

South Central Connecticut Regional Water Authority
Via Remote Access**

AGENDA

Special Meeting of Thursday, April 1, 2021 at 9:00 a.m.

- A. Safety Moment
- B. Review and discuss proposed Capital and Operating Budgets for Fiscal Year 2022 (June 1, 2021 – May 31, 2022)
- C. Consider and Act on Distribution of Proposed Fiscal Year 2022 Capital and Operating Budgets to members of the Representative Policy Board

**In accordance with the Governor Lamont's, Executive Order No. 7B for the Protection of Public Health and Safety during COVID-19 Pandemic and Response, the public meeting will be held remotely. Members of the public may attend the meeting via conference call, videoconference or other technology. For information on attending the meeting via remote access, and to view meeting documents, please visit <https://www.rwater.com/about-us/our-boards/board-meetings-minutes?year=2021&category=1422&meettype=&page=>. For questions, contact the board office at jslubowski@rwater.com or call 203-401-2515.

Topic: Authority Special Meeting

Time: Apr 1, 2021 09:00 AM Eastern Time (US and Canada)

Join Zoom Meeting (*via conference call*)

Dial by your location

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Meeting ID: 842 1771 7114

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Find your local number: <https://us02web.zoom.us/j/k8RgSegqH>

SAFETY MOMENT

APRIL - DISTRACTED DRIVING AWARENESS MONTH

Every day, at least nine Americans die and 100 are injured in distracted driving crashes. Cell phones, dashboard touchscreens, voice commands and other in-vehicle technologies pose a threat to our safety. The consequences of those distractions are not worth the convenience they offer. Ignore the distractions and #justdrive to keep us all safer on the roads.

Take the Pledge:

I pledge to **Just Drive** for my own safety and for others with whom I share the roads. I choose to not drive distracted in any way – I will not:

- Have a phone conversation – handheld, hands-free, or via Bluetooth
- Text or send Snapchats
- Update Facebook, Twitter, Instagram, Vimeo or other social media
- Check or send emails
- Take selfies or film videos
- Input destinations into GPS (while the vehicle is in motion)
- Call or message someone else when I know they are driving

Service – Teamwork – Accountability – Respect – Safety

Tap Into
Safety



Regional Water Authority



Safety is a core company value at the Regional Water Authority .
It is our goal to reduce workplace injuries to zero.

 Regional Water Authority

Preliminary FY 2022 Capital Budget

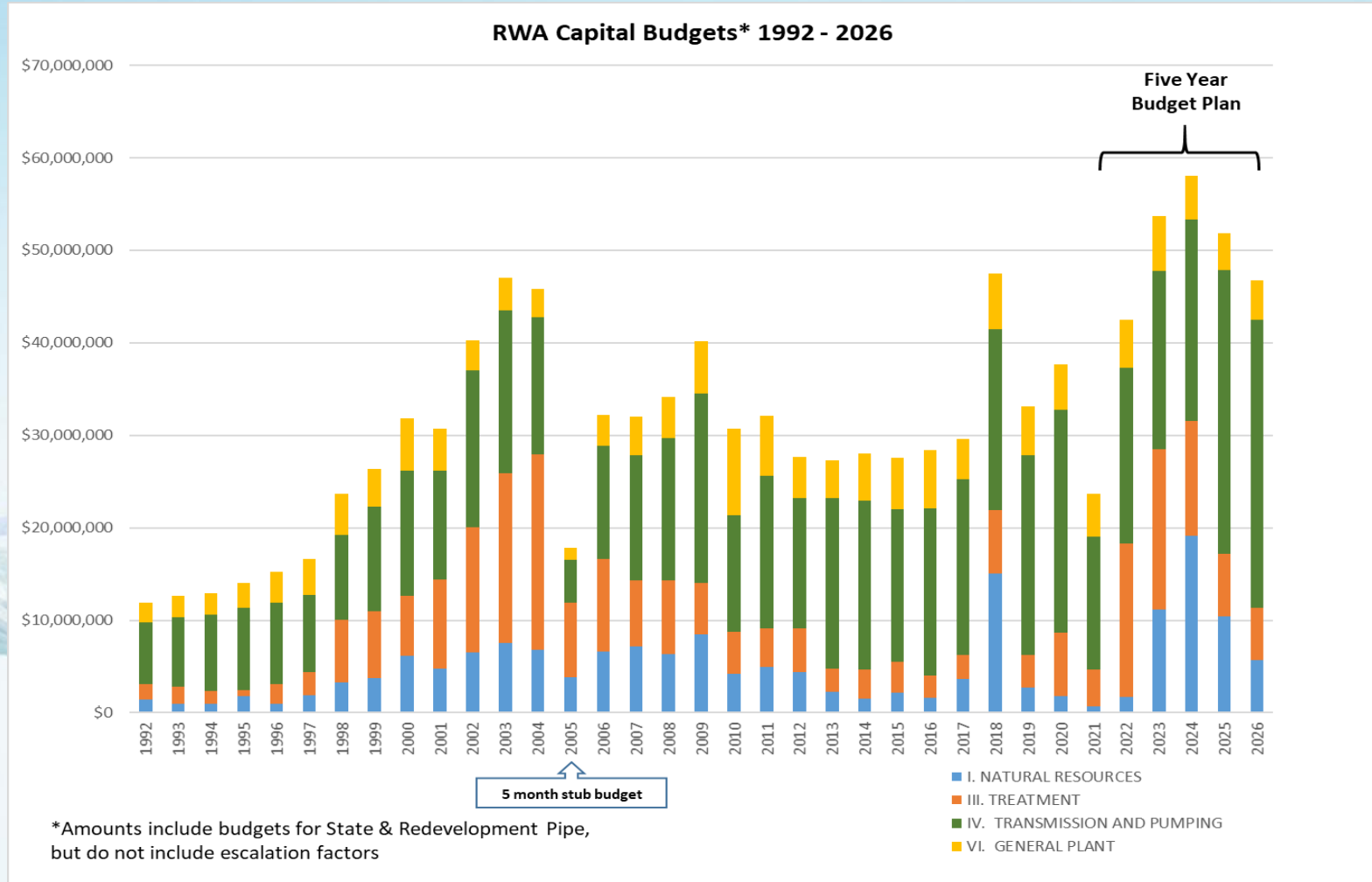
Presentation to the
Regional Water Authority
April 1, 2021



FY 2022 Capital Budget Topics

1. History
2. Assumptions
3. Introduction
4. Budget Prioritization
5. Natural Resources
6. Treatment
7. Transmission & Pumping
8. General Plant
9. Five-Year Capital Improvements Plan
10. New Budget Categories
11. Summary

Capital Budget History



FY 2022 Capital Budget - Assumptions

- Total budget will be approximately \$42.9 million
- The FY 2022 budget, and future budgets, take into consideration recommendations from GHD's expenditure forecast audit
- RPB project approvals will be successfully obtained where needed
- Capital budget contingency has been budgeted at \$500,000 (1.3%)
- CDOT pipe will continue to be self-funded and is estimated at \$3.0 million in FY 2022
- Municipal redevelopment pipe/non-reimbursable CDOT remains a funded item, with an increased funding level

FY 2022 Introduction

Funds 84 projects and programs in four categories:

• Natural Resources	\$ 1.7 M
• Treatment	\$16.5 M
• Transmission & Pumping	\$16.0 M
• General Plant	<u>\$ 4.5 M</u>
Subtotal	\$38.7 M (rounded)
• Contingency	\$ 0.5 M
• State & Redevelopment (CDOT)	\$ 3.0 M
• Non-Core Billing	<u>\$ 0.7 M</u>
Total	\$42.9 M

FY 2022 Introduction

- Reduced FY 2021 Budget - deferred and delayed projects
- Drinking Water State Revolving Funds
- Asset Management – FY 2022 Critical Assets and Facilities
- Risk, Resiliency, and Redundancy considerations
- Combination of Pumping and Transmission & Distribution categories

FY 2022 Prioritization Methodology

- 35 On-Going Projects and Programs
- Prioritization process for FY 2022
 - 10 Year Model Update in October 2020
 - Infrastructure and Technology projects prioritized separately
 - Review by CPCT, Project Managers and Leadership Team

Natural Resources - Highlights

- Approximately \$1.7 million, ten projects and programs
- Watershed Protection – funds for potential acquisition of approximately 10 acres in Durham.
- Lake Whitney Dam Improvements – improvements to increase structural stability of the dam. Value engineering and RPB application in FY 2022.
- Lake Menunketuc Dam Intake Valve Stem Replacement – replacement of valve stems and guides at Menunketuc Dam
- Stream Flow Regulations Improvements – modifications to dams in order to make and measure required flow releases.
- Tunnel/Diversion/Raw Water Main Rehabilitation – condition assessments, and rehabilitation work at Brenske Swamp, Beaver Head Road, and Big and Little Gulph Diversions
- Fence & Guardrail Replacements – Program to replace damaged or missing fencing on RWA property

Treatment - Highlights

Proposed spending per treatment facility:

Treatment Facility	Proposed Expenditures
Lake Gaillard WTP*, **	\$2,776,000
West River WTP*	\$7,300,000
Lake Saltonstall WTP*	\$2,420,000
Lake Whitney WTP	\$730,000
Wellfields	\$3,315,000
	Total \$16,541,000

*Proposed expenditures include Filter Media Replacement

** Proposed expenditures include Water Treatment Plant Valve Replacement Program

Treatment - Highlights

- Approximately \$16.5 million, 22 projects and programs
- Filter Media Replacement at Lake Gaillard, Lake Saltonstall and West River Water Treatment Plants
 - Annual program initiated in FY 2016
- Water Treatment Plant Valve Replacement Program
 - New multi-year program
- Lake Gaillard Water Treatment Plant
 - Chemical Feed Improvements (FY 2020 – FY 2022)
 - Backwash Polymer System Upgrades (FY 2020 – FY 2022)
 - Local Control Console Upgrade (FY 2022 – FY 2023)
 - Clarifiers & Recycle Building Improvements (FY 2021 – FY 2024)
 - Raw Water Flow Control Valve Replacement (FY 2022)
 - HVAC Upgrades (FY 2022 – FY 2024)

Treatment - Highlights

- Lake Saltonstall Water Treatment Plant
 - Electrical Upgrades (FY 2021 – FY 2024)
 - Chemical Treatment System Improvements (FY 2020 – FY 2022)
 - Elevator Improvement (FY 2022)
- Lake Whitney Water Treatment Plant (FY 2020 – FY 2022)
 - HVAC, dehumidification, nitrogen boost and centrifuge ventilation improvements
- West River Water Treatment Plant
 - Improvements to electrical and chemical treatment systems, installation of dissolved air flotation (DAF) (FY 2016 – FY 2024)
 - Effluent Pipe Injection Chamber Improvements (FY 2020 – FY 2022)

Treatment - Highlights

- Wellfield Facility Improvements
 - North Sleeping Giant Wellfield Improvements (FY 2020 – FY 2022)
 - South Sleeping Giant Wellfield Improvements (FY 2020 – FY 2022)
 - North Sleeping Giant Well No. 4 Motor Control Center Replacement (FY 2022)
- Well Rehabilitation Program
 - Rehabilitation of three wells – North Sleeping Giant Well No. 4, North Sleeping Giant Well 2N, and North Cheshire Well No. 4 through mechanical and chemical means. Replacement of well screens, pumps and motors as necessary.
- Well Replacements
 - Derby Wellfield Back Up Well (FY 2022 – FY 2024)
- Treatment Plant Graphics Upgrades
 - Upgrade of graphics systems at water treatment facilities for uniformity with graphics systems at non-treatment facilities.

Treatment - Highlights

- Treatment Plant Driveway Replacement Program
 - Replacement of paved driveways at treatment facilities. FY 2022 will replace driveway at Lake Gaillard Water Treatment Plant.
- Treatment Facility Roof Replacements
 - Roof replacement at South Cheshire Wellfield

Transmission & Pumping - Highlights

- Approximately \$16.0 million, 23 projects and programs
- Capital Pipe: \$3.0 million; 1.48 miles in 5 towns
- Municipal Redevelopment Pipe: \$1.6 million, five identified projects
- State (CDOT) Pipe: revolving fund, not bonded funds. Five active projects
- Capital Pipe Service Connections: \$500,000 for connections related to capital pipe replacements
- Service Connections: \$1.5 million; replacement of existing service connections
- Valve Replacements: \$300,000; program to replace broken distribution valves in system
- Meters: \$105,000; replacements and new installations, includes funding for large meter replacements

Transmission & Pumping - Highlights

- AMI Meters: \$610,000; addresses remaining installations of AMI meters by RWA staff
- Hydrants & Connections: \$125,000; installation/replacement of hydrants and laterals where we own the hydrants
- Good of Service Pipe: \$425,000; for pipe installed at RWA's expense.
 - Increase related to known project on Temple Street, New Haven
- Northern Service Area Expansion (FY 2020 – FY 2027)
 - Multi-year project to be completed in phases.
 - FY 2022 includes installation of 2,000' of 16" main on Highland Avenue (Route 10)
 - RPB Application in FY 2023
- Service Area Improvements – East West Transmission Main
 - Multi-year project to address distribution system limitations in the east-west corridor that supplies water from Lake Gaillard to Milford.

Transmission & Pumping - Highlights

- State Street Pipe Bridge (FY 2022 – FY 2023)
 - Multi-year project to structurally rehabilitate 36” transmission main crossing on State Street over the Mill River in New Haven.
- Ansonia-Derby Tank (FY 2009 – FY 2023)
 - Construction of water storage tank
- West River WTP Finished Water Reservoirs Improvements (FY 2020 – FY 2022)
 - Rehabilitation of concrete on existing finished water reservoirs and safety upgrades
- Variable Frequency Drive (VFD) Program
 - Replacement of VFD’s throughout the distribution at end of life cycle.
 - FY 2022 work at North Cheshire Wellfield, Sanford Street Pump Station, and North Sleeping Giant Wellfield
- Burwell Hill Pump Station Equipment Replacement (FY 2018 – FY 2022)
 - HVAC and electrical upgrades, SCADA improvements, limited concrete repairs, and site improvements

Transmission & Pumping - Highlights

- Rabbit Rock Pump Station Generator Replacement (FY 2022 – FY 2023)
- Critical Pump Station & Transmission Facilities Upgrades Program
 - Evaluation and replacement of essential components at critical facilities
 - Includes valves, motors, pumps, and electrical equipment
- Spring Street Pump Station Replacement (FY 2022 – FY 2024)
 - Design and construction of new pump station at alternate location
 - Work in FY 2022 consists of condition assessment, alternatives analysis, and preliminary design
- Water Quality Improvements Program
 - Installation of chemical treatment, mixing and monitoring equipment at treatment plants and in the distribution system
 - Work in FY 2022 will be installation of spray aeration system at Woodbridge Tank

General Plant - Highlights

- Approximately \$4.5 million
- Business enhancements for SAP, LIMS, InforEAM, AMI
- SAP Enhancement Pack (FY 2022 – FY 2023)
- Innovation
 - Business Analytics Platform (FY 2022 – FY 2023)
 - SAP Customer Channels, Sales & Marketing (FY 2021 – FY 2022)
 - Robotic Process Automation/Machine Learning/AI (FY 2022 – FY 2030)
- SAP SQL Upgrade (FY 2022 – FY 2023)
- SAP Monthly Billing (FY 2021 – FY 2022)
- Cyber Security Enhancements (FY 2021 – FY 2023)
- Data Center Life Cycle Replacements – annual program
- GIS Aerial & Watershed Mapping (FY 2022 – FY 2023)
- Non-Core Billing (FY 2021 – FY 2022) – growth fund, not bonded funds

General Plant – Highlights

- SCADA Upgrades – annual program
- System-Wide RTU Upgrades (FY 2018 – FY 2022)
 - Upgrade of radio telemetry portion of system-wide SCADA system
 - Project completion in FY 2022
- Fleet
 - Replacement of 3 vans and 4 light/medium duty trucks

Introduction to Five-Year Plan

- Average annual un-escalated projected budgets of \$47.7 million including contingency
- Compares to \$37.8 million average for 5-year plan originally proposed for FY 2021
- Funds projects and programs in 4 categories:

	<u>5-Year Average</u>	<u>Total</u>
Natural Resources	\$ 9.6 M	\$ 48.1 M
Treatment	\$11.7 M	\$ 58.7 M
Transmission & Pumping	\$21.4 M	\$107.0 M
General Plant	<u>\$ 4.5 M</u>	<u>\$ 22.5 M</u>
	\$47.2 M	\$236.3 M

Five-Year Capital Improvements Plan

- Dams & Intakes
 - Lake Whitney Dam, Peat Swamp Dam, Lake Chamberlain Dam, Stream Flow Regulation Compliance Dam Modifications
- Treatment
 - West River Improvements (DAF, Electrical, Chemical); LSWTP Electrical Upgrades; LGWTP Electrical Upgrades; LGWTP Clarifiers & Recycle Building Upgrades; Water Treatment Plant Valve Replacement Program
- Transmission and Pumping
 - Capital Pipe funded at an average of \$3.2 million
 - Municipal pipe funded at an average of \$850,000
 - Spring Street Pump Station Replacement
 - Northern Service Area Expansion
 - Lake Gaillard FWR/Distribution System Storage
- General Plant
 - SAP Enhancement Pack
 - Non-Core Billing
 - Innovation
 - Vehicle Replacements

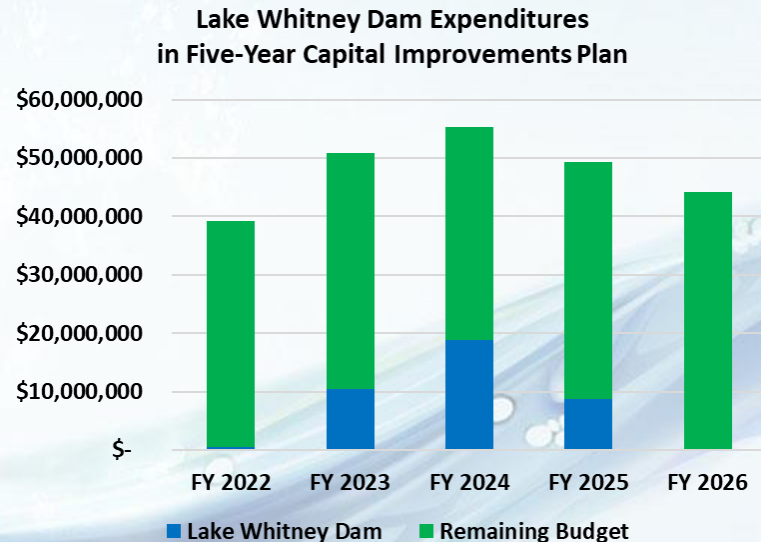
Five-Year Capital Improvements Plan

Lake Whitney Dam and Spillway Improvements

- Updated estimate yields significant impact to five-year plan
- Construction starts in FY 2023 and completes in FY 2025
- Expenditures in five-year plan:

– FY 2022	\$600,000
– FY 2023	\$10,500,000
– FY 2024	\$18,800,000
– FY 2025	\$8,700,000
– FY 2026	\$0

- Ongoing or planned cost control activities
 - Alternative delivery methods analysis
 - Business case evaluation
 - Value engineering



