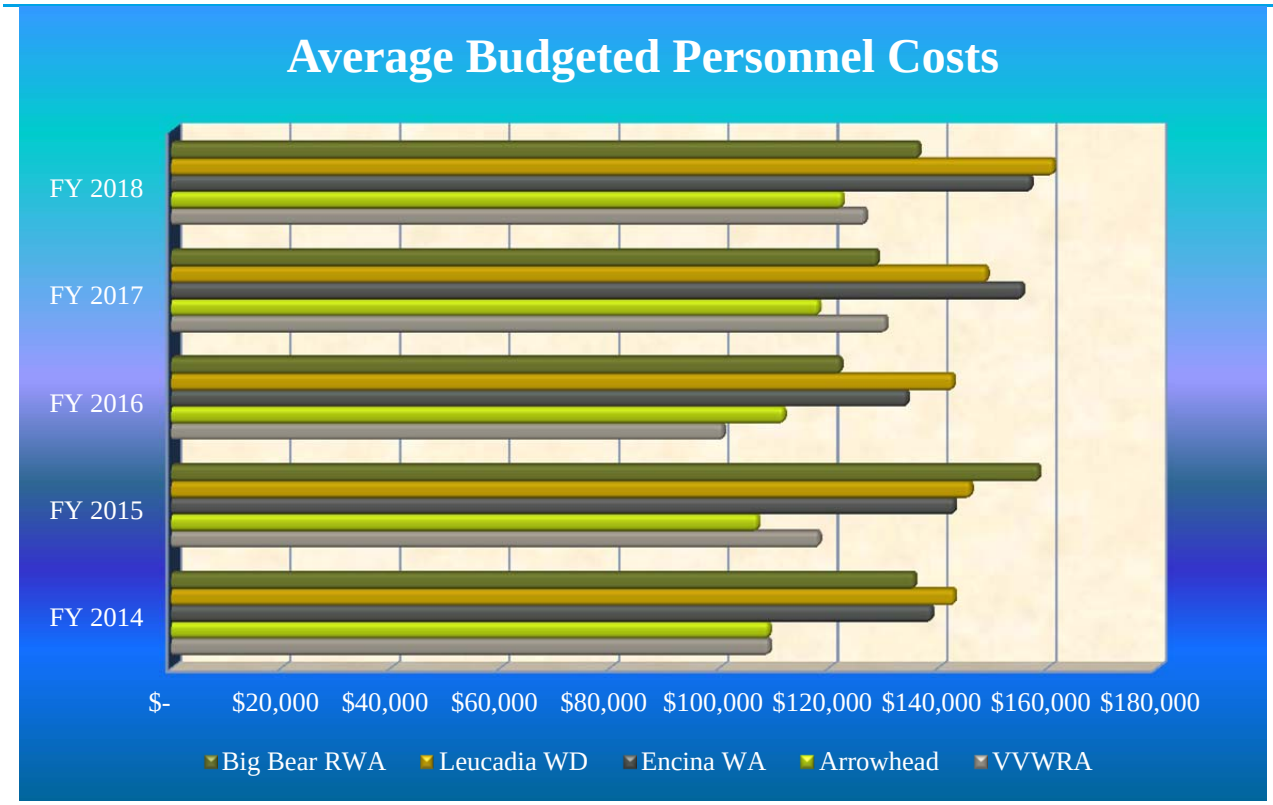
Source: 2012 American Water Works Association Benchmarking analysis *FY = Fiscal Year ended June 30*

7.4 AVERAGE BUDGETED PERSONNEL COST

Average budgeted personnel cost indicates the cost-effectiveness of an agency's overall personnel budget. Such an indicator is calculated by dividing the total budgeted personnel costs by the total budgeted number of employees for a fiscal year. VVWRA's average budgeted personnel costs have improved from median to the low end compared to other wastewater treatment agencies with similar size in the Southern California.

