



# Water Department

# Water Department



Rainbow over Loch Lomond

## Department Description

The mission of the Water Department is to ensure public health and safety by providing a clean, safe and reliable supply of water. We strive to serve the community in a courteous, efficient, cost effective and environmentally sustainable manner.

We are passionate about our work and try to instill our values of integrity, innovation, objectivity, professionalism, teamwork and transparency in everything we do. We collect water, treat and test it, move it, store it, distribute it, track how much is used and bill our customers for their use. We are at the end of the phone when customers call with questions and we are the smiling faces they see when they visit the department. We educate our customers about the quality of their water, how to use less water and provide them the tools to do so. Our work includes the maintenance and operation of Loch Lomond Recreation area, as well as the protection of the Majors, Liddell, Newell Creek, Zayante and Laguna watersheds. We are stewards of an important community asset; the water system and all it entails, as well as a range of natural resources and ecosystems that we and many species depend upon and that are important elements of a

## Workload Indicators

Number of gallons of drinking water produced (billions)

FY18	2.682
FY17	2.258
FY16	2.491

Number of violations of drinking water standards

FY18	0
FY17	0
FY16	0

Number of phone calls and lobby visits handled by the SCMU Customer Service unit

FY18	58,907
FY17	57,227
FY16	61,117

Millions of dollars of capital investment in water system infrastructure (millions)

FY18	\$10.8
FY17	\$11.0
FY16	\$8.6

Number of drinking water samples collected and processed

FY18	7,772
FY17	7,897
FY16	6,030

sustainable community. We take pride in meeting the diverse needs of the broad region we serve.

The Department is organized into operational and administrative sections. Operational sections include Production, Water Quality Lab, Distribution, Water Resources and the Loch Lomond Recreation area. These sections are responsible for managing the watersheds; collecting, treating and testing untreated and treated water; and storing and distributing treated water to our customers. The administrative sections are comprised of Finance and Administration, Engineering, Conservation, Customer Service, and Community Relations. Staff in these sections provide leadership, plan and implement the Capital Investment Program (CIP), develop and implement financial plans, read meters, bill customers and collect revenues, help our customers conserve water and support active community outreach and engagement efforts covering a range of department activities.

Everyday, Department staff work hard to produce and deliver millions of gallons of water to over 98,000 customers and perform all the related utility, land and natural resource management activities that often happen behind the scenes, but play a part in providing reliable, high quality water service to our community.