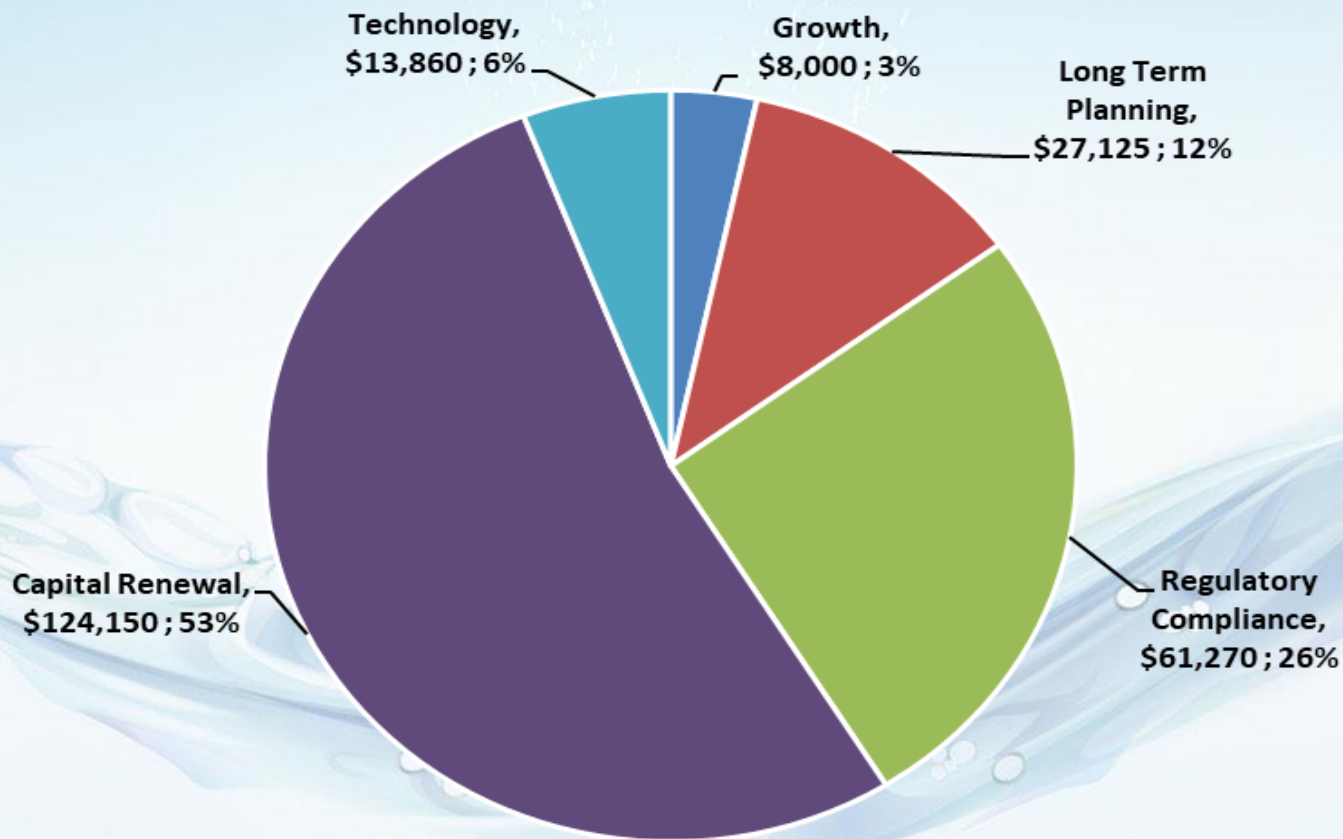
New Budget Categories

- Planned for use beginning in FY 2023
- Better definition of budget drivers and allocations
- Growth: increase revenues or expand service area – 3%
- Long-Term Planning: meet future demands, achieve service levels, ensure water quality – 12%
- Regulatory Compliance: necessary to comply with current and future regulations – 26%
- Capital Renewal: replace, rehabilitate, and upgrade assets – 53%
- Technology: enhance, renew, and replace technologies for improved customer service, better efficiency, system security – 6%

New Budget Categories

FY 2022 - FY 2026 Five-Year Budget Recategorization Allocations

(in millions of dollars)



Summary

- Budget incorporates efficient and essential funding of infrastructure
- Inclusion and timing of large projects thoroughly vetted
- Continued pursuit of financing alternatives – DWSRF
- GHD report recommendations taken into consideration
- Continued development and implementation of Asset Management Plan



Draft Capital Budget Fiscal Year 2022

(June 1, 2021 – May 31, 2022)

March 2021

SOUTH CENTRAL CONNECTICUT REGIONAL WATER AUTHORITY

Preliminary Capital Budget for Fiscal Year 2022

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Appendix 1 – FY 2022 Capital Prioritization Matrix

Appendix 2 – Five-Year Budget Commitment

SOUTH CENTRAL CONNECTICUT REGIONAL WATER AUTHORITY (RWA)

Preliminary Capital Budget

Fiscal Year 2022

(June 1, 2021—May 31, 2022)

Introduction

For review and consideration is the proposed capital budget for the South Central Connecticut Regional Water Authority (RWA) for Fiscal Year 2022 (FY 2022). In the development of this proposed budget, RWA has taken a prudent financial approach to provide effective and consistent water services. Management is also cognizant of the need to restore funding to those projects that were deferred in the revised FY 2021 budget as a result of the pandemic. The proposed FY 2022 budget is approximately \$3.0 million higher than the budget as shown in the October 2020 ten-year financial model.

To that end, Management proposes a capital budget of approximately \$38.7 prior to the addition of contingency and Connecticut Department of Transportation (CDOT) work. A proposed contingency of \$500,000 yields a total FY 2022 proposed capital budget of approximately \$39.2 million. Contingency will be funded at \$500,000, or 1.3%.

Currently, Management preliminarily estimates a budget carryover in June 2021 from FY 2021 to FY 2022 of approximately \$350,000, as compared to the FY 2021 carryover of \$752,690. It should be noted that this figure is highly likely to change based on the final months of the fiscal year.

RWA continues to seek savings through the pursuit of efficiency measures with respect to the execution of capital projects. This includes the “bundling” of projects that occur at the same location, the bidding of similar work at different locations, and savings realized through design changes and post-bid value engineering. An example of this include the West River Water Treatment Plant Improvements project, which encompasses the Dissolved Air Flotation, Chemical Feed Improvements, and Electrical Improvements project.

The following is a summary of the major assumptions and criteria used by Management in the preparation of the FY 2022 capital budget:

- Overall budget contingency will be budgeted at a level of 1.3% of the total capital budget.
- Self-funded CDOT work will not exceed \$3.0 million, based on currently projected work.
- State Pipe will continue to be self-funded through a Construction Fund Revolving Account established in FY 2012.
- Non-reimbursable CDOT and municipal redevelopment pipe has been has increased to a level of \$1,600,000. This is increase is related to five projects: Sybil Creek Betterment, Branford; Orchard Street, New Haven; Spring Street, West Haven; Turtle Creek Betterment, Milford, and Main Street Roadway Improvements, Branford.

- The FY 2022 budget, and near-term and longer-term budgets, takes into account, as appropriate, recommendations from GHD’s March 2017 *Capital Expenditure Forecast Audit*.
- RPB project approvals will be sought for those projects with anticipated expenditures greater than \$2 million.
- The standard contingency used in project budgeting will remain at five percent.

The level of the FY 2022 budget returns to levels of prior years. In FY 2021, in response to the global pandemic, the originally proposed budget of \$38.4 million was deliberately reduced by 51% based on the challenging conditions presented by the pandemic. In accordance with recommendations from the Center for Disease Control, and the need to ensure the health of our critical employees, entry of outside personnel into Authority facilities was restricted. As a result, project schedules were altered, or projects deferred entirely, to achieve compliance with those recommendations. As a consequence, projects that were deferred or delayed, such as Lake Gaillard Water Treatment Plant Chemical Feed System Improvements and South Sleeping Giant Wellfield Improvements, have been restored in the FY 2022 budget with increased budgets. Additionally, the legal delays to the Ansonia Derby Tank have also impacted the FY 2022 budget.

Budget Processes

The Capital Program Control Team, (CPCT) remained active in FY 2021 to provide oversight and implementation of the capital budget. In FY 2021, the CPCT continued to monitor project progress and spending and minimize carryovers.

Management continuously attempts to improve on capital efficiencies through assessing projects and reviewing various solutions in order to address capital needs. These reviews are cross-departmental, and lead to creative solutions to minimize expenditures and increase efficiencies. In order to increase the accuracy of project budgets, Management continues to use the multi-year approach in the budgeting of large projects.

Project contingency, for those projects that require it, has been maintained at five percent for FY 2022. This level was established for the FY 2014 budget year.

Drinking Water State Revolving Fund (DWSRF)

Management continues to aggressively pursue State of Connecticut Department of Public Health (CTDPH) Drinking Water State Revolving Fund (DWSRF) monies for capital projects. These monies offer low-interest loans with up to a 20-year term, which can significantly reduce interest costs. Typically, these loans offer interest rates at approximately two-thirds of RWA Water System Revenue Bonds. Projects may also qualify for subsidies, which have historically ranged from 5 percent to 18 percent, depending on the type of project and location. Additionally, the State of Connecticut has revised its submission process to include an on-going Call for Projects. Projects can therefore be submitted on a “rolling” basis, allowing the CTDPH to more accurately predict the amount and timing of the funding.

The table below lists the projects that have been submitted by RWA for Drinking Water State Revolving Fund (DWSRF) financing:

<i>Project Name</i>	<i>Anticipated DPH Amount Requested for Capital Program</i>
Brushy Plains System Upgrades-Phase II	\$950,000
Ansonia-Derby Tank	\$3,300,000
Seymour Wellfield Back-Up Well and Metering	\$900,000
System-Wide RTU Hardware Upgrade	\$1,500,000
West River Water Treatment Plant Improvements	\$10,500,000

RWA has loans and subsidies for nine projects, financed through DWSRF. RWA expects to close on one additional loan and subsidy prior to the end of FY 2021, for the fourth tranche of AMI. Projects under consideration for submission in the future include: *Lake Gaillard Water Treatment Plant Electrical Improvements, Lake Saltonstall Water Treatment Plant Electrical Upgrades, and York Hill Tank #1 Painting.*

Asset Management

Management continues to progress on work with the comprehensive Asset Management Program, which is an initiative of the FY 2020-FY 2025 Strategic Plan as part of Goal #4. Goals of this program include development of a best-in-class system, incremental implementation of a program for the operation, maintenance and renewal of infrastructure that includes operational, financial, planning, development and service perspectives.

With the introduction of the foundational approach to asset management in FY 2018, progress to date has allowed a melding of the big picture core concepts of asset management with the day-to-day operations and work processes of the organization. As these work processes are adopted by more departments within the organization, the overall focus of the program development can shift to focus on the assets themselves.

Work in FY 2020 and FY 2021 was largely centered around reinvigorating preventative maintenance programs and expanding asset management processes to the Field Operations department. Preventative maintenance is necessary and effective in order to reduce unplanned equipment work and breakdowns. A renewed focus on preventative maintenance uncovered many issues in the system which were able to be addressed. The updated asset management processes also expand data collection and record keeping, which in the long-term will feed into decision support modelling for the capital improvements program.

Work in FY2022 will dive into our critical assets and facilities specifically, and increase the level of detail and focus of the business applications of asset management principles. There is also an initiative to bridge the extensive underground assets and GIS records through an upgrade of the InforEAM program.

Risk, Resiliency, and Redundancy

Due to a number of infrastructure failures in the distribution system in FY 2021 Management has taken a fresh look at the fundamental strategies used to manage and operate the system and prioritize capital improvements. As a result, Management has sharpened its focus on reducing risk

and increasing system redundancy and resiliency. Risk reduction in capital planning includes systematic replacement of operationally critical infrastructure well before it reaches the end of its useful life. It also includes prioritization of those improvements based on risks associated with failures, as well improving long-range master planning in conjunction with financial modeling. Increasing system resiliency, means increasing the capacity to recover quickly from, or decrease the impact of, system disruptions. In capital planning, resiliency is improved by assessing system vulnerabilities and proactively investing in infrastructure improvements to decrease those vulnerabilities. One way to accomplish this is to employ advanced asset management tools that help predict distribution system disturbances before they occur. Increasing resiliency decreases risks. Increasing redundancy of critical assets in the water system means ensuring that enough assets are available to provide for a continuation of service if a failure occurs. If an asset is determined to be critical, then redundancy is also critical. Increasing redundancy includes identifying critical areas where single points of failure and knowledge gaps exist and correcting those gaps. Improvements to redundancy through capital planning entails viewing the system holistically and investing funds in assets necessary to ensure that the most critical assets have back-up systems. Increasing redundancy significantly decreases risk.

Projects proposed in the FY 2022 budget includes numerous projects that decrease risk and/or increase resiliency and redundancy, and are noted so in the project summaries.

CDOT & Municipal Pipe

As in the past, funding has not been included for State Pipe in the FY 2022 budget. The CDOT work will remain self-funded from the pool of reimbursed funds. For FY 2022, we anticipate expenditures for CDOT work will not exceed the \$3.0 million fund level. We expect that CDOT reimbursements will be approximately 98 percent of expenditures. As CDOT work is self-funded, the \$3.0 million is included in this budget accordingly. Including the CDOT expenditures the total FY 2022 budget is approximately \$42.2 million.

As has been done since FY 2015, Management included municipal redevelopment pipe funding in the capital budget because municipalities are not typically required to reimburse the RWA for its work in municipal programs. This work will continue to be funded using bonded monies or internally generated funds. In addition, work considered by the CDOT to be non-reimbursable is also funded through this line. This work is typically unanticipated in nature. The amount included in the FY 2022 capital budget for such work is \$1,600,000. This amount reflects known funding requirements in FY 2022. There are five projects requiring funding at this time: Sybil Creek Betterment, Branford; Orchard Street, New Haven; Spring Street, West Haven; and Turtle Creek Betterment, Milford; and Main Street Roadway Improvements, Branford.

Cleaning and Lining

Following the FY 2020 benefits and economics of cleaning and lining evaluation, which updated the trend information on life cycle costs and longevity of pipe assets, the recommendation was to continue the program at a more limited scale, for pipe assets with an economically viable length of service remaining. In combination with previous program improvements, this updated evaluation estimates that there are between 70 to 120 miles of pipe that currently meet the qualification for cleaning and lining investment. In the development of the FY 2022 budget, Management again

reviewed its decision to continue to defer the C&L program. As a result of increased capital budget spending levels projected over the next few budget years, reinstatement of the program is anticipated to occur in FY 2024. Cleaning and lining in specific cases (separate from the programmatic investments) will also be considered as a potential alternative in combination with other improvements resulting from the East West Transmission Main project planning. Management remains of the opinion that given the historical investment in the program, this deferral will not have a significant impact on the distribution system.

Information Technology and Customer Information System

In late 2016, RWA had initiated an IT Steering Committee to establish and guide the IT strategy and overall roadmap for the organization. In 2019, Management carefully reassessed and updated the five year IT strategy and roadmap, developing a prioritized plan to improve the alignment of technology initiatives with business needs. The plan included filling key positions required to implement the roadmap, such as a PMO Director, Business Partners, Enterprise Security Manager and a Lead of the Innovation Hub. Some of these positions have been put in place and others will be filled in the FY 2022.

Two technology budget categories introduced in the FY 2021, Cyber Security and Innovation, have been continued in the FY 2022. The Cyber Security category includes refinements to RWA's cyber security strategy and governance, cyber defense and cyber response that will allow RWA to innovate, transform and differentiate the business – all while protecting our most critical technology assets. Projects in the Innovation category encompass initiatives that creatively support organizational advancements and meet strategic business capability needs, often with the introduction of new technology tools. The three Innovation projects included in FY 2022 are Business Analytics Platform; Customer Channels, Sales, and Marketing; and Robotic Process Automation/Machine Learning/AI.

In the development of the FY 2022 budget, Management carefully considered the technology needs of the organization and included projects that address our non-core growth strategy and overall technology improvements, including introducing an RWA portal and mobile app, to better serve our external and internal customers. Management had shifted the timing of the proposed CIS project in order to enable multiple strategic projects in the FY 2021 and FY 2022. RWA will move forward with an RFP in FY 2022 for CIS options to manage technology risk, enable our customer strategy and deliver AMI benefits as promised, including an SAP Enterprise Resource Planning Central Component Enhancement Pack 8 Upgrade and other options.

Management has also considered future expenditures required to maintain our technology asset investments. Unlike other infrastructure, technology requires frequent updates to maintain its operability and functionality. While spending on other types of infrastructure can often be leveled across fiscal years, technology expenditures generally require large financial investments over short periods and are driven by the lifecycle of hardware, software and services. On average, technology assets have a 3-5 year lifecycle. By considering the entire useful life of a technology asset and implementing lifecycle management best practices, maintenance costs will be predictable, upgrade flexibility improves, and there are better security controls which will reduce security vulnerabilities.

Technology investments are required to transform the business landscape, streamline processes and improve productivity. It is expected that as the demand for technology to better serve our organization and customers grows, our investments in technology assets will increase. Strategic, thoughtful technology investments bring significant benefits by driving efficiencies back into the business and providing greater value to our customers. Management will continue to strategically align technology investments with business outcomes to ensure our technology remains secure, reliable, and capable of delivering value to the business.

Prioritization Process

As part of the budget process for FY 2022, Management conducted a prioritization of those projects scheduled for FY 2022 in December 2020, based on the scheduling results from the multi-year matrix completed in September 2018. In a change to previous years, in order to facilitate fairer rankings, two separate matrices were created to rank the physical infrastructure and technology projects. Historically technology projects typically fall among the lower ranked projects when weighed against physical infrastructure due to their disparate nature. The usual scoring process was modified, and rather than individual scores being compiled to calculate the rank, the rankings for each project were determined in a meeting of appropriate staff members, including members of the Capital Program Control Team, capital project and budget managers. The physical infrastructure projects were ranked by 24 staff members; the technology projects were ranked by 7 members from IT and Business Strategy. This method allowed for robust discussion of all projects prior to determining scoring. Once preliminary ranking was completed, the results were forwarded to the Leadership Team for review and discussion, and if necessary, re-prioritization of certain projects for various reasons. No changes were made. The final FY 2022 project list was then developed from the results of the multi-year matrix.

The “Ongoing Project and Programs” project list remains tightly controlled and applies only to projects or programs that are (1) programs where spending cannot be reduced to \$0 for even a single year; (2) on-going multi-year projects with significant prior spending; and (3) RPB-approved projects. A total of 31 projects and programs are included as “Ongoing Projects and Programs” on the prioritization matrix. This is a decrease of 6 projects from the number as shown on the FY 2021 matrix. Projects removed from the list due to project completion include Lake Gaillard Pump Station Improvements, Lake Gaillard Water Treatment Plant Electrical Upgrades, Lake Gaillard Water Treatment Plant Roof Replacement, West River Water Treatment Plant Backwash & Surface Wash Pump Replacement, and West Avenue Tank Painting. One project was added to the list for FY 2022 - AMI Meter Replacements. Other projects included in the list are Well Rehabilitations, work at the Lake Gaillard, Lake Saltonstall, West River and Lake Whitney water treatment plants, as well as work at the North Sleeping Giant Wellfield and the System-Wide RTU Upgrades.

AMI Meters is a continuation of a project originally planned for FY 2021. Work on this project was deferred as a result of the pandemic and limited access to customer premises, and will therefore continue into FY 2022. Projects remaining on the list that whose completion was delayed as a result of the pandemic include Lake Gaillard Chemical Feed Improvements, Lake Gaillard Backwash Polymer System Upgrades, Lake Saltonstall Chemical Treatment System Improvements, Lake Whitney Water Treatment Plant Improvements, and West River Finished Water Reservoirs Improvements.

As part of the budgeting process, Management calculates the estimated project management hours needed versus staff hours available to ensure that resources are available for completion of the planned projects. For FY 2022, the projects included in the budget reflect those that Management believes can be accomplished with the staff hours currently available.

Combination of Pumping and Transmission & Distribution Categories in FY 2022

For many years the capital improvement program has been broken into five asset categories: Natural Resources, Pumping, Treatment, Transmission & Distribution, and General Plant. In the fall of 2021 an analysis of the capital budget categories was performed in order to refine asset classification such that like asset functions are aligned. Given that pumping facilities are integral to transmission functions, these two were combined. The combination provides additional clarity in budgeting when capital activity types, e.g. upgrades, rehabilitations, and system expansion; and service area groupings, are considered.