Average Budgeted Personnel Cost

	VVWRA	Arrowhead	Encina WA	Leucadia WD	Big Bear RWA
FY 2018	$ 126,681	$ 122,463	$ 156,933	$ 161,137	$ 136,475
FY 2017	$ 130,464	$ 118,190	$ 155,394	$ 148,888	$ 128,896
FY 2016	$ 100,670	$ 111,767	$ 134,317	$ 142,734	$ 122,160
FY 2015	$ 118,218	$ 107,039	$ 142,968	$ 145,960	$ 158,417
FY 2014	$ 109,157	$ 109,058	$ 138,791	$ 142,991	$ 135,720



Source: 2012 American Water Works Association Benchmarking analysis *FY = Fiscal Year ended June 30*

8 Glossary

Term	Definition
Ammonia Nitrogen	The soluble ionized and unionized ammonia nitrogen component in wastewater that can be measured using the procedure described in the current edition of "*Standard Methods for the Examination of Water and Wastewater*" published by the American Public Health Association.
Biochemical oxygen demand (BOD)	The measure of decomposable organic material in wastewater as represented by the oxygen utilized as determined by the procedure described in the current edition of "*Standard Methods for the Examination of Water and Wastewater*" published by the American Public Health Association.
Cal-OES	The California Governor's Office of Emergency Services (Cal-OES) serves the public through effective collaboration in preparing for, protecting against, responding to, recovering from, and mitigating the impacts of all hazards and threats.
Cash Basis	Revenues and expenses are recognized when cash is received or paid out.
Connection Fee	A fee paid by a new discharger for the costs of capacity in the regional wastewater system.
Effluent	The liquid outflow discharged from the Publicly Owned Treatment Works (POTW) facility or the nondomestic wastewater discharged by industrial users to the POTW.
Enterprise accounting	Uses an accrual basis of accounting method to account for the activities of a government agency that provides goods or services to the public on a fee basis.
Enterprise Accounting System	An accrual accounting system that is similar to a regular business accounting method, where revenues and expenses are recorded when they incur. VVWRA employs two funds, (1) Operations and Maintenance Fund and (2) Capital Fund. Both of the funds employ the Enterprise Accounting System.
FEMA	The Federal Emergency Management Agency (FEMA) coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror.
Interceptor	A pipeline that conveys wastewater from the sewer collection facilities of a Member Agency to the VVWRA's wastewater treatment facilities.
Member Agencies	The four government agencies who participate in the joint power agreement with VVWRA. They are the City of Victorville; Town of Apple Valley; Hesperia Water District; and County of San Bernardino Service Areas, #42 Oro Grande and #64 Spring Valley Lake.
MG	Million Gallons.
MGD	Million Gallons per Day.
POTW	The Publicly Owned Treatment Works is sewage treatment plants **that are owned and usually operated by local government agencies.**
Industrial Pretreatment	The reduction and elimination of pollutants or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into the POTW.
Reclaimed Water	Water that, as a result of waste treatment, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.
Septage	Any wastewater or sludge removed from cesspools, septic tanks, holding tanks, or chemical toilets that is trucked or hauled to the point of discharge.
SRF	State Revolving Fund.
High Strength Surcharge	An assessment, in addition to the service charge, which may be levied on those users whose waste are greater in strength than threshold concentration values established.
Total Suspended Solids	The insoluble solid matter suspended in wastewater that is separable by laboratory filtration in accordance with the procedure described in the current edition of "*Standard Methods for the Examination of Water and Wastewater*" published by the American Public Health Association.

Term	Definition
User	Any person who contributes, causes, or permits the contribution of wastewater into the POTW, including households, private residences, nonresidential users, and Member Agencies.
VVWRA	The Victor Valley Wastewater Reclamation Authority.
Wastewater	The domestic or nondomestic liquid wastes discharged from dwellings, or commercial buildings, industrial facilities, and institutions, together with any ground water, surface water, and storm water that may be present, whether treated or untreated, which is contributed into or permitted to enter the POTW.