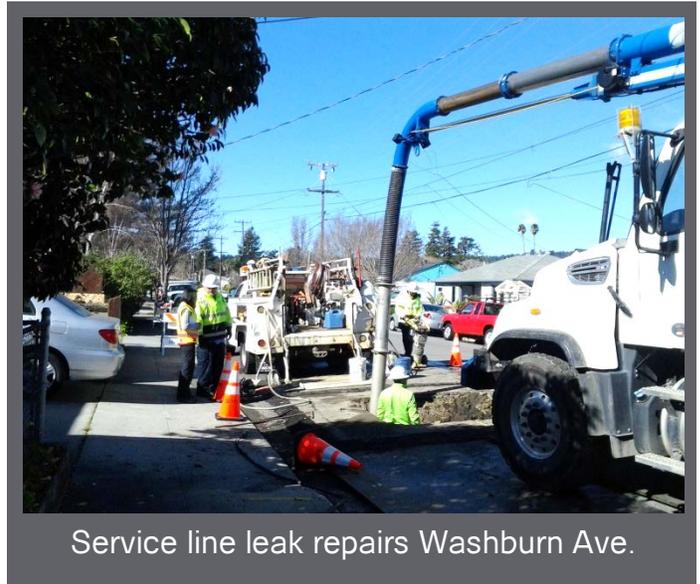


Fish sampling in the San Lorenzo River

# FY2019 Accomplishments

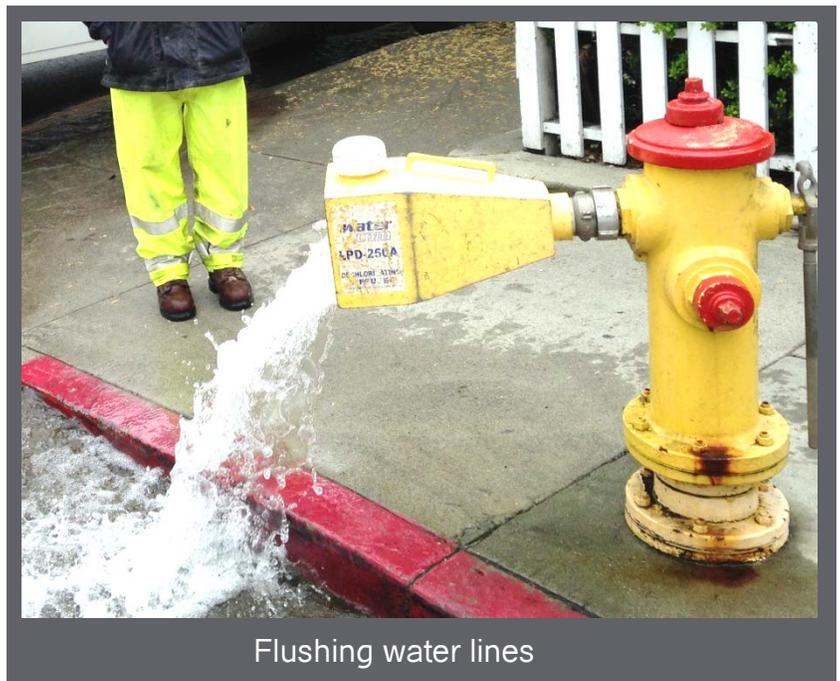
Perform core water utility services, 24 hours a day/7 day a week/365 days a year. Ensuring the health and safety of the community by producing 2.65 billion gallons of a clean, safe and a reliable supply of water.

- Performed emergency repairs for 36 leaking water mains and repaired or replaced 79 leaking service lines.



- Maintained the Department's strong performance for providing a water supply that is consistently in compliance with standards set by federal and state regulations including successfully completing all required drinking water compliance sampling, monitoring and reporting.
- Installed a new water ion charge analyzer at the Graham Hill Water Treatment Plant which will allow us to minimize the amount of chemicals used to treat our drinking water.
- Completed ongoing maintenance and repairs on the water system's pumps, valves and electrical systems.

- Flushed all of the water system's dead end distribution mains and completing high-velocity unidirectional flushing on more than half of the 300 miles of distribution mains.



Maintaining a strong customer service ethic is foundational to the work of the Department. We continue working with our customers with bill inquiries and conservation rebates, provide public education on the water system and explain our important work in the community.

- On behalf of the City's three utilities (water, sewer and refuse), staff produced and delivered over 300,000 bills, collected \$68 million revenue as well as \$7 million in utility and franchise tax revenue for the General Fund.



Water Department Customer Service



Water Department Conservation

- Customer Service staff handled over 45,000 calls, served 12,000 customers in our lobby and processed over 700 Leak Forgiveness applications.
- Finished a pilot project for advanced water meter technology with a group of 350 large irrigation meter accounts including local community parks and schools.
  - Conducted an independent evaluation of the pilot project, including an examination of water savings, number of leaks detected, and a customer satisfaction survey.
- Reached another milestone of more than 10,000 clothes washer rebates provided to customers since the program began in the year 2000.

## Meet or exceed all regulatory drinking water standards.

As noted above, the water system continues to meet all federal and state drinking water standards but the state of the water system's water treatment infrastructure certainly indicates that continuing to achieve this critically important goal is not a given without a significant investment in rehabilitation and replacement of existing facilities and treatment processes.

Interim measures to ensure the ongoing operability of the Graham Hill Water Treatment Plant include tube settler replacement in the sedimentation basins and major maintenance and repair of the flocculators, which are used as part of the sedimentation process. Both of these projects got underway in FY 2019 and will be completed in FY 2020.