Conclusion

This budget proposal represents Management's effort toward a plan that will provide the necessary funding to perform priority capital improvements to provide customers with high quality water and service, and address RWA's strategic priorities for FY 2022. The FY 2022 budget also represents Management's resolve to maintain the budget at a reasonable level, while still meeting the needs of the organization and the expectations of our customers. The \$39.2 million budget proposed in FY 2022 is approximately \$2,651,000 higher than the budget proposed for FY 2022 in the originally proposed FY 2021 budget, and approximately \$2,251,000 higher than the August 2020 ten-year model.

Category	FY 2022 in the draft FY 2021 Budget	August 2020 10-Year Model	Proposed FY 2022 Budget
	(Dollars in Thousands)		
Natural Resources	\$ 4,500	\$ 5,200	\$ 1,735
Treatment	16,295	16,735	16,541
Transmission and Pumping	11,121	10,175	15,983
General Plant	4,282	4,350	4,452
Contingency	362	500	500
TOTAL	\$36,560	\$36,960	\$39,211

There are significant differences in the FY 2022 budgets between what was originally proposed in FY 2021 and what is currently proposed, occurring in two of the four budget categories. The differences are comprised of a decrease in expenditures under Natural Resources of \$2,765,000, an increase in Treatment of \$246,000, an increase in Transmission and Pumping of \$4,862,000, and an increase in General Plant of \$170,000.

The decrease in Natural Resources can be attributed to a reduction in FY 2022 planned expenditures for the Lake Whitney Dam and Spillway Improvements project. Due to the age of the structure and the lack of original construction details, Management is proceeding with an abundance of caution with regard to preliminary investigations related to the composition and stability of the dam. This has shifted the project schedule. The net increase in the Treatment category is the result of a shift of several project schedules, including the Lake Gaillard Water Treatment Plant Electrical Upgrades and Lake Saltonstall Water Treatment Plant Electrical Upgrades.

The increase in the Transmission and Pumping category is the result of the delays in the Ansonia Derby Tank construction, as well as the acceleration of the Spring Street Pump Station Replacement. The increase to General Plant is related to a shift in the project schedule for Monthly Billing.

After rigorous vetting, Management is confident that the amount of the proposed FY 2022 capital budget, and the allocation of funds within the budget, are appropriate and essential.

As can be seen in the five-year plan, Management has budgeted between \$39.2 and \$ 55.6 million annually for FY 2022 to FY 2026, not including CDOT funding, Non-Core Billing, or escalation.

**South Central Connecticut Regional Water Authority
Summary & Comparison
(000s omitted)**

-CAUTION-

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	Final FY 2021 (1) Budget	Projected FY 2021 Expenditures	Proposed FY 2022 Budget	For Comments See Page #
<u>NATURAL RESOURCES</u>				
Watershed Protection	-	-	125	B-1
Land Management	-	-	20	B-1
Hamden Middle School Remediation	120	165	25	B-2
Lake Whitney Dam & Spillway Improvements	450	490	600	B-2
Lake Menunketuc Dam Valve Stem Replacements	-	-	175	B-4
Peat Swamp Dam Modifications	25	-	-	
Stream Flow Regulation Improvements	-	-	150	B-4
Tunnel & Diversion Rehabilitation	25	25	480	B-5
Fence & Guardrail Replacements	15	15	100	B-6
Miscellaneous	60	152	60	B-6
	695	847	1,735	
<u>TREATMENT</u>				
Filter Media Replacement	425	481	500	B-6
Lake Gaillard Water Treatment Plant - Process Valve Replacement	30	28	-	-
Water Treatment Plant Valve Replacement Program	-	-	110	B-7
Lake Gaillard Water Treatment Plant - Chemical Feed Improvements	100	550	900	B-8
Lake Gaillard Water Treatment Plant - Backwash Polymer	300	20	300	B-8
Lake Gaillard Water Treatment Plant - Roof Replacement	200	3	-	
Lake Gaillard Water Treatment Plant - Electrical Upgrades	70	70	-	
Lake Gaillard Water Treatment Plant - Local Console Replacement	-	-	75	B-9
Lake Gaillard Water Treatment Plant - Structural Improvements	66	1	-	
Lake Gaillard Water Treatment Plant - Clarifier & Recycle Pumps	80	35	306	B-10
Lake Gaillard Water Treatment Plant - Raw Water Flow Control Valve Replacement	-	-	700	B-10
Lake Gaillard Water Treatment Plant - HVAC Upgrades	-	-	235	B-11
Lake Saltonstall Water Treatment Plant - Electrical Upgrades	-	-	300	B-12
Lake Saltonstall Water Treatment Plant - Hypochlorite System Improvements	165	45	-	-
Lake Saltonstall Water Treatment Plant - Chemical Treatment System Improvs	120	120	1,155	B-12
Lake Saltonstall Water Treatment Plant - Elevator Improvement	-	-	415	B-12
Lake Saltonstall Water Treatment Plant - Lagoon Discharge Pipe	20	2	-	
Lake Whitney Water Treatment Plant Improvements	30	43	680	B-13
West River Water Treament Plant Improvements	100	500	7,000	B-15
West River Water Treatment Plant Filter Effluent Pipe Injection Chamber	304	304	250	B-16
West River Water Treatment Plant Chemical System Improvements	50	4	-	
West River Water Treatment Plant - Backwash & Surface Wash Pumps	700	400	-	
Treatment Plant Graphics Upgrade	-	-	200	B-17
Seymour Wellfield Replacement Well & Metering	70	61	-	-
North Sleeping Giant Wellfield Facility Improvements	800	800	1,100	B-17
Wellfield Facility Improvements - South Sleeping Giant	-	-	1,700	B-18
Seymour Wellfield Treatment System	75	25	-	
Well Rehabilitations	200	235	230	B-18
Well Replacements	75	5	110	B-17
North Sleeping Giant Well No. 4 MCC Replacement	-	-	100	B-19
Treatment Plant Driveway Replacement Program	-	-	100	B-19
Miscellaneous	30	390	75	B-20
	4,010	4,121	16,541	

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	Final FY 2021 (1) Budget	Projected FY 2021 Expenditures	Proposed FY 2022 Budget	For Comments See Page #
<u>TRANSMISSION & PUMPING</u>				
Pipe	3,048	3,554	5,825	B-20-21; B-23-25
Service Connections	1,950	2,170	2,125	B-22 - 23
Valve Replacements	150	250	300	B-22
Meters	280	224	715	B-23
Sanitary Survey Improvements	200	200	-	
Brushy Plains System Upgrades	151	151	-	-
Northern Sevice Area Expansion	-	-	1,800	B-24
Ansonia/Derby Tank	1,000	150	2,750	B-26
West Avenue Tank Painting	1,054	460	-	
Concrete Tank Misc. Improvements - West River WTP Finished Water Res	-	-	850	B-27
Saltonstall FWR Roof Improvements & Valve Replacements	66	10	-	-
Variable Frequency Drive Replacements	-	-	150	B-27
MCC Replacements/Electrical Improvements	92	106	-	-
Burwell Hill Pump Station Equipment Replacement	1,439	819	488	B-28
Pump Station Generator Replacements	-	-	125	B-28
Lake Gaillard Pump Station Improvements	450	897	-	-
Hill Street Pump Station Rehabilitation	350	350	-	-
Critical Pump Station & Transmission Facilities Upgrades	-	-	350	B-29
Spring Street Pump Station Replacement	-	-	305	B-29
Miscellaneous Pump Station Equipment Improvements	50	-	-	-
Miscellaneous	282	905	200	B-30
	10,562	10,246	15,983	
<u>GENERAL PLANT</u>				
SAP Business Enhancements	50	50	50	B-31
SAP Work Management	-	-	50	B-31
LIMS Business Enhancements	-	-	20	B-31
Infor Business Enhancements	-	-	50	B-31
AMI Software Business Enhancements	-	-	10	B-32
SAP Enhancement Pack/HANA Upgrades	-	-	250	B-32
Non-Core Billing, PSW, PSS, HP, Migration	-	-	-	B-32
Business Analytics Platform	-	-	75	B-33
Customer Channels Sales & Marketing	150	150	225	B-33
Robotic Process Automation/Machine Learning/AI	-	-	100	B-34
SQL/Windows Upgrade	190	-	70	B34
SAP Monthly Billing	900	400	950	B34
Cyber Security Enhancements	150	85	100	B-35
System-Wide RTU Hardware Upgrade	1,000	1,000	700	B-36
SCADA	100	150	120	B-36
Information Systems	1,113	1,578	1,100	B-36 - 37
Equipment	137	137	522	B-37
90 Sargent Drive	110	381	60	B-38
	3,900	3,931	4,452	
TOTAL BUDGET	\$ 19,146	\$ 19,146	\$ 38,711	
CONTINGENCY	500	500	500	
TOTAL	\$ 19,646	\$ 19,646	\$ 39,211	
CONSTRUCTION FUND-STATE & REDEVELOPMENT REVOLVING ACCOUNT (2)	\$ 3,800	\$ 2,000	\$ 3,000	
NON CORE BILLING, PSW, PSS, HP, MIGRATION	\$ 746	\$ 746	\$ 745	
TOTAL BUDGET INCLUDING STATE & REDEVELOPMENT ACCOUNT (CDOT) & GROWTH	\$ 23,446	\$ 21,646	\$ 42,211	

(1) Includes carry over of \$1,092,000 from FY 2019

(2) Expenses for state redevelopment pipe for FY 2021 are estimated at \$2,750,000 but will not exceed \$3,000,000

South Central Connecticut Regional Water Authority
Preliminary Capital Budget for Fiscal Year 2022
Justification and Explanation of Projects

I. NATURAL RESOURCES

\$1,735,000

Watershed Protection

\$125,000

Watershed Protection is an on-going program intended for the purchase of properties for source water protection, in accordance with the mission of the Regional Water Authority. Protecting watersheds decreases risks associated with turbid runoff and DBP precursors and increases resiliency by mitigating watershed runoff.

Protection of watershed lands is part of the Authority's source-water protection program. It is one component of our multi-barrier approach to provide high quality water at a reasonable cost for our consumers. It is also one of the goals of our company-wide Sustainability Plan and is a priority for a 21st century environmental services company.

By taking these steps to protect additional watershed land, the Authority can minimize the harmful effects on water quality now and in the future, that would otherwise occur from certain types of development. This is consistent with the Authority's mission and its stated goal of protecting an additional 3,000 acres of public water supply watershed lands, as described in the publication, *The Land We Need for the Water We Use*.

The proposed budget covers the potential acquisition of one property in Durham (total – 10+/- acres). During FY 2022, we expect to restart negotiations with the landowner that were stalled when COVID restrictions began in March 2020.

This budget also covers the preliminary costs of land acquisition. These costs include appraisals, surveys, and other professional services.

Land Management

\$20,000

Land Management is an on-going program to provide funds for the acquisition of lands, options, easements, and rights of way, unidentified in nature, necessary for water supply facilities.

This budget covers the costs associated with acquiring land, or other interests in real estate, related to the Treatment or Distribution systems. These funds are used to improve the distribution system to the benefit of our customers. In FY 2022, we will be discussing the acquisition of easements in East Rock Park for improvements to the Lake Whitney dam and may look at other real estate options in West Haven for a future pump station.

Hamden Middle School Remediation

\$25,000

Projected capital expenditures through FY 2021

\$4,099,579

Estimated total multi-fiscal year capital expenditures

\$4,124,579

This is a multi-year project initiated in FY 2014 and concerns actions required by Connecticut Department of Energy and Environmental Protection (CT DEEP) Order SRD-128, finalized on April 16, 2003. The order required the RWA to investigate and remediate environmental contamination within an area once owned by the New Haven Water company, consisting of the former Hamden Middle School, an athletic field, a portion of the Newhall Community Center, and two residential properties. The remediation project was completed five phases between FY 2017 and FY 2021. Work in FY 2022 will consist of final closeout of the project. The Hamden Middle School Project decreases legal risks associated with non-compliance.

This project concerns actions required by CT Department of Energy and Environmental Protection (CT DEEP) Consent Order SRD-128, which was finalized on April 16, 2003. The order required the RWA to investigate and remediate environmental contamination within an area once owned by the New Haven Water company, consisting of the former Hamden Middle School, a portion of the Newhall Community Center, and two residential properties. From FY2014-FY2020, we completed six soil remediation projects and one paving project to complete physical remediation in accordance with DEEP's Remediation Standards Regulations (RSR) and several approved site Remedial Action Plans (RAPs). We are required to complete a number of legal and regulatory closure actions including: 1) Preparing applications for four Environmental Land Use Restrictions (ELURs) for DEEP approval followed by recording the approved ELURs on the municipal land records. This includes obtaining ELUR execution from the property owners, and subordination agreements with all holders of easements, mortgages, and liens for the four properties; 2) preparing a post-remediation groundwater monitoring plan for DEEP approval; and 3) installing monitoring wells in accordance with the DEEP approved post-remediation groundwater monitoring plan.

FY 2022 funds are proposed for the remaining work to address DEEP comments on the ELUR applications and groundwater monitoring plan, negotiation and execution of subordination agreements, execution and recording the final approved ELURs, and installing monitoring wells in accordance with the final approved post remediation groundwater monitoring plan.

Lake Whitney Dam and Spillway Improvements

\$600,000

Projected capital expenditures through FY 2021

\$1,468,024

Estimated total multi-fiscal year capital expenditures

\$40,000,000

This is the fifth year of a multi-fiscal year project consisting of improvements to rehabilitate the Whitney Dam which was constructed in 1860. The goals of the improvements are to increase the stability of the dam to today's standards, control leakage through the dam, and increase spillway capacity to pass larger storm events. Work on this project was initiated in FY 2017 and included

completion of the draft design stability report, and peer review of said report. In FY 2018 work was limited due to the reassignment of resources to the Great Hill Tunnel & Pipeline Restoration project. Work in FY 2019 included solicitation of qualifications and proposals for a dam consultant and the commencement of preliminary design. In FY 2020 project work included the continuation of preliminary design work, completion of the initial subsurface investigation program, a hydraulic and hydrologic study. Work in FY 2021 consisted of an alternatives analysis, supplementary subsurface investigation program, completion of 45% of the contract drawings, the start of a value engineering/peer review process, a business case evaluation, and discussions with regulatory approval agencies. Work in FY 2022 will consist of completion of the value engineering and design review process, the submission of an application to the RPB, submission to the approving governmental agencies, completion of the contract documents, and bidding the project. The contract award and initiation of construction will begin in FY 2023. Construction is anticipated to be completed in FY 2025. The Lake Whitney Dam project will significantly decrease the risk of dam failure and the associated downstream damage and loss of life that could be the result of a failure.

The project team for this project consists of the designers, GZA GeoEnvironmental, Inc., consultant assistance to RWA by Tighe & Bond, Inc., and in-house staff. Design progressed in FY 2021 and currently stands at approximately 45%.

An alternatives analysis was completed in FY 2021. The analysis employed a weighted matrix to evaluate potential solutions on the criteria of cost, public impact, environmental impact, project goals, and safety. Project goals include maintaining the historic features of the existing dam and operating the Lake Whitney Water Treatment Plant during construction. The option selected, which balances the criteria of the alternatives analysis, consists of the construction of a concrete dam immediately upstream of the existing dam, installation of a small cofferdam (a watertight structure forming a dam that allows the enclosed area to be pump dry) at Davis Street that will allow a significant portion of the reservoir to remain full, and provide a temporary water service for the Lake Whitney Water Treatment Plant. This option also preserves the historic attributes of the dam. The dam is included within the Eli Whitney Gun Factory Site, which is listed in the National Register of Historic Place.

The project will undergo a value engineering/peer review process that will be initiated in late FY 2021. This process will help to identify potential cost savings as well as provide a third party technical review of the design. Additionally, an analysis of alternative delivery methods for the project, being performed by Tighe & Bond and is expected to be completed in March, 2021. This analysis will evaluate utilizing techniques such as Design-Bid-Build, Design Build, Progressive Design Build, Construction Manager at Risk, and others. The analysis will evaluate each of these alternatives for project delivery costs, risks, and overall project quality.

The cost estimate for the project has significantly increased from prior budget years. Initial budget estimates were based on comparable and completed dam projects in Connecticut. Significant differences between the comparable projects and the Lake Whitney project were discovered during the investigation and design phases. Comparable projects typically drained the entire reservoir regardless of source of supply or environmental impacts. The draining of all of Lake Whitney is not considered acceptable due to the necessity to maintain flow to the LWWTP

during construction and to avoid associated detrimental environmental impacts. During subsurface investigations and subsequent analysis, it was discovered that the internal construction of the dam differed significantly from initial engineering assumptions and previous records. It had been assumed by previous engineering firms that the dam was a solid mass of rock masonry. Recent geotechnical investigations revealed that the dam is composed of rock rubble. This difference in condition resulted in the need to build a new mass concrete structure upstream of the entire existing dam.

Work in FY 2022 will consist of completion of the value engineering and design review process, the submission of an application to the RPB, submission to the approving governmental agencies, completion of the contract documents, and bidding the project.

Lake Menunketuc Dam Intake Valves Stem Replacement

\$175,000

This single-year project consists of the replacement of the valve stems and guides at the Lake Menunketuc Dam. This project will reduce the risk of asset failure and the subsequent loss of the source water.

The Menunketuc Dam was constructed in 1929 and is a high-hazard dam located in Guilford. Lake Menunketuc conveys water to Lake Gaillard through the Sugarloaf Tunnel. The Intake Building at the dam functions to release water from the reservoir and convey it to Lake Gaillard via the tunnel. The intake valves within the building function to open ‘windows’ into the reservoir allowing the passage of water. Other valves operate the dam blowoff and tunnel entrance valves. The valves are opened by mechanical operators on the intake deck. The valves and operators are connected by valve stems that are supported by guides along the intake walls.

During scheduled maintenance activities conducted in FY 2021 it was discovered that the original valve stems and guides have deteriorated significantly. The valve stems are exhibiting extensive corrosion causing structural degradation and risk of failure. Failure of the stems will result in loss of operation of the intake valves, blow off and tunnel entrance valve. The valves and operators are in good condition and do not need replacing at this time.

The FY 2022 work will consist of fabrication and replacement of the valve stems and guides with corrosion resistant materials. Safety improvements and concrete restoration will also be included. The proposed project budget is based on RWA’s Engineering staff’s past experiences with similar projects.

Stream Flow Regulations Improvements

\$150,000

This project will address regulations adopted by the Connecticut Department of Energy & Environmental Protection (DEEP) mandating water flow releases from dams.

The Connecticut DEEP adopted new regulations in 2011 that mandated phased-in standards with regard to water flow releases from dams. These standards are intended to maintain sufficient habitats for downstream aquatic biological communities. Beginning September 6, 2026, nine of RWA’s dams, including six reservoirs and three stream diversion impoundments, will be

required to comply with these new standards. Submission of a compliance plan to DEEP will also be required. While a number of locations subject to the regulation already have infrastructure in place to make and measure the required flow releases, four locations will require modification.

Iron Stream Diversion Dam in Madison currently has no means for moving water downstream when the impoundment level is below spillway elevation. Modifications will be necessary to the dam to allow year-round continuous release of 0.23 cfs.

Lake Bethany Dam in Bethany will require a weir to measure a required year-round continuous release of 0.45 cfs.

Lake Watrous Dam in Woodbridge will require a weir to measure a required year-round continuous release of 0.79 cfs.

The existing weir at Lake Dawson Dam in Woodbridge is insufficient to measure the range of flows required by the regulations, and a larger weir will need to be installed. Additionally, this site will be subject to variable releases as defined by specific bioperiods throughout the year. This will result in the need to frequently monitor and adjust downstream flows, and will require installation of a new station for the flood alert system to allow for remote monitoring of flows from this location.

<u>Tunnel, Diversion, and Raw Water Main Rehabilitation Program</u>	<u>\$480,000</u>
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<i><u>Projected capital expenditures through FY 2021</u></i>	<i><u>\$31,077</u></i>
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<i><u>Estimated total multi-fiscal year capital expenditures</u></i>	<i><u>\$1,480,000</u></i>
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This is a proposed multi-year program to perform condition assessments, assess rehabilitation alternatives, and rehabilitate tunnels, diversions, and raw water mains assets that convey surface waters to treatment plants. Work planned for FY 2022 will consist of program planning including researching condition assessment and rehabilitation technologies; and asset prioritization based on risk, resiliency, and redundancy. Work in FY 2022 will also include rehabilitations at three diverting systems.