Additional efforts are underway to develop and implement projects that will fully rehabilitate these critical facilities including:

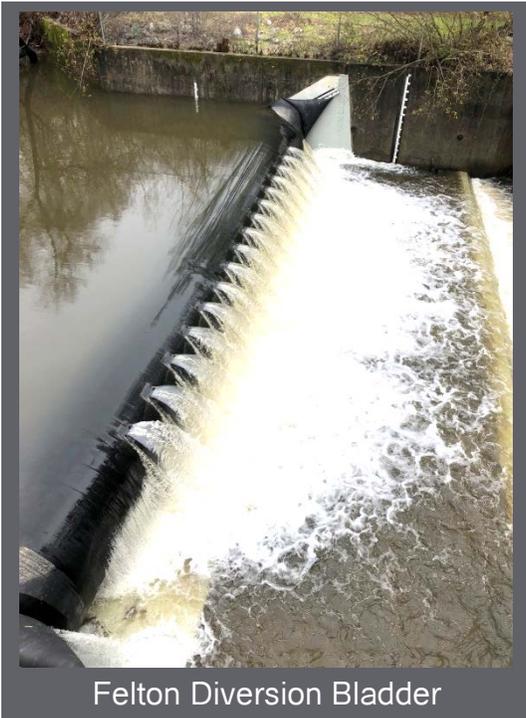
- Collecting and analyzing water samples from Santa Cruz's various sources of water to develop a more comprehensive understanding of source water characteristics, including during peak storm flow events, as an important input to both ongoing water treatment as well as future water treatment.
- Designing the replacement of the Graham Hill Water Treatment Plant concrete tanks including replacing three existing concrete tanks, two associated pump stations, and other ancillary features and site improvements necessary for construction beginning in early 2020.
- Completing a comprehensive facility and treatment process assessment as a basis for developing the longer term facility and process upgrade of the Graham Hill Water Treatment Plant, and
- Beginning pilot testing of new treatment technology to upgrade/modernize the Graham Hill Water Treatment Plant treatment capability.



Felton Diversion



Testing new water treatment method



Felton Diversion Bladder

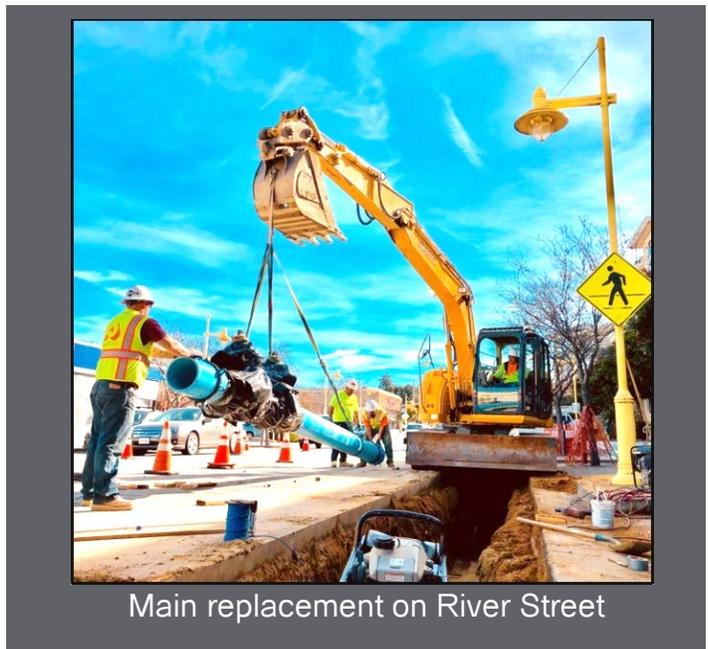
## Maintain and improve the reliability of the drinking water system.

The Water Department is partnering with HDR Inc., a leading engineering and consulting firm, in a program management approach to plan, design, and construct over \$300 million in water infrastructure projects to upgrade treatment facilities, replace critical aging pipes, and improve water supply reliability. This partnership is producing significant results that are summarized below.

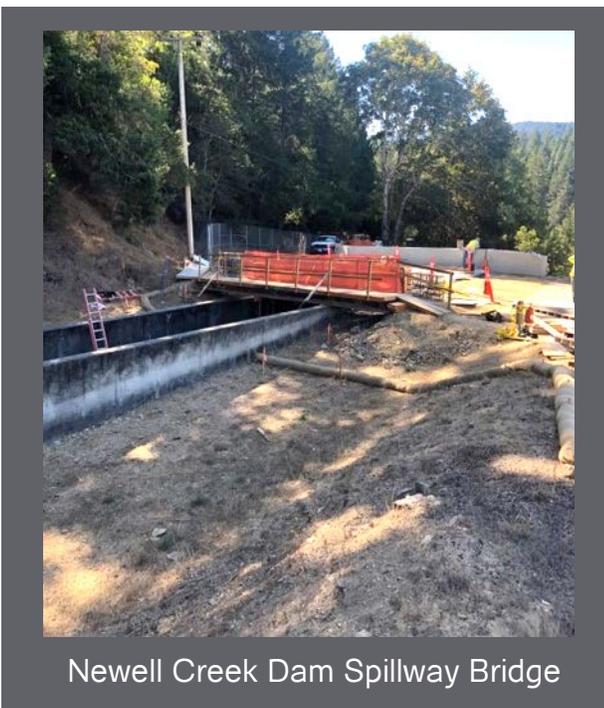
In 2019, the Department completed construction on several significant infrastructure rehabilitation and replacement projects including:

- Completed construction of a maintenance tank, and replacement of the inlet/outlet pipe in anticipation of replacement of the University Tank No. 5.
- Replaced the aging water main on River and Portrero Streets.
- Rehabilitated Beltz Wells No. 10 and 11.

- Replacement of the new inflatable dam at Felton Diversion.



Main replacement on River Street



Newell Creek Dam Spillway Bridge

- Completed an additional phase of ADA improvements Loch Lomond Recreation Area.
- Completed replacement of the Spillway Bridge at Newell Creek Dam in order to ensure access of fire-fighting equipment to the west side of the Newell Creek Watershed and prepare for the major construction related to the Newell Creek Dam Inlet/Outlet project.

Specific work in progress includes multiple planning, environmental review and design efforts for following CIP projects:

- ◆ Progressed design to 90% level to replace the Newell Creek Dam Inlet/Outlet Pipeline.
- ◆ Progressed to 75% design to replace the Graham Hill Water Treatment Plant Concrete Tanks.
- ◆ Planned for rehabilitation/replacement of all or parts of the Newell Creek Pipeline from Loch Lomond to the Graham Hill Water Treatment Plant.
- ◆ Completed a condition assessment and alternatives analysis on whether the diversion dams on two of our North Coast sources, Laguna and Majors, can be modified or replaced to improve the efficiency and reduce environmental impacts.



Laguna Diversion Dam

- ◆ Completed design and commenced construction on replacement of aging water main in Water Street.
- ◆ Completed design of the Coast Pump Station Raw Water Pipeline Replacement Project.

Finally, one of the Department's major projects, the Newell Creek Dam Inlet/Outlet project has made major progress toward final design and completion of the CEQA with the release of the project draft Environmental Impact Report in November 2018.

Outdated water meter technology is being replaced with advanced metering infrastructure. A business case was completed to quantify the benefits of replacing the current metering infrastructure which is at the end of useful life.



Water Department Meter Shop

## Safeguard existing surface and groundwater sources.

After many years of work, Water Department staff reached substantive agreement with federal and state resource agencies regarding in-stream flows to protect endangered fish species, and is working to produce the Habitat Conservation Plan document that is the predecessor to receiving 30 year permits from the federal and state fishery management agencies

that will provide regulatory certainty for the City and significant environmental enhancements. As part of this effort, staff has developed a long-term funding analysis for the Anadromous Salmonid Habitat Conservation Plan.