RWA operates a significant number of diversions and tunnels that convey surface water to primary reservoirs, between reservoirs and, in the case of larger tunnels, from the primary reservoir to surface water treatment plants. Diversions typically consist of a small dam that captures surface water and diverts it to primary reservoirs through pipe. Tunnels are constructed below grade through rock and can be lined with concrete in areas where natural rock is not structurally competent. RWA also operates several miles of raw water mains that convey raw water from reservoirs to treatment plants as well as from diversions to primary reservoirs.

This program will develop the tools and planning necessary to perform prioritized condition assessments and complete rehabilitations at tunnel, diversions, and raw water mains. Assessment technologies and rehabilitation techniques will be evaluated to determine the most efficient

means to conduct the program based on the asset type. Updated mapping of the assets will also be included in the planning. It is anticipated that the planning work in Fiscal Years 2022 and 2023 will lead to the development of a multi-year program to complete rehabilitations.

Based on evaluations completed in FY 2021, final planning and rehabilitations will be conducted in FY 2022 at three diverting systems:

Brenske Swamp, Guilford and North Branford: This surface water collection conveys water to Lake Gaillard. Work in FY 2022 includes the first phase of the rehabilitation of a non-functioning surface stormwater collection system.

Beaver Head Road, Guilford: This asset conveys raw water to Brenske Swamp. Work in FY 2022 includes the construction of a rip-rap swale to restore damage caused by erosion.

Big Gulph and Little Gulph Diversions, North Branford: These diversions convey water to Lake Gaillard. Work in FY 2022 includes the construction of improvements to correct erosion.

Fence and Guardrail Replacements

\$100,000

This is an annual program to replace damaged or missing fencing located on RWA properties. Fence and guardrail replacements decrease safety and liability risks associated with not maintaining these guards.

This program replaces portions of fencing surrounding RWA properties that have been damaged or are missing because of vandalism, storm damage, or other incidents such as motor vehicle accidents. This fencing protects our facilities and watershed land from trespassers and potential vandalism.

Selected sites for FY 2022 include Brushy Plains Road in Branford, Beach Street in North Branford, and Dogburn Road and Route 34 in Orange.

Miscellaneous Natural Resources

\$60,000

Natural Resources Miscellaneous Infrastructure Improvements	\$30,000
Natural Resources Facilities Roof Replacements	\$30,000

II. TREATMENT

\$16,541,000

Filter Media Replacement Program

\$500,000

This annual program undertakes the planned, systematic replacement of Granulated Activated Carbon (GAC) filter media at RWA's four surface-water treatment plants. Filter media replacement increases resiliency and redundancy by ensuring the number of filters at peak performance is optimized.

This program consists of the systematic replacement of exhausted GAC in selected filters at our four surface water facilities: Lake Gaillard Water Treatment Plant, Lake Saltonstall Water Treatment Plant, West River Water Treatment Plant, and Lake Whitney Water Treatment Plant. The GAC acts as filter media and has absorptive capacity to remove organic compounds that are precursors to taste and odor compounds and disinfectant by-products. The GAC's capacity to remove these compounds significantly improves the quality of the water to our customers and our compliance with regulatory requirements. When the GAC is exhausted, it no longer has adequate ability to remove organic compounds and water quality is degraded.

RWA anticipates replacing the GAC in approximately four to six filters per year. The exact filters chosen will be performance-based on the current level of removal of organic compounds. Work in FY 2022 includes the GAC replacement in filters at the Lake Gaillard, Lake Saltonstall, and West River Water Treatment Plants.

The basis for the budget is recent bid history from material vendors and past project experience.

<u>Water Treatment Plant Valve Replacement Program</u>	<u>\$110,000</u>
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<i><u>Estimated total multi-year capital expenditures</u></i>	<i><u>\$3,815,000</u></i>
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This is the first year of a proposed multi-year project that includes replacement of interior process valves and exterior yard valves at water treatment facilities. Aging valves require replacement to ensure the plant can receive source water, efficiently control flow inside the treatment facilities for filtration and other treatment processes, and move treated water into the distribution system. Work in FY 2022 will include the initiation of a project at the Lake Gaillard Water Treatment Plant and the submission of an application to the Representative Policy Board. This project will decrease risks associated failing valves including the inability to operate valves when needed and process train disruption.

Properly functioning process and yard valves are essential for the effective operation of water treatment plants. Process valves include accessible interior valves associated with source water piping, treatment processes, or pumping. Yard valves are buried exterior valves that are associated with incoming source water, transfer of treated or backwash waters to exterior processes, and the transfer of treated water to the distribution system. Valve failures can severely disrupt and shut down water treatment plants and lead to regulatory violations. Typical valve failures include mechanical failure of the gearing, failure of electrical valve operators, or gasket seating failures. Repair or rehabilitation of failed valves is typically not an option due to the lack of availability of original system components.

This program will address the replacement of aging valve infrastructure. While many process valves have been replaced at the Lake Saltonstall and West River Water Treatment Plants (WTP), numerous valves at the 35-year old Lake Gaillard and the 16-year old Lake Whitney WTP's are at or near the time when replacement is necessary. Many of the valves at the Lake Gaillard WTP have been identified as Category A (immediate replacement necessary) items in Tighe & Bond's 2015 Gaillard Capital Improvement Report. The valve replacement program includes the replacement of all filter actuated influent and filter drain valves at the Gaillard WTP,

Preliminary Capital Budget For Fiscal Year 2022
Justification and Explanation of Projects

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installation of two new 54-inch isolation valves required for valve replacements at Gaillard, and buried yard valves at all four surface water treatment plants. Future work under consideration beyond FY 2026 will likely include valve replacements at the Lake Whitney WTP.

Project work in FY 2022 includes consultant design, submission of an application to the RPB, and bidding. Construction is anticipated to begin in late FY 2022 and is scheduled for completion within the five-year planning period. The total multi-year capital expenditures are based on an opinion of probable construction cost from Tighe & Bond, Inc., using a basis of similar projects completed.

Lake Gaillard Water Treatment Plant – Chemical Feed Improvements **\$900,000**

Projected capital expenditures through FY 2021 **\$447,000**

Estimated total multi-year capital expenditures **\$1,347,000**

This is the third and final year of a multi-year project to replace the existing pre-oxidant feed system at the Lake Gaillard Water Treatment Plant. Work in FY 2020 consisted of design and bidding of the project. The budget was reduced and the start of construction was delayed in FY 2021 as a result of budget constraints related to the pandemic. Completion of the project will occur in FY 2022. Chemical feed system improvements decrease the risk of equipment failures and increase redundancy by providing 100% back-up systems.

The project focuses on oxidant pretreatment systems at the Lake Gaillard Water Treatment Plant. It includes replacing the presently undersized potassium permanganate feed system in order to provide additional organics removal which will reduce disinfectant by-products (DBP's) and to increase operational flexibility. The reduction in organics will aid in the RWA's ability to maintain compliance with regulatory requirements.

The project will increase the size of the chemical feed system to allow for higher dosage rates of potassium permanganate and provide a larger day tank to batch mix once per day. The pre-oxidant feed system will allow for further operational flexibility, by allowing for removal of manganese prior to entering the treatment system.

Work planned for FY 2022 includes completion of the construction project. The total cost of the project is estimated to be \$1,347,000 based on the current construction contract.

Lake Gaillard Water Treatment Plant – Backwash Polymer System Upgrades **\$300,000**

Projected capital expenditures through FY 2021 **\$225,000**

Estimated total multi-year capital expenditures **\$525,000**

This is a planned multi-year project that includes the installation of a new polymer feed system and associated electrical and piping appurtenance work at the Lake Gaillard Water Treatment Plant. This project was planned for completion in FY 2021 but was deferred due to the

pandemic. Project work will complete in FY 2022. Chemical feed system improvements decrease the risk of equipment failures and increase redundancy by providing 100% back-up systems.

This project is part of a program of treatment improvements at the Lake Gaillard Water Treatment Plant. Upgrades in various areas of the treatment plant are necessary to improve operational efficiencies and personnel safety as the existing assets age and new technology is developed.

The project includes replacing the backwash polymer system with a new Dyna polyblend unit, as well as associated electrical and piping appurtenances. Safety upgrades will also be included.

Work in FY 2020 included the design, bidding and initiation of construction on the project. Construction was placed on hold as a result of the pandemic during FY 2021. Completion of construction will occur in FY 2022.

The budget for this project is based on the awarded construction contract.

<u>Lake Gaillard Water Treatment Plant – Local Control Console Upgrade</u>	<u>\$75,000</u>
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<i><u>Estimated total multi-year capital expenditures</u></i>	<i><u>\$450,000</u></i>
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This is a proposed multi-year project to upgrade the original local control consoles for the filters at the Lake Gaillard Water Treatment Plant. This project was original proposed for FY 2021, and was deferred due to the pandemic. Work in FY 2022 will consist of design of the project. Installation of the new equipment will take place in FY 2023. Console upgrades decrease the risk of loss-of-filter control and increase redundancy by providing a redundant control system to the treatment plant's main control room.

The local control consoles at the Lake Gaillard Water Treatment Plant control filter functions. Filter flow and backwashes are controlled using switches and displays on the consoles. The present consoles are from the plant's original construction, and have reached the end of their useful life. These switches and displays, as well as associated wiring, are in need of replacement. This project will replace obsolete switches and displays with technologically advanced operator interface screens networked with SCADA, allowing treatment plant operators to locally monitor plant operations.

Design of the project was initiated in FY 2020, but was deferred in FY 2021. Final design will occur in FY 2022, with construction of the project anticipated in FY 2023, and will include replacement of the original equipment and associated wiring, as well as schematics for each console.

The budget for the project is based on an estimate from our consultant, EMA, Inc.

Lake Gaillard Water Treatment Plant – Clarifiers & Recycle Building **\$306,000**
Improvements

Projected capital expenditures through FY 2021 *\$45,000*

Estimated total multi-year capital expenditures *\$4,250,000*

This is the second year of a proposed multi-year project at the Lake Gaillard Water Treatment Plant to replace the existing inclined plate settler equipment at the clarifiers and replace the recycle pumps. Work in FY 2021 included preliminary design, and a business case evaluation. Final design, and preparation and submission of an application to the Representative Policy board for project approval, bidding, and initiation of construction is planned for FY 2022. Project completion is anticipated to occur in FY 2024. Clarifier replacements decrease risks associated with inefficient clarifying equipment that allow solids into the recycle train. They increase resiliency and redundancy by ensuring that the total capacity of all clarifying trains can meet more than 100% of the design flow.

The clarifiers at the Lake Gaillard Water Treatment Plant operate by providing a large surface area in a compact space to allow suspended solids to settle from highly turbid backwash water prior to the clarified water being recycled to the head of the treatment process. Highly turbid backwash water, if recycled without solids removal, would cause the combined filter effluent turbidity to increase to a level that could exceed regulatory limits.

The mechanical components of the clarifiers were identified in the 2015 Tighe & Bond's Capital Improvements plan as a Category "A" item – replace within five years, and since that point staff has found severely degraded rake arms and failed mounting brackets. The clarifiers have reached the end of their expected useful life.

The project includes the replacement of the existing inclined plate settlers, sludge rake arms and rive replacement, concrete spall repairs in tank with covers installed over the open tanks, along with handrail modifications. It also includes the replacement of the recycle pumps, piping modifications in the recycle building with associated electrical work. The recycle pumps are approximately 20-years old and have reached the end of their life.

Work in FY 2021 included preliminary design and a business case evaluation. Final design and submission of an application to the RPB for project approval, as well as bidding and start of construction is anticipated in FY 2022. Construction completion is planned in FY 2024. The total budget is based on a budgetary estimate by Tighe & Bond who developed an opinion of probable construction costs associated with similar projects.

Lake Gaillard Water Treatment Plant Raw Water - **\$700,000**
Flow Control Valve Replacement

This is a proposed single-year project to replace critical raw water flow control valves in the Lake Gaillard Water Treatment Plant. Treatment plant raw water valve replacements significantly decrease the risk of influent valve failure which could lead to the loss of source

water to the plant. These replacements ensure that valve redundancy is maintained at the Turbine Building.

This project will replace critical raw water flow control valves at the Lake Gaillard Water Treatment Plant. The valves and a majority of the gearboxes are original to the facility. The Authority has experienced failures on one of the 24" flow control valves, two of the 48" flow control valves, and one 36" guard valve contained in the Hydroturbine Building. The butterfly valves are bolted flange valves which will be replaced as complete assemblies including the valve, gearbox and actuator. These will be fully automated assemblies.

The cost estimate of this work was developed based on quotes from materials vendors.

Lake Gaillard Water Treatment Plant – HVAC Upgrades **\$235,000**

Estimated total multi-year capital expenditures **\$3,250,000**

This is a proposed multi-year project to upgrade the entire HVAC system at the Lake Gaillard Water Treatment Plant. Work proposed for FY 2022 includes finalization of project scope, design, and preparation and submission of an application to the Representative Policy Board for project approval. Bidding, award, and initiation of construction is anticipated for FY 2023, with completion of the project expected in FY 2024. HVAC Upgrades decrease risks associated with the failure of aged equipment that include capacity reductions, loss of efficiency, and functional loss.

The Lake Gaillard Water Treatment Plant provides approximately 65% of the total treated water that enters the distribution system. The treatment plant was constructed in 1983 and continuing improvements are necessary for operations to meet service level goals, regulatory requirements, and customer expectations. This multi-year project will replace aging HVAC infrastructure that supports the LGWTP and its operations by mitigating corrosion and other damages due to poor operating conditions.

The existing HVAC system which, outside of minor improvements, is original to the plant and is beyond its useful life. It was identified in the 2015 Tighe & Bond Capital Improvement Plan for replacement. The HVAC systems provide adequate heating, cooling, and humidity control. Without these systems working effectively, electronic equipment and piping will corrode at an accelerated rate, and chemicals necessary to the treatment process can degrade or become unusable. The system is outdated and not performing efficiently according to Tighe & Bond's report. In addition, this will improve the air quality treatment plant operators breathe in the daily management, operation, and maintenance of the water treatment plant.

The project would rehabilitate the entirety of the HVAC system of the LGWTP. This includes replacement of critical system components such as Air Handlers, Condensers, Fans, Boilers, Pumps, Building management systems, ductwork, and hot/cold water loops. Additionally, it will address issues including dehumidification, the non-functional Trombay wall (a passive solar installation), and mobile air conditioner in the control and server room with more efficient and resilient systems.

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Work in FY 2022 will consist of finalizing the project scope, design, and a RPB application. Work in FY 2023 will include bidding, award, and the initiation of construction. Construction will continue into FY 2024 due to long lead items and material availability.

Lake Saltonstall Water Treatment Plant – Electrical Upgrades **\$300,000**

Projected capital expenditures through FY 2021 *\$36,480*

Estimated total multi-year capital expenditures *\$3,800,000*

This is a continuation of a planned multi-year project to upgrade the electrical equipment at the Lake Saltonstall Water Treatment Plant. The main switchgear is original to the treatment plant, and is beyond its useful life. Work in FY 2019 included a business case evaluation and preliminary design. Work in FY 2020 included an additional study to assess pump efficiency. Work planned for FY 2021 was deferred as a result of the pandemic. Work in FY 2022 will include final design, an application to the Representative Policy Board for project approval, bidding, and initiation of construction. Project completion is anticipated to occur in FY 2024. It is anticipated that this project will be submitted for funding consideration under CTDPH's DWSRF program. Electrical upgrades decrease the risk of catastrophic electrical failure and the potential result of loss of treatment capacity.

The main electrical switchgear at the Lake Saltonstall Treatment Plant is original to the plant's construction and is beyond its life cycle. Due to the age of the equipment, it is very difficult to find replacement parts. A new electrical service must also be installed as part of the replacement of the main switchgear to ensure continued uninterrupted service. Additionally the scope of the project has been expanded to include the installation of new variable frequency drives on the pumps to optimize energy use.

Work in FY 2019 included an investigation to determine the best path for replacement of the electrical switchgear, a business case evaluation, and preliminary design. Work in FY 2020 included an additional investigation by J.K. Muir to maximize energy efficiency of the pumps. Project work was suspended in FY 2021 as the result of the pandemic. Work in FY 2022 will consist of design completion, application to the RPB, bidding, and initiation of construction. The project will be completed in FY 2024. RWA has consulted with United Illuminating and been informed that switchgear replacements do not qualify for energy incentives.

The budget is based on an updated estimate from our consultant, EMA, Inc.

Lake Saltonstall Water Treatment Plant – Chemical Treatment **\$1,155,000**
System Improvements

Projected capital expenditures through FY 2021 *\$195,000*

Estimated total multi-fiscal year expenditures *\$1,350,000*

This is the third year of a multi-year project to complete improvements to the fluoride and polymer chemical systems at the Lake Saltonstall Water Treatment Plant. Work in FY 2020 included preliminary design. Final design and bidding are anticipated to be completed in FY 2021. Construction is planned for FY 2022. Chemical system improvements decrease the risk of equipment failures and increase redundancy by providing 100% back-up systems.

The Lake Saltonstall Water Treatment Plant is one of four surface water plants in the RWA system. The treatment plant was constructed in 1973, and it is necessary to make improvements to the chemical systems on a continuing basis for operations to continue consistent with our service level goals and customer expectations.

Upgrades will be made in various areas of the treatment plant to improve operational efficiencies and personnel safety as these assets age and new technology is developed. This project will also address concerns identified by CT DPH following the most recent sanitary survey. Work associated with this project will consist of removal of the former fluoride bulk tank and associated appurtenances, as well as installation of a new polymer system. The new polymer system will include a new larger day tank, a primary and secondary blending system and associated piping, electrical and instrumentation; relocation of the existing sulfuric acid day tank; replacement of the metering pumps and associated piping, electrical and instrumentation work.

Work in FY 2020 included a business case evaluation, and preliminary design. Final design and bidding will be completed in FY 2021. Construction will be completed in FY 2022.

The total cost associated with this project is estimated to be \$1,350,000, dependent upon construction contract bidding and award. This cost is based on design and construction cost estimates from our consultant, Tighe & Bond, Inc.

Lake Saltonstall Water Treatment Plant – Elevator Improvement

\$415,000

This single-year project includes replacement of the hydraulic cylinder, door operator, and pump and power unit upgrades in order to renew the elevator at the Lake Saltonstall Water Treatment Plant.

The current elevator system is unsupported and obsolete. The 2013 Tighe & Bond Capital Improvements Plan indicated that the elevator was 1974 vintage and replacing the hydraulic power unit and controls was a Recommended Action Category “A” item (repair or replace in 0-5 years). The elevator is required to move phosphate and drums of polymer from the loading dock to the second floor where the feed systems are located. Due to the age of the elevator and its current condition, the hydraulic power unit and control need to be replaced to maintain safe operation of the elevator system. There is no alternative safe way to move phosphate and polymer into the treatment plant without the elevator. Improvements are required to bring the unit in conformance with the US elevator code and safety regulations.

The project includes replacement of the hydraulic cylinder replacement, elevator freight power door conversion, power control units and pumps upgrades.

The total budget is based the opinion of probable cost developed by our consultant, Tighe & Bond, Inc.

<u>Lake Whitney Water Treatment Plant Improvements</u>	<u>\$680,000</u>
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<i><u>Projected capital expenditures through FY 2021</u></i>	<i><u>\$83,000</u></i>
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<i><u>Estimated total multi-fiscal year capital expenditures</u></i>	<i><u>\$765,000</u></i>
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This is a continuation of a multi-year project to replace the ozone generators, nitrogen boost compressors, and air dryers; ventilation improvements to the centrifuge room, and replacement of Building Management System at the Lake Whitney Water Treatment Plant. Design of the project began in FY 2020 and continued in FY 2021. Construction the project was deferred in FY 2021 as a result of pandemic-related budget constraints, and is expected to commence in FY 2022. In general, water treatment plant equipment upgrades decrease equipment failure risks and the associated system failure risk by removing aged or failed equipment. They can increase effective redundancy by ensuring that new redundant equipment is operational.