A related activity is the Water Department's work to modify the City's existing water rights on the San Lorenzo River. Proposed water rights changes include expanding the places of uses for these water rights and enhancing the City's ability to use its water rights with greater flexibility while still meeting its fish flow commitments. Specific progress in FY 2019 included initiating a CEQA process and preparing and filing with the State Water Resources Control Board water right change petition filing. In addition, as a demonstration of the effectiveness of providing reliable instream flows, the Department recorded the first observation of Coho salmon in Liddell Creek, one of our North Coast sources.



One other accomplishment of note demonstrates the Water Department's significant role and engagement with regional partners, which is its engagement with both the groundwater sustainability planning efforts in both the Santa Cruz Mid-County and Santa Margarita groundwater basins.

Finally, the Water Department is continuing efforts to work across City departments to conduct a comprehensive review of the City's

Integrated Pest Management Policy including looking at lessons learned from other jurisdictions, and make recommendations to the City Council for potential amendments to the City's existing policy.

## **Sustain long-term financial viability.**

The Water Department is working to minimize the future cost of borrowing to support its Capital Investment Program by seeking low cost loans from the State Water Resources Control Board Drinking Water State Revolving Fund (SRF) and developing an effective administrative process to identify, secure, and manage grant awards.

One example of this effort are applications for SRF funding for both the Graham Hill Water Treatment Plant Concrete Tanks Project (\$30 million) and the Newell Creek Dam Inlet/Outlet Pipeline Replacement (~\$86 million) that have been submitted to the State. The Drinking Water State Revolving Fund offers very competitive interest rates which reduce financing costs for these projects.



Valve turning event

## **Implement the City's water supply augmentation strategy.**

Recommended by the Water Supply Advisory Committee and accepted by the City Council in November 2015, the Water Department is assessing a number of water augmentation strategies to provide water security for the City.

One strategy is exploring the feasibility of sending available City surface water to neighboring

agencies for the purpose of passively recharging and replenishing the groundwater basins in the near-term and providing additional groundwater back to the City for its drought supply. In FY 2019, the Department initiated the water transfer pilot project with Soquel Creek Water District (District) by transferring

treated water to the District to study the passively recharging the groundwater basin, including co-hosting with the Soquel Creek Water District a "valve turning" ceremony commemorating the initiation of water exchanges between the City of Santa Cruz and Soquel Creek Water District as recommended by the Water Supply Advisory Committee (WSAC).



Water transfer pilot with Soquel Creek Water District

Progress on the potential for Aquifer Storage and Recovery to be part of our long term water supply portfolio is also moving ahead. Beginning in late 2018 and continuing into the spring of 2019 the Department initiated and completed three rounds of Aquifer Storage and Recovery pilot testing at the Beltz Well #12 location.



Aquifer Storage and Recovery

Water and Public Works Departments are continuing their joint efforts evaluating opportunities for developing advanced treated recycled water to reduce the supply gap and beneficially reuse treated wastewater.

Supporting these water supply augmentation efforts, the Water Department:

- Continued to distribute monthly email newsletters with updates on WSAC work and infrastructure investment.
- Produced and distributed the third Annual Report on progress implementing the Council approved recommendations of the Water Supply Advisory Committee (WSAC).

### **1. Create and foster maximum organizational and operational effectiveness.**

The Water Department is working hard to recruit and retain a workforce that is competent, engaged, motivated, and utilizes safe work practices. We are providing opportunities for professional and leadership development.



Water Distribution

- Created a new classification to address succession planning in the mechanical series at the Graham Hill Water Treatment Plant.
- Continued our Utility Maintenance Technician Trainee program to “grow our own.”
- Partnered with Human Resources to complete classification studies for several longer match their daily responsibilities.



Water Production



Water Recreation

Tools, systems, and skills are being established and instituted to create a well-coordinated, participatory organization dedicated to collaborative problem solving and decision-making. Skill development has been organization wide with a major emphasis on skills development for problem solving, communicating, and meeting participation basics with the idea that organization wide training

builds a common vocabulary and creates organization-wide expectations and accountability.