Lake Whitney Water Treatment Plant located in Hamden is one of four surface water plants in the RWA system and can provide approximately 10% of average daily demands. This plant was placed into service in 2005. Improvements are necessary on a continual basis for operations to continue meet our service level goals and customer expectations.

The plant utilizes ozone for disinfection in order to deliver a reliable and quality supply of water to our customers. The ozone is supplied through an ozone generation system that utilizes a nitrogen boost process that enables a more efficient reaction. The nitrogen boost is currently disabled due to component failure. Also, the ozone generation room has experienced periods of high humidity that are detrimental to the electronic components of the system and requires a dehumidification system before long-term damage occurs. The project will replace the ozone generators, nitrogen boost compressors, and air dryers.

In addition, this plant employs a centrifuge for residuals management resulting in the reduction of the amount of discharge to the local sanitary sewer and associated fees. Currently, the centrifuge room is poorly ventilated, creating a poor working environment for treatment staff due to hydrogen sulfide odors and humid conditions in the centrifuge room, and may contribute to poor ambient conditions in other parts of the plant. The project will include ventilation improvements in the centrifuge room.

The existing Building Management System (BMS) that operates the HVAC system at the facility is unsupported and in need of an update. The project will include an upgrade of the BMS to match other RWA facilities that utilize Johnson Controls for the BMS.

Work in previous fiscal years included the evaluation and design of the ozone nitrogen boost system replacement, modifications to the current HVAC systems, and installation of dehumidification for the ozone room. Project work was deferred in FY 2021 as a result of budget constraints related to the pandemic. Work in FY 2022 will include bidding and construction of

the improvements noted above.

The total cost associated with this project is projected to be \$765,000, dependent upon construction contract bidding and award. This cost is based on construction cost estimates from our consultant, Tighe & Bond, Inc., recent SCCRWA bid history, and investigations.

West River Water Treatment Improvements (DAF, Electrical & Chemical) **\$7,000,000**

Projected capital expenditures through FY 2021 *\$1,003,900*

Total estimated multi-fiscal year expenditures *\$16,300,000*

This multi-year project consists of the design, and construction of a dissolved air flotation process at the West River Water Treatment Plant as discussed in the recent RPB application. The project scope was revised in FY 2021 to include electrical and chemical improvements. Work in FY 2021 included preparation and submission of an application to the Representative Policy Board for project approval. Work in FY 2022 will include final design, bidding, and contract award. Construction will occur in FY 2022 through FY 2024. It is anticipated that this project will be funded through CTDPH's DWSRF program. Implementing this project will decrease risks associated with failed electrical equipment, loss of filter run time, and the storage of large quantities of hypochlorite. The project will provide resiliency by mitigating the impact of algae blooms on finished water quality, and provide redundancy through DAF treatment capacity.

This project provides dissolved air flotation pretreatment at the West River WTP. The installation of the Dissolved Air Flotation (DAF) system is intended to provide consistent plant performance and higher quality water, even during periods of algal blooms. The DAF system will allow enhanced coagulation and the more efficient removal of solids and organic compounds compared to the current in-line direct filtration process. Improved water quality (specifically reduced organics and some taste and odor compounds), reducing disinfectant by-products in the distribution system, increased reliability, the ability to operate West River WTP at its rated capacity, and the ability to meet the requirements of our general discharge permit are benefits of this project. This also includes replacement of the filter underdrains and demolition of an unused chlorine gas scrubber tank and piping.

The treatment plant was constructed in 1979 and it is essential to make improvements on a continuing basis for operations to continue to meet our service level goals and customer expectations. Hypochlorite is a primary disinfectant that is used in the treatment process. Presently Liquid V-Notch (LVN) feeder pumps are utilized at this location. The existing LVN system is outdated and has become very labor intensive and unsafe to operate and maintain. The existing LVN hypochlorite system will be replaced with an on-site hypochlorite generation system with a brine or salt silo, day tank, metering pumps, and two on-site sodium hypochlorite generators. The equipment will be installed in the existing sodium hypochlorite room where the chemical resistant floor coating will be removed and replaced.

The existing electrical equipment is obsolete and is beyond its rated life expectancy. Most of the equipment is original to the plant, surpassing the typical 30-year life for this type of equipment.

Finding replacement parts for this equipment is difficult and time consuming. The electrical system improvements include installing new transformer, automatic transfer switch (ATS) and switchgear and a larger new generator which are crucial to maintaining a reliable power supply to the entire WRWTP. The existing electrical system uses an outdoor 500KW diesel generator. The system will shut down various pieces of equipment when running on generator power, as the entire facility requires more power than the existing generator can provide. The addition of DAF makes the installation of a larger generator crucial.

This project will add to the stability and reliability of our water system and improve water quality. This budget is estimated based on vendor equipment estimated cost and Tighe & Bond 75% design budgetary engineers' estimated opinion probable construction cost. This project has been submitted for funding through the CTDPH's DWSRF program.

West River Water Treatment Plant – Effluent Pipe Injection **\$250,000**

Projected capital expenditures through FY 2021 **\$483,000**

Estimated total multi-fiscal year capital expenditures **\$735,000**

This is a multi-year project to clean and line a portion of the effluent chamber piping to alleviate corrosion issues the area of the chemical injection port. This project was initiated in FY 2020. Project completion in FY 2021 was delayed due to the pandemic. Work planned for FY 2022 consists of completing the improvements initiated in FY 2020.

This project will ensure the reliability of the West River Water Treatment Plant to provide uninterrupted water service to our customers. The single effluent pipe from the treatment plant has experience significant corrosion, loss of metal and leakage in two locations. Following repairs in FY2019, ultrasonic testing was performed by our consultant, CorrTech, Inc., to aid in evaluating the overall condition of the pipe. The use of a concrete liner was recommended to restore this section of the pipe and extend its useful life. This project is necessary to maintain the infrastructure stability and reduce system vulnerability of the treatment plant effluent flow to the finished water storage tanks.

This project consists of removing the injection spool piece of pipe in the effluent chamber, cleaning and relining the defective areas of the pipe, performing additional inspection of the existing pipe and re-installing the spool piece. Also included in this project is saw-cutting of the concrete slab to replace the existing entrance hatch with a larger hatch to facilitate removal of the spool piece and provide easier future access.

Work in FY 2020 included the installation of a temporary system that will keep the treatment plant online during the pipe rehabilitation.

Total estimated cost of the project is based on the awarded contract.

Treatment Plant Graphics Upgrades **\$200,000**

Estimated total multi-fiscal year expenditures **\$800,000**

This proposed multi-year project will upgrade the graphics systems at all water treatment facilities for consistency and uniformity with the graphics systems installed at the non-treatment facilities. The graphics at the non-treatment facilities were upgraded as part of the System-Wide RTU Upgrades project.

During the System-Wide RTU Upgrades project all the graphics systems at all non-treatment facilities were upgraded to high performance graphics, which allows for better information flow on the SCADA screens at the facility. In order to provide consistency and uniformity at all Authority facilities, the graphics at the treatment facilities will be upgraded to high performance, providing a standardized graphics system at all Authority facilities.

The budget for this project is based on our consulting engineer, EMA's estimate of probable cost.

North Sleeping Giant Wellfield Facility Improvements **\$1,100,000**

Projected capital expenditures through FY 2021 **\$897,625**

Estimated total multi-fiscal year expenditures **\$2,000,000**

This continuing multi-year project includes total rehabilitation of the existing chemical building at the North Sleeping Giant Wellfield. Work in FY 2020 included the design, permitting, bidding, and submission of an application to the Representative Policy Board. Construction was initiated in FY 2021, with completion anticipated to occur in FY 2022. Chemical feed system improvements decrease the risk of equipment failures and increase redundancy by providing 100% back-up systems.

This project is necessary to address aging chemical feed systems in the North Sleeping Giant Wellfield located in Hamden. The chemical rooms are very small, in poor condition, and pose safety risks to RWA staff. They are and difficult to maneuver around and are hazardous for the treatment operators. There are also several entry doors to the chemical rooms in poor condition, creating an unsafe workplace.

This project includes installation of a new sodium hydroxide chemical system, inclusive of a bulk storage tank, day tank, scale, metering pumps, fill stations, piping, electrical and all appurtenances. It also includes replacement of the phosphate and fluoride systems, bulk tanks, day tanks, metering pumps, scales and all appurtenances. This wellfield will also be fully automated, giving operators the flexibility of controlling the station from satellite locations.

FY 2020 work included the design and bidding of the project. An application was also submitted to the Representative Policy Board for approval. Approval was received in early FY 2021, and

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construction commenced. Completion of construction will occur in FY 2022. The total budget is based on the contract award.

Wellfield Facility Improvements – South Sleeping Giant **\$1,700,000**

Prior capital expenditures through FY 2021 **\$81,341**

Estimated total multi-fiscal year expenditures **\$1,800,000**

This is a multi-year project that includes the complete rehabilitation of the phosphate, hypochlorite, and fluoride chemical systems at the South Sleeping Giant Wellfield. It also includes the total automation of these systems. Work in FY 2020 included the design of the improvements. The project was deferred in FY 2021 as a result of the pandemic. Final design and construction will take place in FY 2022. Chemical feed system improvements decrease the risk of equipment failures and increase redundancy by providing 100% back-up systems.

The South Sleeping Giant Wellfield is located in Hamden and is comprised of one well and its chemical treatment systems. It was constructed in 1980, and the current chemical treatment systems have surpassed their design life expectancy.

This project will include upgrades to the phosphate, sodium hypochlorite, and fluoride treatment systems, installation of larger day and mixing tanks, replacement of the existing pumps with pulse feeder pumps, chemical feed piping, and motorized actuated valves. This project will also include the full automation of these chemical treatment systems, giving operators the flexibility of controlling the station from satellite locations.

This work is necessary in order to improve safety, system reliability, and overall efficiency of the station. The automation of these systems will improve personnel safety by limiting handling of chemicals and eliminating the need to drive to the site in order to make chemical dosing adjustments; it will also improve efficiency.

Final design and construction are planned in FY 2022.

The total budget is based on Tighe & Bond's, budgetary estimate of probable construction costs associated with similar projects when completed.

Well Rehabilitation Program **\$230,000**

This program consists of the mechanical and chemical rehabilitation of our wells, as well as the replacement of well screens, pumps and motors as necessary. Work in FY 2022 will occur at North Sleeping Giant Well 4, North Sleeping Giant 2N, and North Cheshire 4. The rehabilitation of wells decreases the risk of loss-of-well capacity and treatment system capacity overall.

WSP Global, Inc., (WSP), our groundwater engineering consultant, submitted a condition report in February 2021 for RWA on the production wells currently in operation. This report strongly

recommended the redevelopment of these three wells due to a significant decrease in specific capacity. Well redevelopment is most effective when the condition of the wells has not far deteriorated, as the expected efficiency gained through recovery decreases if the longer it is unaddressed. The aforementioned wells have lost efficiency and require treatment before recovery expectations drop.

The budget is based on previous experience with well rehabilitation projects, as well as cost estimates by Capital Planning & Delivery staff.

Well Replacements **\$110,000**

Estimated total multi-fiscal year expenditures *\$1,400,000*

This project consists of the replacement of one of RWA's aging wells at the Derby Wellfield. This project is necessary to maintain normal operations of a critical source of supply. Work in FY 2021 included initiation of design work. Well replacements increase redundancy by providing back-up to the primary well. They decrease risks associated with well failure including loss of system pressure and increased reliance on alternative sources.

The Derby wellfield is located along the Housatonic River in Derby and currently consists of a single well. The addition of a back up well will provide redundancy to help secure adequate supply to meet system demands in the area.

This project involves the construction of a replacement well. Well permitting, placement and design will be completed in FY 2022 and construction in FY 2023 and FY 2024. The estimated project budget is based on bid history of recent well replacement projects and consultant proposals.

North Sleeping Giant Well No. 4 Motor Control Center (MCC) Replacement **\$100,000**

This single-year project will consist of the removal and replacement of the motor control center at North Sleeping Giant Well No. 4. Electrical upgrades decrease the risk of catastrophic electrical failure and the potential result of loss of treatment capacity.

At thirty years old, the electrical switchgear in the well house at North Sleeping Giant Well No. 4 has reached the end of its useful life. Replacement parts are difficult to find and costly. This project will remove the existing MCC and replace it with a power panel. Because a VFD cabinet has been installed, a MCC is no longer necessary.

This project will be performed using in-house personnel. The budget is based on past experience with projects of a similar nature.

Treatment Plant Driveway Replacement Program **\$100,000**

This is a program to replace paved driveways at Authority treatment facilities. Pavement upgrades decrease the potential of slips, trips, and falls by staff.

This program replaces damaged pavement at all Authority treatment facilities. In FY 2022, the driveway at the Lake Gaillard Treatment Plant is planned for replacement. The driveway was originally installed in 1985, and is damaged in many areas as a result of weather and heavy truck travel.

The budget is based on past experience with similar projects.

<u>Miscellaneous Treatment</u>	<u>\$75,000</u>
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Treatment Facilities Roof Replacements (South Cheshire Wellfield)	\$75,000
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IV. TRANSMISSION AND PUMPING	<u>\$15,983,000</u>
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<u>Capital Pipe Replacements</u>	<u>\$3,000,000</u>
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This is an on-going program. Not funding this program, even for a year, is considered unacceptable. Capital pipe replacements decrease risks associated with main failures including water service disruption, damage to municipal roads and other utilities, decreases in pressure and water quality, the safety of RWA pipe crews, and disruptions to neighborhoods near the failure.

Each year, representatives from the RWA's Distribution, Field Operations, Contracts & New Services, Water Quality, and Capital Planning & Delivery departments meet to review priorities for the long-range capital improvement plan regarding pipe, identifying projects for inclusion in the capital budget. Project selection and funding is in accordance with criteria from our 2011 Underground Asset Management Plan and the transmission and distribution findings of the 2017 GHD Capital Expenditure Forecast Audit.

The Underground Asset Management Plan evaluated all pipes in our system for asset condition, criticality, and hydraulic capabilities. A list of priority projects (the "Capital Pipe List") is developed based on a weighted consideration of these factors maintained by the Capital Planning & Delivery Department. The group evaluates the list and the latest information on main failures, water quality issues, and hydraulic inadequacies throughout the distribution system to determine which pipe to replace. Consideration is also given to plan work in conjunction with Connecticut State Department of Transportation and municipal road restoration and paving projects whenever possible.

Upon approval of the Capital Pipe List, local municipalities are notified of RWA's intent. Letters of proposed work locations are sent to municipal Engineering and Public Works Department heads for review. RWA will schedule on-site meetings with Municipality Representatives to discuss the project scope and restoration expectations.

Capital pipe projects proposed for FY 2022 will replace pipe that has experienced high rates of failure due to external corrosion or joint failure. Projects are also included as a result of water quality concerns or hydraulic capacity issues. These projects improve the transmission,

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distribution, and fire protection capabilities throughout the Authority's service areas, while also addressing specific water quality issues. Specifically, they improve flow capacity, reduce maintenance, and improve water quality in the system. Due to budget constraints, planned expenditures have been limited and are not in accordance with GHD's recommendations to increase pipe expenditures for the foreseeable future. A plan to return to the recommended levels will be developed in FY 2022.

The following table details the pipe projects planned for FY 2022:

FY 2022 Capital Pipe Replacement Projects

<u>Diameter</u>	<u>Location</u>	<u>Replacement Reason</u>	<u>Length (ft.)</u>	<u>Cost</u>
12"	Thimble Island Road, Branford	4 breaks	1,600	\$ 290,000
8"	Dryden Drive, Cheshire	3 breaks	1,250	\$ 431,000
8"	Benham Street, Hamden	5 breaks	2,200	\$ 760,000
8"	Cooper Lane, Hamden	3 breaks	1,300	\$ 449,000
8"	Wayne Road, Milford	3 breaks	1,700	\$ 587,000
8"	Kohary Drive, New Haven	3 breaks; water quality	1,400	\$ 483,000
<i>Total</i>		<i>(1.48 miles)</i>	<i>7,850</i>	<i>\$3,000,000</i>

Municipal/CDOT Redevelopment Pipe

\$1,600,000

This program addresses those pipe relocations mandated by CDOT, municipal, or WPCA projects, or portions of projects, which are ineligible for reimbursement. Funding for FY 2022 has been increased to \$1,600,000 based on projects that have been identified at the time of budgeting.

Included in this category are highway or road reconstruction projects being performed by municipalities that will necessitate the relocation of water mains by SCCRWA. At the time of budget development, projects expected to occur in FY 2022 are Sybil Creek Betterment, Branford; Orchard Street, New Haven; Spring Street Drainage Improvements, West Haven; Turtle Creek Betterment, Milford; and Main Street Roadway Improvements, Branford, a significant project to replace 2,200 feet of original main installed in 1898 at a cost of \$1,100,000.

State Redevelopment Pipe

Self-funded, not to exceed \$3,000,000

This is an ongoing program of highway or road reconstruction projects requiring the relocation of RWA pipe, which are reimbursable up to 100 percent by the Connecticut Department of Transportation. These projects continue to be funded from the Construction Fund – State and Redevelopment Revolving Account.

These are highway or road reconstruction projects being performed by the state, municipalities, or Water Pollution Control Authorities (WPCA's) in RWA's service area necessitating the relocation of water main. The State reimburses RWA for up to 100 percent of its costs for relocation work. As a result of reimbursements obtained on prior state projects RWA has, since

Preliminary Capital Budget For Fiscal Year 2022
Justification and Explanation of Projects

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FY 2012, funded these projects from a pool of funds from the Construction Fund – State and Redevelopment Revolving Account. This practice will continue in FY 2022, and these projects will not be paid for with financed funds. Total expenditures will not exceed \$3.0 million.

Projects for FY 2022 include Orchard Street, New Haven (\$70,000); Sybil Creek, Branford (\$70,000); Turtle Creek, Milford (\$1,800,000); Route 1, Orange (\$600,000); Route 34 Derby Center (\$200,000).

Capital Pipe Service Connections

\$500,000

This budget item allots funds specifically for those connections associated with capital pipe projects.

It is the responsibility of RWA to maintain and replace existing service connections for various reasons, including leaks, poor piping, inoperable curb valves, and transfers to a replaced main. A service connection is that portion of a customer's service pipe that runs from the water main to the curb valve. This line item will specifically address those connections associated with capital pipe projects. The budget estimate is based on the amount of capital pipe to be installed.

Service Connections

\$1,500,000

This is an on-going program. Not funding this program, even for a year, is considered unacceptable.

It is the responsibility of RWA to maintain and replace existing service connections for various reasons, including leaks, poor piping, inoperable curb valves. A service connection is that portion of a customer's service pipe that runs from the water main to the curb valve. Management bases its estimate of cost on experience in prior years, as well as the amount of capital pipe to be installed.

Valve Replacements

\$300,000

This is an annual program providing funding for the replacement of inoperable valves throughout the distribution system. This program began in FY 2016, and is expected to span approximately 10 years, completing in FY 2026.

Throughout RWA's distribution system are approximately 30,000 valves of various types and sizes that regulate the flow of water in the distribution mains. Being able to operate these valves at a moment's notice is vital to the RWA in order to control distribution system flows. In an emergency, sections of a distribution system may need to be isolated quickly; however, valves may not be easily accessible or may have seized due to corrosion as a result of lack of exercise, making the valve inoperable.

Field Operations has established a valve-exercising program. This program has four components: locating the valves, exercising the valves, accurately recording the location of the valves, and repairing the valves as required. Additionally there are instances where replacement,

rather than repair, is required. This program allows for the immediate replacement of inoperable valves, when found. Since the inception of the program in 2016, 219 valves have been replaced.

Meters **\$105,000**

This is an on-going program. Not funding this program, even for a year, is considered unacceptable.

As a result of the kick-off of the Advanced Metering Infrastructure (AMI) project in FY 2016, the periodic meter replacement program remains suspended. Therefore, the meter capital budget reflects a reduced spend for emergency replacements only, including frozen and broken meters, as well as new installations. This budget includes funds for replacements of large meters.

AMI Meters **\$610,000**

This planned single year project to address remaining installations of AMI meters by RWA personnel following the conclusion of the Sensus contract in December 2019 was originally scheduled for completion in FY 2021. As a result of the pandemic, work was deferred and will resume in FY 2022.

In December 2019, the contract with Sensus, and its subcontractor, CCI, came to a conclusion. At that time, approximately 5,000 meters remained to be installed in the system, with that installation work to be handled by RWA personnel in FY 2020 and FY 2021. Work has continued on these installations. This budget item will cover the labor costs associated with RWA personnel to installation the estimated remaining 2,100 meters. This work was scheduled for FY 2021, but was deferred due to the pandemic.

Hydrants and connections **\$125,000**

This is an on-going program. Not funding this program, even for a year, is considered unacceptable.

Proposed is \$100,000 for the installation of fire hydrants and laterals in the seven municipalities where we own the hydrants. The basis for the budget amount is the Authority's experience with this program.

Good-of-service pipe **\$425,000**

This is an on-going program. Not funding this program, even for a year, is considered unacceptable. The budget for FY 2022 has been increased from the typical level of funding, \$100,000, as a result of a known project on Temple Street in New Haven.

Good-of-service pipe is water main installed at RWA's expense in connection with pipe projects paid for by developers. When a developer submits an application to install new water main, RWA's Contracts and New Services Department reviews the submitted plans to determine how a

developer's proposal might interact with RWA's long-range planning. Typically, good-of-service pipe connects "dead-end" water mains to the distribution grid in order to increase fire flow protection and improve water quality.

Northern Service Area Expansion **\$1,800,000**

Projected capital expenditures through FY 2021 *\$10,699*

Estimated total multi-fiscal year expenditures *\$12,000,000*

This project consists of design and construction of a larger main to and along the Route 10 corridor to the northern area of Cheshire, the Southington interconnection, and the area served by the northern wellfields. Work in FY 2022 includes documentation of basis of design and initiation of design work. Work in FY 2022 will also include the installation of a \$1.6 million, 2,000-foot, 16" main on Highland Avenue (Rte. 10) in north Cheshire to feed an approved development north of Interstate 691. This main will add over 500 customers and provide the means to serve additional development in the area, as well as to provide for a potential wholesale connection to Southington. This project will increase redundancy by providing a second main up Route 10 which will alleviate the reliance on one main and provide an alternative source other than the Route 10 wellfields. It will increase resiliency by enabling a faster system recovery from a wellfield failure, and decrease risks associated with the failure of either a wellfield of water main. It is anticipated that an application to the Representative Policy Board will be submitted in FY 2023.

RWA is interested in providing redundancy to the northern service areas, which currently utilize wellfields as the primary source of water. This future planning project will allow RWA additional flexibility in the management and operation of the wellfields, which can potentially extend the life of our wells, and allow for normal maintenance of the wells without impacts to the distribution system.

This project will supplement and assist current seasonal restrictions and future regulatory/streamflow requirements placed on the wells. Additionally, there is an interest to wholesale water to communities north of our service area. The Town of Cheshire is also interested in developing the northernmost area of town, near I-691. To do so, a larger supply line from the service areas to the south is required, as well as an increase in the size of main to the northern area. A large development has been approved by the Town of Cheshire north of I-691, and RWA has committed to installing pipe to supply the development. In order to do so, 2,000-foot of 16" main is planned for installation in FY 2022 on Highland Avenue (Route 10) from West Johnson Avenue north to the development.

This project will include documentation of the basis of design and construction of a larger main to and along the Route 10 corridor to the northern area of Cheshire, the Southington interconnection and the area served by the wellfields.

Service Area Improvements – East West Transmission Main **\$200,000**

Projected capital expenditures through FY 2021 **\$200,000**

Estimated total multi-fiscal year expenditures **\$400,000**

This is a multi-year project to identify and evaluate capital pipe alternatives to address water distribution system transmission limitations in the east-west corridor to supply water from Lake Gaillard to Milford. This project, if improvements are implemented as a result, will decrease the risk associated with limited hydraulic capacity including systemic pressure loss, tank level loss, and high pressures associated with increasing pumping to meet demands. It will also decrease the risk of marginal fire flows.

RWA's water distribution transmission system requires capacity upgrades from Lake Gaillard through Milford (east-west corridor) to adequately supply water to customers during high demand periods and for fire flows. These hydraulic deficiencies have been noted in several historical service area studies, and have been experienced during system operations.

This project will identify and evaluate specific capital pipe alternatives to address water distribution system transmission limitations as discussed above. Based on several historic service area studies, this area has been identified as a limitation during high demand periods. Addressing these limitations will be accomplished through various means including techniques such as adding additional pipes in accordance with service area studies, potentially water main rehabilitation, and working with other stakeholders (CTDOT, towns, etc.) to identify opportunities to install system upgrades.

State Street Pipe Bridge **\$600,000**

Estimated total multi-fiscal year expenditures **\$750,000**

This multi-year project was originally proposed in FY 2021, but was deferred as a result of pandemic related budget limitations. It will consist of the structural rehabilitation of the 36" transmission main crossing located along State Street over the Mill River in New Haven. While part of the Pipe Bridge Program, the State Street Pipe Bridge has been prioritized for near-term rehabilitation due to its condition and criticality. Completing this project will decrease the risk of incremental or catastrophic failure of the transmission main.

The State Street Pipe Bridge is a 36" transmission main river crossing the Mill River at State Street. This crossing was constructed in 1963 as part of the Lake Gaillard Transmission Main and is essential for the distribution system to meet daily demands and deliver a reliable supply of water for our customers.

The work for FY 2022 includes the design and permitting of a structural repair to address deficiencies including reinforcing and bearing plates, and re-coating the current structural members to prevent corrosion as outlined in a preliminary analysis completed by the structural

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engineering consultant, Speigel, Zamecnik & Shah, Inc. Construction will be initiated in FY 2022 and be completed in FY 2023.

The total cost associated with this project is projected to be \$750,000 and is dependent upon the magnitude of construction bids. The estimated cost is based on an opinion of probable costs from the consultant.

<u>Ansonia-Derby Tank</u>	<u>\$2,750,000</u>
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<u>Projected capital expenditures through FY 2021</u>	<u>\$1,352,150</u>
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<u>Estimated total multi-fiscal year capital expenditures</u>	<u>\$5,100,000</u>
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This RPB approved project is a continuation of a multi -year project initiated in FY 2009 and approved by the RPB in FY 2013. This project was previously submitted for funding through the Drinking Water State Revolving Fund; however, given the delays in project timing, the project will be resubmitted for funding approval. The project was resubmitted to the RPB for approval, and approval was received from the RPB on February 21, 2019. Project progress in FY 2020 was delayed by legal challenges to Derby Planning and Zoning Commission's decisions to approve the tank project. A decision from the court was received in January 2021, ruling in the Authority's favor. Construction is anticipated to be initiated in FY 2021 and completed in FY 2023. Completing the installation of this tank will increase redundancy by providing a second source of system water other than within the mains themselves. It will eliminate the risk of low fire flows in Derby and a portion of Seymour, and will increase resiliency in recovery from main breaks.

Work on this project began in FY 2009 with the completion of a consultant study by Roald Haestad, Inc. Haestad analyzed the system to determine the amount of storage required, and the best location, size and height for the storage. Work in FY's 2010 through FY 2012 included land acquisition activities with a property owner. Work in FY 2013 and FY 2014 included difficulties with gaining local approvals for the proposed tank location, which required additional site evaluations, redesign, and additional public outreach. In FY 2015, re-evaluation of the tank siting and sizing, and coordination with local officials occurred with the previous City of Derby Administration. RWA then worked with Tighe & Bond and City of Derby officials to locate a new site and conduct a preliminary design. Although the project was delayed in FY 2016, it has moved forward in FY 2019 with support and assistance from the current City of Derby administration. The tasks completed in FY 2019 included preliminary design, land purchases agreements, design, permitting and bidding. Approval of the revised project was received from the RPB on February 21, 2019. Construction was anticipated to occur in FY 2020; however, a lawsuit filed by residents put a hold on project activities. The project was rebid in late FY 2020, with the intent of initiating construction in FY 2021, pending resolution of legal activities. In January of 2021, the legal decision in the Authority's favor was received. A petition to appeal that decision may be filed by the appellant.

The total cost of this multi-year project has been approved by the RPB at \$5,100,000. This budget is based on actual construction bid cost.

West River Water Treatment Plant Finished Water Reservoirs Improvements **\$850,000**

Projected capital expenditures through FY 2021 **\$250,000**

Estimated total multi-fiscal year expenditures **\$1,100,000**

This is a multi-year project to rehabilitate concrete on the existing West River Water Treatment Plant Finished Water Reservoirs, as well as incorporate safety upgrades. Work in FY 2020 included design and bidding. As a result of the pandemic, the project was delayed, and only bid award and initiation of construction were completed. Construction is expected to complete in FY 2022. The completion of this project will decrease risks associated with continuing degradation of the tank's concrete including the need for massive restorations and removing the tank from service.

The existing pre-stressed concrete finished water reservoirs (water storage tanks) at the West River Water Treatment Plant were constructed in 1979 and are in need of rehabilitation. Minor repairs were performed in 2013; however, since that time, the exterior concrete has continued to deteriorate. This project is intended to rehabilitate the concrete, as well as incorporate safety upgrades.

The finished water reservoirs consist of two 17 foot tall by 170 foot diameter concrete tanks each with a capacity of 1.45 MG. This project will include the surface preparation and concrete repairs of the exterior surfaces of the tank. The project also includes the design and installation of stairs on both tanks.

The total cost associated with this project is projected to be \$1,100,000. This estimate is based on bid results and RWA labor estimates.

Variable Frequency Drive Replacement Program **\$150,000**

This program replaces aging variable frequency drives (VFD's) throughout RWA's distribution system. Work proposed for FY 2022 will replace VFD's at the following facilities: North Cheshire Wellfield, Sanford Street Pump Station and North Sleeping Giant Wellfield. Replacement of aged-out VFD's decreases the risk of sudden pump failure along with associated hydraulic disruptions and damaging surges.

The existing VFD's proposed for replacement in FY 2022 are approximately 15 years old, and are at the end of their useful life. Failure of the drives would affect pumping capabilities at the facilities. A program of continual replacement of drives as they reach their expected useful life is important, as the RWA currently owns numerous drives considered obsolete by the manufacturer, Allen Bradley. Past failures of these older series of drives has proven that it is more cost-effective to replace a failed drive than to repair the drive. This is due to the scarcity of parts for the older series of drives. This older series of drives will be replaced with the most current technology and utilize modern communication protocols.

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This project consists of replacing VFD's at the North Cheshire Wellfield, Sanford Street Pump Station and North Sleeping Giant Wellfield. Five units in total are planned for replacement. The basis of the budget for this work is manufacturers' quotes and prior project experience.

Burwell Hill Pump Station Equipment Replacement **\$488,000**

Projected capital expenditures through FY 2021 **\$1,262,000**

Estimated total multi-fiscal year capital expenditures **\$1,750,000**

This is the fifth year and final year of a multi-year project to complete HVAC and electrical upgrades, SCADA equipment improvements, limited concrete repairs, and site improvements at the Burwell Hill Pump Station. Work in FY 2018 included preliminary design for the project. Work in FY 2019 included preliminary design and a performance of a business case evaluation. Final design, bidding, and initiation of construction occurred in FY 2020. Construction was placed on hold in FY 2021 as the project scope was re-evaluated and revised. Construction will complete in FY 2022. Completing this project decreases the risks associated with general infrastructure failure including systems failures, a deteriorating building envelope, HVAC failures, and electrical system malfunctions.

Burwell Hill Pump Station serves the municipalities of New Haven, West Haven, and Orange in the Burwell Hill Service Area. It is one of the largest pump stations in our distribution system. The pumps fill the Burwell Hill Storage Tank and provide water and pressure for the service area. Additionally, the service area feeds the Shingle Hill and Grassy Hill Service Areas.

This revised scope of the project removed the installation of pumps and piping, and now encompasses HVAC and electrical upgrades, SCADA equipment improvements, limited concrete repairs, and site improvements to the driveway, all in FY 2022.

Rabbit Rock Pump Station Generator Replacement **\$100,000**

Estimated total multi-fiscal year expenditures **\$800,000**

This is the first year of a proposed multi-year project to replace the existing generator at Rabbit Rock Pump Station.

The existing 500 kW generator at the Rabbit Rock Pump Station was installed in 2000, and is approaching the end of its life cycle. This particular generator is unique within the RWA system as it is the only one that utilizes natural gas as a fuel source. Because of this, it requires more cooling equipment than other facility generators. Recently this generator experienced a failure, and due to its uniqueness, it has not been able to be repaired. Replacement of this generator will be planned with a 500 kW Cummins diesel generator.

Critical Pump Station & Transmission Facilities Upgrades

\$350,000

Estimated total multi-fiscal year expenditures

\$10,175,000

This is a new program to evaluate and replace essential components at critical facilities that beyond their useful life, including valves, motors, pumps, and electrical equipment at facilities that are not part of a larger capital project. Failure to upgrade equipment at critical distribution facilities increases the risk of catastrophic failure of critical equipment with the resulting restrictions on system supply, increased likelihood of dirty water, and the disruption caused by the need to complete reactive repairs.

The RWA's distribution system consists of 35 pump stations, 17 pressure reducing valves, 6 throttling valves, 34 storage tanks and 1,891 miles of piping to serve our customers. In FY 2021, RWA experienced several unanticipated projects that required on the order of \$1 million in emergency capital improvements to ensure continued uninterrupted service to our customers. This FY 2022 project has been developed to address critical infrastructure needs.

RWA is reprioritizing its capital budget to reduce system risks as well as increasing resiliency and redundancy. Critical pumping and distribution system assets needing replacement will continue to be identified in FY 2022 and beyond. This includes addressing assets such as aged valves, motors, pumps, and electrical equipment at various facilities that are typically 30 years or older and which are not part of a larger capital project.

Spring Street Pump Station Replacement

\$305,000

Estimated total multi-fiscal year capital expenditures

\$9,400,000

This is the first year of a multi-year project with a condition assessment, alternatives analysis, and preliminary design being initiated in FY 2022. If the replacement moves forward, it is anticipated to be completed in FY 2024 at an estimated total cost of \$9,400,000. Failure to assess the need to replace the pump station will increase the risk that the station will not have the capacity and redundancy that is necessary for this highly critical facility.

The Spring Street Pump Station is the sole source of supply to a population of approximately 52,000 people in West Haven, Orange and Milford, and is therefore one of the most critical pumping facilities in the RWA's distribution system. It is the second largest pump station in RWA's distribution system. The station was constructed in 1958 and includes four horizontal split case centrifugal pumps, with a firm capacity (one pump out of service) of 18 MGD. The station is located in a fully developed mixed residential and commercial area offering limited room for expansion of the station at the existing site. The layout of the existing pumping, piping and electrical equipment in the station makes it highly unlikely that new and larger replacement pumps, and additional pumps needed for redundancy, will fit within the existing building footprint. A condition assessment of the pump station was completed in 2011, which identified significant deficiencies and recommended replacement of this station at an alternate location.

This project will consist of an evaluation of existing and future demands of the service areas that the pump station serves and will also examine the pump station's ability to house any needed pumping upgrades. If the station is unable to meet those needs then the project will likely become one to design and construct a replacement pumping station at an alternate location. Alternatives for modifications at the current station, and the sizing of an alternate site, will also be included. Design and construction of improvements will be included in subsequent budget years

The estimated cost is based on an opinion of probable costs from our consultant, Tighe & Bond, Inc. and previous SCCRWA experience with similar projects.

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Water Quality Improvements Program

\$150,000

This is an on-going program to improve the water quality supplied to RWA's customers. The risk of not complying with DBP regulatory limits will incrementally increase if water quality program improvements are not completed regularly.

The purpose of this project is to improve water quality and maintain regulatory compliance. This project will improve the water quality supplied to RWA's customers by optimizing corrosion control treatment in RWA's distribution system and customers' in-home plumbing while maintaining regulatory compliance and by reducing disinfectant by-products (DBPs), including taste & odor and organic compounds in finished water. Removing organics will directly reduce the concentrations of disinfectant by-products in RWA's distribution system, helping us to maintain high quality water and at the same time, regulatory compliance. New processes are needed to effectively meet these goals and the project will evaluate new types of chemical feed systems.

This program will also address corrosion control treatment (CCT) requirements that are being driven by EPA mandates and Lead and Copper Rule revisions. This work is intended to optimize SCCRWA's CCT, and may include additional chemical treatment systems and pilot testing of alternate CCT methodologies.

The project work for FY 2022 will encompass the installation of spray aeration system at the Woodbridge Tank for DBP removal.

The cost associated with this project is projected to be \$150,000. This cost is based on experience with similar projects.

Miscellaneous Transmission & Pumping

\$75,000

Route 80 & Benham Street PRVs	\$50,000
Northwest Cheshire Pump Station Generator Control Panel Replacement	25,000

V. GENERAL PLANT	*\$5,197,000
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**Includes \$745,000 for Non-Core Billing funded through Growth Fund*

Planning for current and future cyber-security requirements is included in the Information Systems portion of the General Plant category.

SAP Business Enhancements **\$50,000**

This is an on-going program to enhance SAP system functionality.

SAP software enhancements are the addition of new functionality to the existing SAP customer care, billing, collections, work order and business warehouse components. Enhancements are likely to include newly defined or previously undelivered functionality.

SAP Work Management **\$50,000**

This project will implement improvements to add additional functionality to the Work Manager software.

This project will implement improvements to the software that will allow the Field Service to improve processes and management of work orders. The goal is to improve core business processes, increase efficiency, and to improve customer and employee satisfaction.

SAP Work Manager improvements and enhancements are the addition of new functionality to the existing Work Manager software. Enhancements are likely to include newly defined or previously undelivered functionality.

LIMS Business Enhancements **\$20,000**

This is a program to implement improvements to the LIMS software system.

This budget item will implement software improvements to enhance the use of the Labware system.

Infor Business Enhancements **\$50,000**

InforEAM Business Enhancements are improvements to the InforEAM software required to support operational and strategic priorities.

InforEAM Business Enhancements provide the opportunity to implement system improvements that enhance business capabilities. Specific requirements will be developed with and prioritized by the business areas.

AMI Software Business Enhancements

\$10,000

AMI Software Business Enhancements are the addition of new functionality to the existing software and are likely to include newly defined or previously undelivered functionality. These enhancements will allow RWA to improve processes along with increasing and enhancing the usage of data. The goal is to improve core business processes, increase efficiency, and to improve customer and employee satisfaction.

SAP Enhancement Pack/HANA Upgrades

\$250,000

Estimated total multi-fiscal year expenditures

\$2,500,000

This is a multi-fiscal year project to implement an enhancement pack upgrade to ensure that SCCRWA's SAP system is maintained at current industry standards. It also provides the ability to take advantage of newer components/functionality that are not available at lower enhancement pack levels.

Evaluation of two paths will begin in early FY 2022; an enhancement pack upgrade or move to SAP HANA (SaaS). Either path will ensure that the SAP system is maintained at current industry levels and will be supported. Both paths provide the ability to take advantage of newer components/functionality that are not available in the current versions of software.

SAP releases enhancement pack upgrades on a regular basis. Enhancement packs (EHP) deliver innovations and new functionality. RWA went live with our current version of SAP in 2010. The goal of this project is to upgrade all SAP components from our current EHP 4 version either to EHP 8 or the latest SAP HANA environments to ensure capability across the SAP landscape.