The multiple devastating wildfires that occurred in California and elsewhere in the Country in recent history have created a clear focus on emergency planning and operations. To be better prepared to both anticipate and respond, the Department began a comprehensive update of its Emergency Response Plan Communications are focused on aligning and unifying the work we do as a Department and involved a variety of significant efforts including:

- Prepared a Water Action Plan to provide a brief overview of the mission, strategic goals, and priorities for the Water Department over the next several years.
- Developed cross departmental work groups to inform the design, construction, and operation of key capital projects.
- Produce a weekly newsletter informing all Department staff of the on-going work of the Department and celebrating our accomplishments.

External communications has also been a priority, with significant focus on engaging community about the Department's various projects and programs.

Watershed education program for local schools



- Expanded watershed educational and interpretive programs for schools and the general public which includes monthly boat tours of Loch Lomond on the newly acquired "Newell Jewell".

- Hosted the Big Dam Deal at Loch Lomond Recreation Area to share plans regarding Newell Creek Dam construction work (as well as information about various other watershed-related efforts) with the community.
- Produced and distributed two issues of the Santa Cruz Municipal Utilities, the SCMU Review, focused on the state of the water system infrastructure and the effort needed to create a 21<sup>st</sup> century water system.



Newell Jewell Pontoon Boat



# FY2020 Goals

The Water Department will continue to build on our FY 2019 accomplishments in the following ways and consistent with the City Council's 2015 Strategic Plan.

## Environmental Sustainability and Well-Managed Resources

The Department will continue pursuing the recommendation of the Water Supply Advisory Committee's recommendation by:

- Completing the remaining major milestones in the technical feasibility of supplemental supply options and begin early implementation of whatever options make sense as soon as feasible.



Water Department Water Resources

- Completing CEQA for the water rights revision project and initiate the formal approval process with the State Water Resources Control Board with a goal of completing that process by the end of FY 2020.
- Finalize, publish and initiate formal environmental review (NEPA and CEQA) on the Anadromous Salmonid Habitat Conservation Plan.

## Community Safety and Well-Being

Fulfilling our core mission, the Water Department will continue to provide a clean, safe and reliable supply of water for our 98,000+ customers, 24 hours a day/ 7 day a week. The water produced will meet or exceed all regulatory drinking water standards.



Water Department Quality Control Lab

## Financial Stability

The Department will continue pursuing lowest cost financing options to fund the Capital Investment Program for the water utility. In addition to the two State Water Resources Control Board Drinking Water State Revolving Fund loans, the Department will explore other State and federal programs as well as grants.

We will be also be working to design and implement billing, noticing, and payment arrangement changes related to SB998, the Water Shutoff Protection Act.

## Reliable and Forward-Looking Infrastructure and Facilities

The Water Department is committed to maintaining and improving the reliability of the water system while addressing environmental, climate and regulatory demands. Specifically in FY 2020, we plan to:

- ◆ Complete projects to replace the tube settlers and flocculators at the Graham Hill Water Treatment Plant.
- ◆ Begin construction of the concrete tank replacement project at the Graham Hill Water Treatment Plant.
- ◆ Begin design work on the Graham Hill Water Treatment Plant Upgrades Project to modernize the City's only surface water treatment plant.
- ◆ Complete the design and contractor procurement and get ready to initiate the construction of the Newell Creek Dam Inlet/Outlet Project.
- ◆ Provide regional leadership and actively participate in contractor outreach efforts to attract high-quality construction contractors to our CIP projects.
- ◆ Complete construction the U5 tank and Coast Pump Station Raw Water Pipeline Replacement projects.
- ◆ Complete a condition assessment and hydraulic evaluation of the Felton Diversion facility.
- ◆ Initiate the design process to replace high priority segment(s) of the Newell Creek Pipeline.