The cost estimate for this project is based on upon a high level estimate provided by an SAP Global Strategic Partner for consulting activities and RWA projections for internal resource requirements. An RFI/P process in summer 2021 will provide a refined budget estimate for determining and planning the appropriate Board application and reviews.

Non-Core Billing

\$745,000

Estimated total multi-fiscal year expenditures

\$1,350,000

This is the second year of a multi-year project to implement software to assist in billing functions for our non-core revenue programs. This project is being funded through the Growth Fund. Work in FY 2021 included foundation portal work. Go-live of the Non-Core solution is slated for FY 2022.

The Non-Core Billing project will improve the non-core order to cash processes and support faster product definition, additional billing options including subscriptions, the bundling of products and rate plans. The first phase is a prototype using SAP's Subscription Billing module that provides a simplified automated approach to create and monetize offers quickly and effectively. The first phase includes PipeSafe.

Innovation

\$400,000

Projects in the Innovation category encompass initiatives that creatively support organizational advancements and meet strategic business capability needs, often with the introduction of new technology tools.

The projects below are FY 2022 Innovation initiatives:

Business Analytics Platform

\$75,000

Estimated total multi-fiscal year expenditures

\$700,000

The Business Analytics project will create a platform for the collection, analytics and interpretation of data from multiple sources into a single source of truth to transform data into business insights to support strategic business decisions. This effort was postponed in FY21 as part of the austerity measures taken to mitigate impacts of the COVID-19 pandemic. The first phase of this multi-year project is scheduled to be completed by January 2022 and involves the tool selection and building of the data infrastructure to support the analytic needs of the Centers of Excellence (CoEs) and strategic business objectives.

SAP Customer Channels, Sales, and Marketing

\$225,000

Projected capital expenditures through FY 2021

\$150,000

Estimated total multi-fiscal year expenditures

\$1,500,000

The Customer Channels and Sales and Marketing is an on-going program focused on improving company-customer relationships, expanding self-service opportunities, and driving the collection and utilization of actionable customer data.

Channels refer to the ways in which we interact with our customers. Today those channels include phone and mail, social media and field interactions, among other traditional interaction points. This program will expand those channels to include chatbots, text messaging, and email. With the ability to link those channels with the customer's SAP account, customers are able to get first contact resolution in their preferred communication medium, business areas have visibility into the customer journey and have opened more opportunities for effective outbound communications.

This project includes the completion of the Customer Portal and Mobile App in early FY22, followed by expanded capabilities on our internet to incorporate direct customer communications and chatbots. RWA is currently working with a strategic digital partner to develop the user experience and innovation prioritization roadmap. This multi-year roadmap, which will be completed by June 2021, will prioritize and plan the agile implementation of new customer features and digital capabilities.

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Building and enhancing the infrastructure required for effective collection and utilization of customer data drives our ability to quickly and effectively reach out to customers for both emergency situations as well as proactive communications. Through technology investments to implement these new channels, RWA will support its strategic objectives to improve customer engagement and satisfaction, as well help drive targeted growth of new market offerings (non-core growth) and self-service utilization.

Robotic Process Automation/Machine Learning/AI \$100,000

Estimated total multi-fiscal year expenditures \$550,000

This project will introduce automation, machine learning, and artificial intelligence solutions to support gathering of real time data, eliminate redundant manual tasks, and provide insights for data driven decision making.

This program will implement Robotic Process Automation (RPA), Machine Learning (ML), and Artificial Intelligence (AI) technologies to improve operational insights and efficiencies across the organizations. Solutions for consideration can include AI for customer website FAQ; automation of work order requests, review, and approval with queued exception processing; automated internal vendor contract renewal management (e.g. notifications, status updates); Self-Service IT Helpdesk knowledge base; distribution system pressure monitoring and elimination/reduction of manual steps for employees and customers – the use cases are limited only by our imagination. Specific direction and focus will be refined by organizational Strategic Priorities in FY 2022, as well as Center of Excellence team input. Solution selection and prioritization for agile implementation is expected to be completed by September 2022 and will be driven by business priorities and technology roadmaps.

SAP SQL Upgrade \$70,000

Estimated total multi-fiscal year expenditures \$170,000

This is a multi-year project to upgrade to a more current version of the SAP SQL database in order to support updates from Microsoft. Implementation will commence in FY 2022. Continued implementation and testing will take place in FY 2023.

The SAP SQL database must be upgraded to a more current version to support the deployment of critical patch updates from Microsoft that are released regularly to address known vulnerabilities and manage cyber security risk. RWA has an obligation to protect customer data and customers expect that RWA have the measures in place to protect their information. For customers, the negative consequences of a data breach can be severe.

SAP Monthly Billing \$950,000

Projected capital expenditures through FY 2021 \$400,000

Estimated total multi-fiscal year expenditures \$1,350,000

This is the second year of a multi-year project to convert from quarterly to monthly customer billing. Project completion is anticipated in FY 2022.

The conversion from quarterly to monthly billing affords many benefits to both RWA and customers. From a customer perspective, monthly bills will be smaller and easier for customers to pay and will bring the company in line with other utilities that bill monthly, such as electric and cable companies. Bills that are more frequent provide predictability and budgeting control to customers, as well as, enhancing customer's ability to associate water-using activities with water consumption and conservation. The additional benefit of the project is improved cash flow. Work on this project began in FY 2021, and is anticipated to complete in FY 2022.

<u>Cyber Security Enhancements</u>	<u>\$100,000</u>
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<i><u>Project capital expenditures through FY 2021</u></i>	<i><u>\$85,000</u></i>
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<i><u>Estimated total multi-fiscal year expenditures</u></i>	<i><u>\$185,000</u></i>
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This project is a planned multi-year project to mitigate and manage cyber security risks. Work in FY 2021 included project scope definition and alternatives evaluation. Implementation will occur in FY 2023.

RWA has developed and implemented a Cyber Security Program that represents its commitment and ability to secure its computing infrastructure in accordance with guidance of Cyber Security best practices. Investment in IT, SCADA and data security software and tools shield the organization from online threats and cyber-attacks. Cyber criminals are becoming increasingly more sophisticated and motivated. The organization must continue to invest in processes and tools that can reduce the risk of a cyber event.

The project includes refining the RWA cyber security strategy and governance, transformation, cyber defense and cyber response, that will allow RWA to innovate, transform and differentiate the business—all while protecting our most critical assets. Tools and software continue to evolve that identify, protect, detect, respond and recover from cyber threats. The project includes enhancing the current framework with tools and processes that reduce the risk of a cyber-attack.

<u>System-Wide Radio Telemetry Unit (RTU) Upgrade</u>	<u>\$700,000</u>
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<i><u>Projected capital expenditures through FY 2021</u></i>	<i><u>\$4,633,000</u></i>
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<i><u>Estimated total multi-fiscal year expenditures</u></i>	<i><u>\$5,333,000</u></i>
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This planned multi-year project will upgrade the radio telemetry portion of the system-wide SCADA system. Work in FY 2018 included design, performance of a business case evaluation, and submission of an application for RPB approval. Project approval was received from the RPB in early FY 2019, and work on the upgrades commenced. Project work in FY 2021 was

delayed as a result of the pandemic. The project is now anticipated to be completed in FY 2022. This project has been submitted for DWSRF funding. The risk of telemetry failure will increase if upgrades to keep pace with current technological standards are not completed. Telemetry failures significantly impact operations when flow, pressure, tank level, and control valve set point communications are lost.

This project completes upgrades to the radio telemetry portion of RWA's system-wide SCADA system. Our SCADA equipment has exceeded its useful operational life. Support is limited for our main SCADA protocol; this is the communication language between SCADA software and hardware. There are limitations and inefficiencies associated with the existing equipment. Improvements in hardware and software over the past twelve years will allow for more reliable communications to our remote sites such as pump stations, wellfields, and tank sites.

Without implementing these improvements, equipment failures will become more prevalent and increasingly difficult to replace as time goes by. Current communication protocols allow for more reliability, decreased cost for data transmissions, and improve disaster recovery.

This is the fifth year of this multi-year project, and work in FY 2022 will consist of completion of the installation of the new radio telemetry equipment.

Supervisory Control and Data Acquisition

\$120,000

This annual program consists of upgrades to the SCADA system to ensure reliable operation of the system. Failure to perform regular upgrades to the SCADA system increases system risks including cyber security, hardware and software failures, communications issues, and Control Room operations.

Software and hardware upgrades needed to more efficiently operate the distribution system, minimize the chance of obsolescence of our SCADA system and interface with other SCCRWA information system components. Program upgrades this year will include software and hardware upgrades for servers and cellular modems in the control room.

Data Center Life Cycle Replacements

\$550,000

This is an on-going program of server hardware and peripheral replacements based on life-cycle standards. Failure to replace aged-out server hardware increases the risk of equipment failure resulting in impacts to the operations of RWA, as well as increasing the system susceptibility to cyber intrusions.

This effort supports the four to six-year life cycle schedule to replace server hardware and peripherals. The replacements will ensure adequate computing capacity for the current and near future needs of RWA and ensures the continued hardware support of critical equipment. This project will replace existing servers, applications, networking, storage, remote access, and printer devices that have reached the end of useful life. With the increasing threat of cyber security

Preliminary Capital Budget For Fiscal Year 2022
Justification and Explanation of Projects

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The disclosure of certain information contained hereon may pose a safety and security risk to persons and/or property. The determination to disclose this information shall only be made pursuant to C.G.S. section 1-210. Please contact the South Central Connecticut Regional Water Authority with any questions.

breaches it is critical that the technology infrastructure is supported by the vendor and that security patches are available.

GIS – Aerial & Watershed Mapping **\$130,000**

Estimated total multi-fiscal year expenditures **\$280,000**

This is an on-going program to update aerial imagery and keep land base data current.

SCCRWA conducts aerial flyovers to update aging aerial imagery and land base data. All aerial flyovers are multi-fiscal year projects and are conducted in two phases. Phase 1 occurs around the beginning of April of the fiscal year. Phase 1 consists of pre-flight set-up, ground survey work, the actual flight to capture the aerial images, as well as post-processing and reporting to verify the integrity of the data. Phase 2 begins in June, at the start of the subsequent fiscal year, and consists of data compilation gleaned from the aerial photos, data formatted for use in GIS, as well as post-processing the aerial photography for use with GIS software. This schedule assumes that both phases of the project remain in each fiscal year's capital budget.

The FY 2022 Aerial Flyover project costs include Phase 2 of the Cheshire/Wolcott flyover conducted April 2020. Phase 2, initially budgeted as an FY 2021 project, was postponed due to COVID related budget cuts. The flyover vendor will supply the planimetric data listed in the contract as a deliverable.

The FY 2022 aerial flyover project cost also includes Phase 1 costs for the next proposed flyover to be conducted April 2022 for West Haven and Orange.

Flyovers are multi-fiscal year projects. The estimated total multi-fiscal year expenditure listed above represents approximate Phase 1 and 2 costs for the proposed West Haven/Orange flight.

Miscellaneous Information Systems **\$420,000**

GIS Upgrades and Enhancements	\$75,000
Contracts Database Replacement	75,000
Watershed Application Replacement	75,000
Construction Database Replacement	50,000
Infor EAM Expansion	50,000
Dayforce Business Enhancement/Replacement	40,000
GIS Lead and Copper Layer Development	35,000
Document Management	20,000

Equipment **\$522,000**

Trucks, Autos & Portable Equipment **\$400,000**

This is an on-going program of replacement of RWA vehicles and equipment. Replacements are based on industry-wide criteria prescribed for the specific types of vehicles. The risk of high vehicle maintenance costs increase when vehicles are not replaced at established intervals.

Preliminary Capital Budget For Fiscal Year 2022
Justification and Explanation of Projects

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Deferred replacement will also increase vehicle downtime and result in operational disruptions. Replacing vehicles regularly increases vehicle redundancy.

The purchase of trucks, autos and other portable equipment follows a prescribed program of life-cycle replacement that considers the equipment's age, mileage, and service record. Unless there is an exceptionally poor maintenance history or excessive damage, a light gasoline-powered vehicle, such as a four or six-cylinder car, will be replaced at approximately 125,000 miles, as recommended by GHD, unless their condition or maintenance history warrants otherwise. Eight-cylinder gas vehicles are replaced at 125,000 miles or 6,000 hours, condition depending. Eight-cylinder diesel vehicles are replaced at 130,000 miles in accordance with GHD's recommendations, or 6,000 hours, condition depending.

Since FY 2013, the size of the fleet has been decreased in a continuing program to downsize vehicles and equipment.

For FY 2022, an expenditure of \$400,000 is proposed for the purchase of seven total units: three (3) vans, and (4) light/medium duty trucks.

<u>Miscellaneous Equipment</u>	<u>\$122,000</u>
Field Operations Tools & Safety Equipment	\$45,000
Recreation Equipment	40,000
Police Equipment	37,000
<u>90 Sargent Drive</u>	<u>\$60,000</u>
<u>Miscellaneous 90 Sargent Drive</u>	<u>\$60,000</u>
90 Sargent Drive HVAC Improvements	\$30,000
90 Drive Miscellaneous Infrastructure Improvements	30,000

SOUTH CENTRAL CONNECTICUT REGIONAL WATER AUTHORITY (RWA)

Five-Year Plan of Capital Improvements

(June 1, 2021—May 31, 2026)

Overview

The RWA's five-year plan of capital improvements summarizes expenditures planned for the five fiscal years beginning June 1, 2021.

The annual budget amounts in the five-year plan are significantly higher in Fiscal Years 23, 24, and 25 than the annual amounts in the October 2020 Ten-Year Financial Model scenario that yielded rate increases of less than 7 percent during the FY 2021 – FY 2025 time period. The primary reason for the increases are the increased estimated costs for the Lake Whitney Dam, the shift in fiscal year expenditures for the West River Water Treatment Plant Improvements Project, an increase in water treatment plant improvement expenditures, and increases in Transmission and Pumping expenditures

In 2011, Management developed a formal project prioritization methodology to develop the five-year plan (the “Multi-Year Matrix”). The methodology addressed the capital needs across all areas of our water system and operations within the constraints of capital spending goals. The multi-year matrix prioritization occurred in 2015 utilizing the same criteria as the Single-Year Matrix, and addressed planned expenditures through FY 2027. In November 2018, the multi-year prioritization was completed again and was used as part of the development of the FY 2020 capital budget, and considered planned expenditures through FY 2030. In October 2020, Management updated its ten-year model, taking into consideration the timing and expense of planned improvements. Risk, resiliency and redundancy were evaluated in the process of compiling the model. Management remains committed to adhere to the prioritized long-range plan as closely as possible, but recognizes that flexibility is necessary in order to accommodate changing business needs. Examples of such changes include the bundling of electrical and chemical system improvements at the West River Water Treatment Plant with the planned Dissolved Air Flotation project, as well as a focus on pumping and transmission projects.

Technology needs are growing in order to transform the business landscape, streamline processes and improve productivity. Management has made concerted efforts to balance these needs with water system infrastructure needs. In a change from prior years, technology projects were prioritized separately from physical infrastructure projects. The technology prioritization matrix is included in Appendix 1. A comparison of proposed FY 2023 expenditures with the originally proposed (pre-Covid) FY 2021 and the draft FY 2022 budgets reveals that water system infrastructure expenditures have grown significantly from the level originally proposed in FY 2021. Expenditures across all categories have increased. A comparison of the two other common years in the FY 2021 and FY 2022 five-year budgets, FY 2024 and FY 2025, also show significant increases in terms of water system expenditures, particularly in the categories of natural resources, treatment and transmission and distribution. These increases are related to the Lake Whitney Dam, West River DAF project, and a project to increase finished water storage capacity at the Lake Gaillard Water Treatment Plant, or within the distribution system.

The level of spending across the five-year plan continues to generally reflect the recommendations of the 2017 GHD Capital Expenditure Forecast Audit. In the Natural Resource category, GHD noted that the FY 2018 five-year plan (as proposed at the time of the report) expenditures were appropriate and no short-term (within five years) increases were necessary. The FY 2021 five-year plan reflects that recommendation. However, anticipated expenditures in the category have greatly increased because of the Lake Whitney Dam & Spillway Improvements project. Under Treatment, GHD noted in 2017 that expenditures planned in the five-year budget were at an appropriate level. The proposed expenditures in the FY 2022 five-year budget reflect an increased level of expenditures, averaging approximately \$11.3 million dollars per year in the FY 2022 plan, which is on par with the originally proposed FY 2021 plan. Expenditures averaged approximately \$11.8 million in the originally proposed FY 2020 plan. In the Transmission and Pumping category, GHD recommended that \$1,000,000 per year be added to the pipe replacement budget in the future. In FY 2018, Management budgeted for a ramping up of pipe expenditures beginning in FY 2019, at \$250,000, and reaching \$1,000,000 in FY 2027. The recommended increases are incorporated in the five-year plan in pipe and transmission mains. For pumping projects, GHD recommended that management increase the annual budget by \$500,000 each year over planned expenditures at the time of the audit. This recommendation was implemented in FY 2018, and is maintained in FY 2022. The total of five-year expenditures in Transmission and Pumping originally proposed for FY 2021 was approximately \$82.4 million, or \$16.5 million per year, as compared to the increased total of \$106.0 million, or \$21.2 million per year in the FY 2022 five year plan. GHD did not perform an analysis of the General Plant category with the exception of Fleet expenses. Under Fleet, GHD recommended that RWA extend the replacement life cycle of its vehicles, in terms of mileage, which was accomplished in FY 2018 and continues to be reflected in the current budget.

As previously noted, in FY 2018 the approach to Asset Management shifted from an asset level approach to a foundational approach, which inserts asset management principles into current programs. This approach will continue with a particular emphasis on the criticality, risk, resiliency, and redundancy. The construction of a redundant supply line between Lake Gaillard and the Lake Gaillard Water Treatment Plant is not included within the FY 2022 five-year plan based on the recent rehabilitation of the Great Hill Tunnel; however, a one-year anniversary inspection of the tunnel was performed in FY 2020 to verify its condition, and found it to be in very good condition.

As part of the budgeting process, the five-year plan was reviewed and updated based on changed conditions, improved capital efficiency, and better available project information. The following is a summary of significant changes made to the five-year plan presented last year:

As subsurface investigations and design have proceeded for the *Lake Whitney Dam and Spillway Improvements* project, it has been determined that feasible alternatives for the rehabilitation of the dam will be significantly more costly than previously thought. Current estimates put the overall cost of the project at approximately \$40,000,000.

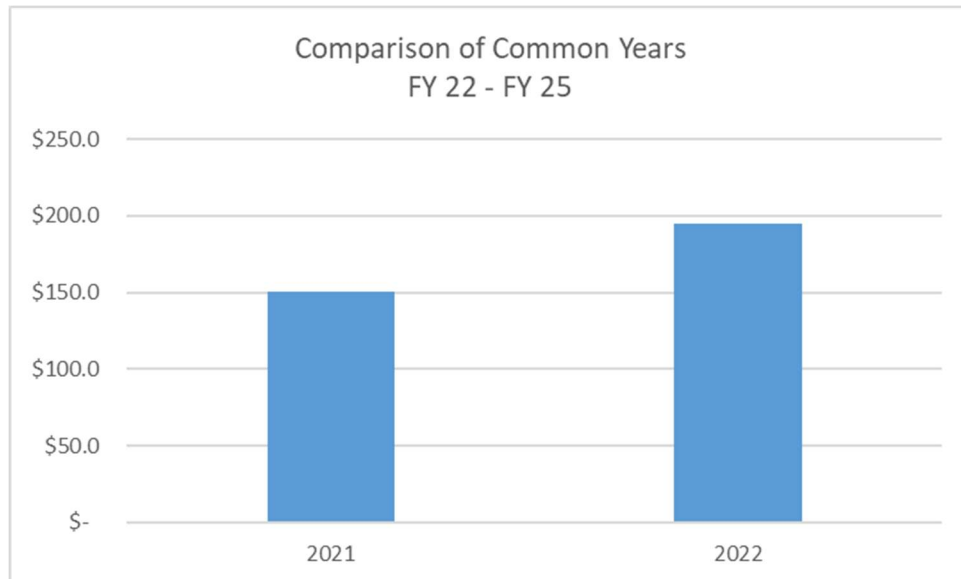
The *Cleaning & Lining* program remains deferred for the first two years of the period covered by this five-year budget. The program was evaluated as part of the review of the Underground Asset Management Plan in FY 2020. The program remains deferred to FY

2024 in order to mitigate the increased budgets in FY 2022 and FY 2023. Based on a recent internal review, and given our historical investment in the distribution system, deferral of this work will not have a significant impact on the system.