Staff will also work with a consultant to update the Department's risk assessment and emergency response plan to address potential malevolent acts and natural hazards, as required by the America's Water Infrastructure Act of 2018.



Water Department Engineering

## Engaged and Informed Community

The Water Department is committed to public transparency and to keeping the community informed. Tools to help us achieve that goal in FY 2020 include:

- 💧 Monthly Water Commission meetings.



2018 Water Commission

- 💧 Monthly email newsletters.
- 💧 Bi-annual utility newsletters “the SCMU Review.”
- 💧 Regular social media posts.
- 💧 Maintaining current website content and project updates.
- 💧 Annual Water Supply Advisory Committee report which updates the community on the Water Department’s progress on the Committee’s recommendations.
- 💧 Hosting infrastructure tours and open houses to our customers, neighbors and the public.
- 💧 Outreach partnerships with the Mid-County Groundwater Agency; Santa Margarita Groundwater Agency; and Soquel Creek Water District.



Water Distribution System Infrastructure



Water supply tabling

## DEPARTMENT SUMMARY

	Fiscal Year*	Fiscal Year 2019			Fiscal Year 2020
		2018	Adopted	Amended*	
	Actuals	Budget	Budget	Actual	Adopted
<b>EXPENDITURES BY CHARACTER:</b>					
Personnel Services	12,406,660	14,724,425	14,724,425	13,960,008	16,837,336
Services, Supplies, and Other Charges	13,763,646	15,436,081	16,823,265	12,776,796	16,037,667
Capital Outlay	965,360	438,000	604,034	166,664	766,000
Debt Service	2,086,043	2,676,489	2,676,489	2,224,989	10,138,026
<b>Total Expenditures</b>	<b>29,221,709</b>	<b>33,274,995</b>	<b>34,828,213</b>	<b>29,128,457</b>	<b>43,779,029</b>
<b>EXPENDITURES BY ACTIVITY:</b>					
Water Administration	7101 5,181,203	6,067,687	6,194,320	5,528,828	6,676,065
Water Engineering	7102 4,118,807	4,102,547	4,941,416	3,288,468	3,347,201
Water Customer Services	7103 1,783,540	1,790,583	1,757,583	1,913,509	2,015,751
Water Conservation	7104 804,957	1,272,934	1,272,934	1,012,732	1,240,293
Water Resources	7105 1,456,601	2,206,623	2,568,464	1,630,061	2,954,266
Water Production	7106 5,803,113	6,790,886	6,699,090	6,322,949	7,404,445
Water Quality	7107 1,196,124	1,535,372	1,568,372	1,242,031	1,775,267
Water Distribution	7108 4,854,452	4,599,237	4,599,237	4,001,501	5,163,688
Water Recreation	7109 980,551	1,213,129	1,280,799	977,817	1,286,763
	7110 -	-	-	-	321,983
Water meter Shop	7113 956,319	1,019,508	1,269,508	985,572	1,455,281
Water Debt Service	7140 2,086,043	2,676,489	2,676,489	2,224,989	10,138,026
<b>Subtotal Other Funds</b>	<b>29,221,709</b>	<b>33,274,995</b>	<b>34,828,213</b>	<b>29,128,457</b>	<b>43,779,029</b>
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<b>RESOURCES BY FUND</b>					
Water	711 37,149,146	43,885,642	39,278,279	49,564,279	74,356,868
Water Rate Stabilization Fund	713 3,146,864	3,342,244	3,342,244	3,342,000	3,342,000
Water System Development Fees Fund	715 1,349,161	1,600,000	1,600,000	550,000	820,000
<b>Total Resources</b>	<b>41,645,170</b>	<b>48,827,886</b>	<b>44,220,523</b>	<b>53,456,279</b>	<b>78,518,868</b>
	<b>FY 2018</b>			<b>FY 2019</b>	<b>FY 2020</b>
<b>TOTAL AUTHORIZED PERSONNEL:</b>	<b>113.25</b>			<b>114.25</b>	<b>117.25</b>

\*Sums may have discrepancies due to rounding

# Water Department