Information Systems: The project to upgrade SAP system will begin in FY 2022, and will continue into FY 2023. In addition, other technology needs were identified, such as the *Customer Channels, Sales & Marketing* project, *Business Analytics Platform*, and *Robotics/AI/Machine Learning*.

Overall, total un-escalated expenditures proposed for the five-year plan are \$238.7 million, an increase of 26.2 percent from the \$189.1 million proposed for the five-year period last year. A comparison of the totals of the common years, FY 2022 – FY 2025, between last year’s originally proposed budget and this year’s five-year plans yields \$150.8 million from the FY 2021 five-year plan and \$194.5 million from the FY 2022 proposed five-year plan, equaling an increase of \$43.7 million, or 29 percent, in the FY 2022 five-year plan. This is shown in the Chart 1 below.

Chart 1



Future commitment assuming approval of the FY 2022 budget

As requested by the Authority beginning in 2013, the level of capital expenditure commitment for future years in the five-year budget is shown in Appendix 2. Based on committing to \$14.1 million in new multi-year capital expenditures in FY 2022, a future expenditure obligation of \$83.5 million is established for fiscal years FY 2023 to FY 2026. When the FY 2021 capital expenditures are included with the committed expenditures in future years, a total commitment of \$97.6 million is made by approving the FY 2022 capital budget. This compares to a total future obligation from last year’s originally proposed budget of \$51.7 million for FY 2021 through FY 2025.

Included in this five-year plan are the following projects and programs, briefly described by major

category of expense. Some capital costs may be offset with funds from other sources, such as grants.

I. NATURAL RESOURCES

“Natural resources” includes RWA’s efforts in land management, such as source water protection, recreation, and improvements to dams and other reservoir facilities that ensure their structural and operational integrity. Such expenditures address needs associated with RWA’s supply of water and its initiatives to protect that supply. Included in the plan is the multi-year *Lake Whitney Dam & Spillway Improvements* project, as well as the *Tunnel and Diversions Rehabilitation Program*

II. TREATMENT

This category includes projects that are required to maintain compliance with federal and state regulations, replace aging infrastructure assets that are at or near the end of their useful life, as well as maintain consumer satisfaction with product quality.

RWA conducts periodic studies and frequent testing to ensure that it remains in full compliance with the *Safe Drinking Water Act*, administered by the United States Environmental Protection Agency, as well as with requirements of the Connecticut Department of Public Health, and environmental regulations promulgated at the federal, state and local levels. This information is reviewed on a regular basis and revisions are made when appropriate and are reflected in the five-year plan.

Funds to properly manage and operate all of RWA’s surface water and ground water treatment plants are included in the five-year plan, including enhancements for security, safety, equipment, and infrastructure, as identified and prioritized by consultant studies, in-house evaluations, and the multi-year matrix. Included in this category over the next five years are significant improvements to the *Lake Saltonstall Water Treatment Plant*, *Lake Gaillard Water Treatment Plant*, *Well Replacements*, *North Sleeping Giant Wellfield Facility Improvements*, *Groundwater Treatment Facilities Improvements (South Sleeping Giant Wellfield)*, as well as the *West River Water Treatment Plant Improvements* project, which includes DAF, electrical and chemical systems improvements. Another program of note in this category is *Filter Media Replacements*, which in FY 2016 instituted a planned schedule of replacement for the filter media at our surface water treatment plants.

III. TRANSMISSION AND PUMPING

This category includes projects necessary to maintain our transmission and distribution system in good condition, and also to improve the efficiency, reliability and redundancy of the system. Work under this category includes the replacement or rehabilitation of corroded distribution pipe, as well as pipe replacement work that increases system capacity, maintains water quality, and improves redundancy. Other major projects included in this category include the *Ansonia Derby Tank* project, which will significantly improve the reliability of our distribution system in that part of our service area. Also included is the *Northern Service Area Expansion* project. This project will install larger main along the Route 10 corridor. The five-year planning period also includes the *Lake Gaillard Finished*

Water Reservoirs/Distribution System Storage project, which entails the construction of additional water storage tanks. Also included in this category are essential upgrades or modifications to existing pumping facilities. Priorities are established by using consultant facility condition audits and other in-house evaluations. Included in the plan are the *Spring Street Pump Station Replacement* and the *Critical Pump Stations and Transmission Facilities Upgrades Program*.

IV. GENERAL PLANT

This category is comprised of purchases of various types of equipment including trucks, automobiles, tools and machinery for field-related activities, water testing instruments, and safety items. Also included are upgrades to software and hardware for our SCADA system, as well as modifications and upgrades to RWA's headquarters and other facilities.

"General Plant" also includes equipment associated with information technology, specifically to improve functionality and productivity and ensure that RWA's information system and its networks are current, stable and secure. Capital planning for information technology identifies components of the system's hardware and operating system, as well as software and applications, in a program of methodical replacement. Enhancements and acquisitions for applications and software include *Cyber Security Upgrades*, *Business Analytics Platform*, *SAP Monthly Billing*, as well as upgrades to the Contracts and Construction databases. It also includes the final phases of improvements to our customer information system software. Other focus includes enhancements to our GIS system and updates to our aerial mapping.

Re-Categorization of Expenditures

Management and the Authority continue to discuss the drivers of the capital budget and how to better manage its level of funding. While the current categories of Natural Resources, Pumping, Treatment, Transmission and Distribution, and General Plant adequately portray expenditures in the major asset categories, they do not portray other important drivers of the capital budget nor provide enough insight into where consideration of funds reallocations may be appropriate. For those reasons, we have presented a Five-Year Plan of Capital Improvements using new categories, which are described below:

- **Growth:** Initiatives that will yield positive financial results or service area expansion.
- **Long-Term Planning:** Projects or programs whose goals are to ensure that we meet future demands and desired service levels, or to ensure the highest level of water quality.
- **Regulatory Compliance:** Projects necessary in order to comply with current and future statutes, laws, and regulations.
- **Capital Renewal:** Projects or programs implemented to replace, rehabilitate, or upgrade infrastructure assets that are at or near the end of their useful life in order to minimize life cycle costs and maintain service levels.

- **Technology:** Strategies to implement new technologies, renew or replace current technologies, and manage technology infrastructure to deliver the best customer service, provide high efficiency systems, and protect the security of information and systems.

For the Five-Year Capital Budget, all projects, programs, and initiatives were distributed into the appropriate new categories as shown on the Re-categorized Five-Year Plan of Capital Improvements on page P-9. Similar to the current Five-Year Plan, some similar or related projects have been combined into one category. For example, within the Regulatory Compliance category, Dam Compliance Improvements consists of the Lake Whitney and Peat Swamp Dam Improvements projects.

As can be seen, and as may be expected, there is a significant difference in funding between the smallest category, Growth, and the largest, Capital Renewal. The Northern Service Area Improvements project has been included in the Growth category, as this project has the potential to lead to wholesale and wheeling water opportunities in the future.

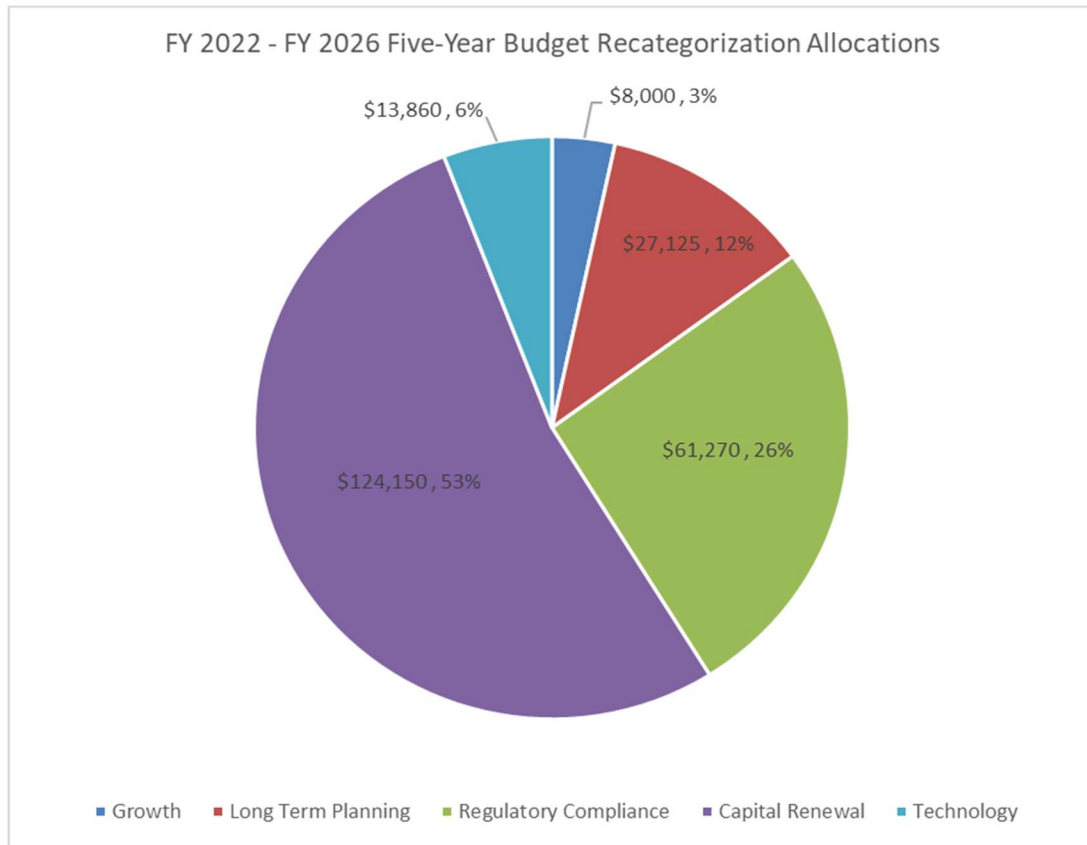
It is important that Long Term Planning and Regulatory Compliance are maintained at levels necessary to ensure that we can meet future demands while meeting increasing regulatory requirements. Management expects that these two categories will continue to hold significant levels under the re-categorization.

The need for high level technology is anticipated to grow in the future. While this category contains regular programs, it also contains large projects such as the CIS Replacement Project slated to begin in FY 2026. For that reason, Technology is likely to be a category that has widely varying funding requirements when viewed over the course of a ten year window.

Chart 2 shown below has been developed to facilitate understanding of the re-categorizations relative to one another. Approximately half of the Five-Year CIP is categorized as Capital Renewal and that category will most certainly continue to be the largest. Just over one-quarter of the recategorized allocations are for projects and programs necessary to maintain Regulatory Compliance. Long-Term Planning is over one-tenth of the recategorized five-year budget. Technology's portion of 6% over the next five years is relatively evenly distributed across the five years, with \$3.0 to \$4.5 million in expenditures budgeted in each year of the plan. As discussed above, Growth is the smallest category and represents just 3% of the Five-Year Plan.

Five Year Budget Recategorization Allocations

Chart 2



Management intends to continue to review these categories, and the associated expenditures, in the annual budgets going forward with the goals being budget driver management and higher capital efficiencies.

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**South Central Connecticut Regional Water Authority
5-Year Plan of Capital Improvements
(000's omitted)**

	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025	Fiscal Year 2026	TOTAL
NATURAL RESOURCES (1)						
Land Management	\$ 20	\$ 20	\$ 20	\$ -	\$ 50	\$ 110
Watershed Protection	125	100	100	100	100	525
Improvements to Reservoir Intakes	325	-	-	190	810	1,325
Improvements to Reservoir Dams & Spillways	-	20	20	525	4,300	4,865
Lake Whitney Dam & Spillway Improvements	600	10,500	18,800	8,700	-	38,600
Bridge Refurbishments	-	-	-	300	-	300
Tunnel Repairs & Improvements	480	400	100	550	100	1,630
Miscellaneous	185	85	60	65	338	733
	1,735	11,125	19,100	10,430	5,698	48,088
TREATMENT (2)						
Lake Saltonstall WTP Process Improvements	1,870	2,340	1,462	500	200	6,372
Lake Gaillard WTP Process Improvements	2,626	5,475	7,425	2,894	2,410	20,830
West River WTP Process Improvements	7,250	7,000	1,400	150	150	15,950
Lake Whitney WTP Process Improvements	680	150	375	500	100	1,805
Improvements to Groundwater Treatment Facilities	3,240	1,185	1,105	1,525	1,650	8,705
Filter Media Replacement	500	500	500	500	500	2,500
Miscellaneous	375	673	200	650	600	2,498
	16,541	17,323	12,467	6,719	5,610	58,660
TRANSMISSION & PUMPING (3)						
Pipe and Transmission Main	7,625	5,825	6,575	7,175	9,100	36,300
Cleaning and Lining	-	-	100	3,000	1,000	4,100
Valve Replacements	300	250	250	250	400	1,450
Service Connections & Hydrants	2,125	2,425	2,425	2,525	2,525	12,025
Meters	105	50	50	50	50	305
AMI Meters	610	-	-	-	-	610
Tank Painting & Improvements	-	100	60	1,150	2,050	3,360
Tank Construction/Replacement	2,750	1,300	2,700	11,500	9,000	27,250
Motor Control Center Replacements/Electrical Improvements	-	-	-	-	250	250
Critical Pump Station & Transmission Facilities Upgrades	350	750	900	900	2,000	4,900
Variable Frequency Drive Replacements	150	60	150	150	200	710
Pump Station Generator Replacements	125	700	-	-	-	825
Burwell Hill Pump Station Equipment Replacement	488	-	-	-	-	488
Spring Street Pump Station Replacement	305	4,000	5,000	-	-	9,305
Miscellaneous	1,050	860	575	985	1,605	5,075
	15,983	16,320	18,785	27,685	28,180	106,953
GENERAL PLANT (4)						
Information Systems	2,395	3,755	2,361	1,712	2,287	12,510
SAP Customer Channels Sales & Marketing	225	250	250	200	75	1,000
Data Center Life Cycle Replacements	550	650	650	650	650	3,150
System-Wide RTU Upgrade	700	-	-	-	-	700
Equipment	522	822	937	1,065	920	4,266
90 Sargent Drive	60	100	125	300	315	900
	4,452	5,577	4,323	3,927	4,247	22,526
CONTINGENCY	500	500	547	488	437	2,472
TOTAL	\$ 39,211	\$ 50,845	\$ 55,222	49,249	44,172	\$ 238,698
ESCALATED TOTAL (5)	\$ 39,211	\$ 52,370	\$ 58,585	53,815	49,716	\$ 253,697
CONSTR. FUND STATE & REDEV REVOLV. ACCT	\$ 3,800	\$ 3,000	\$ 3,000	3,000	3,000	\$ 15,800
NON CORE BILLING, PSW, PSS, HP, MIGRATION (6)	\$ 745	\$ 325	\$ 360	40	40	\$ 1,510

- (1) Projects required to provide for present and future water requirements as well as protection of existing water supplies.
- (2) Projects which are necessary to maintain compliance with all Federal and State regulations as well as provide an adequate supply for future expansion of water demand.
- (3) Projects necessary to correct deficiencies in the system and provide for current and future demands needed for both consumption and fire protection, as well as modify and upgrade pumping facilities.
- (4) Expenditures for specific items including information systems, equipment, vehicles and plant modifications.
- (5) Escalated at 3% per year.
- (6) To be funded out of the Growth Fund

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**South Central Connecticut Regional Water Authority
Re-Categorized 5-Year Plan of Capital Improvements (000's omitted)**

	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025	Fiscal Year 2026	TOTAL
GROWTH						
SAP Customer Channels Sales & Marketing	\$ 225	\$ 250	\$ 250	\$ 200	\$ 75	\$ 1,000
Northern Service Area Expansion	1,800	450	1,000	1,500	2,250	7,000
	2,025	700	1,250	1,700	2,325	8,000
LONG TERM PLANNING						
Watershed Protection	125	100	100	100	100	525
Well Replacements	110	810	455	75	500	1,950
Capital Pipe Replacements	3,000	3,100	3,200	3,300	3,400	16,000
Good of Service Pipe	425	100	100	150	200	975
Ansonia Derby Tank	2,750	1,100	-	-	-	3,850
Raw Water/Transmission Main Repl/Redundancy	-	-	150	150	1,000	1,300
Connecting Transmission Mains	-	250	100	575	1,000	1,925
90 Sargent Drive Space Improvements/Renovations	-	50	50	250	250	600
	6,410	5,510	4,155	4,600	6,450	27,125
REGULATORY COMPLIANCE						
Stream Flow Regulation Compliance	150	-	-	100	30	280
Dam Compliance Improvements	600	10,520	18,820	9,225	4,300	43,465
Hamden Middle School Remediation	25	-	-	-	-	25
West River Water Treatment Plant Improvements (DAF)	7,000	7,000	1,400	-	-	15,400
Lead & Copper Rule Compliance (NC & Others)	-	-	-	50	500	550
Lead Service Line Replacements	-	-	-	150	-	150
Storage Tank DBP Compliance & Water Quality Improvements	150	150	350	150	150	950
Sanitary Survey Results	-	200	-	-	250	450
	7,925	17,870	20,570	9,675	5,230	61,270
CAPITAL RENEWAL						
Dams, Tunnels, Diversions, Natural Resources	835	505	180	1,005	1,268	3,793
Pumping including MCC's, Elec, Gen's, Replacements, PS Imp's Treatment:	1,418	5,635	6,200	1,370	3,530	18,153
Lake Gaillard WTP	2,626	5,475	7,425	2,894	2,410	20,830
Lake Saltonstall WTP	1,870	2,340	1,450	500	200	6,360
Lake Whitney WTP	680	150	375	500	100	1,805
West River WTP	250	-	-	150	150	550
Filter Media Replacement	500	500	500	500	500	2,500
Groundwater Facilities	3,130	375	650	1,400	650	6,205
Miscellaneous Treatment	375	673	200	650	600	2,498
Subtotal Treatment	9,431	9,513	10,600	6,594	4,610	40,748
Other Capital Pipe	1,800	1,750	1,850	1,550	1,000	7,950
Valve Replacements	300	250	250	250	400	1,450
Meters and AMI Meters	715	50	50	50	50	915
Hydrants & Connections	125	125	125	125	125	625
Service Connections	2,000	2,300	2,300	2,400	2,400	11,400
Cleaning and Lining	-	-	100	3,000	1,000	4,100
Pipe Bridge Rehabilitations and Replacements	600	175	225	25	250	1,275
Tank Painting & Improvements	-	100	60	1,150	2,050	3,360
Tank Construction, Upgrades, and Replacements	850	200	2,700	11,500	9,000	24,250
Miscellaneous Transmission	50	385	25	290	125	875
Equipment: Vehicles, Portable Equip., Safety, Recreation	522	822	937	1,065	920	4,266
90 Sargent Drive: HVAC, Stockyard, Misc.	60	50	75	50	65	300
	18,706	21,860	25,677	30,424	26,793	123,460
TECHNOLOGY						
CIS System Upgrades and Implementation	-	-	-	-	600	600
SAP Enhancement Pack/HANA Upgrade	250	2,250	-	-	-	-
SAP Software Business Enhancements	50	100	100	150	-	400
Business Analytics	75	75	75	75	100	400
Monthly Billing	950	-	-	-	-	950
Other Technologies (Windows Upgrade, Cyb. Security, LIMS, CRM)	710	1,000	1,830	930	1,185	5,655
Data Center Life Cycle Replacements	550	650	650	650	650	3,150
Geographical Information System (GIS)	240	210	236	437	282	1,405
SCADA Upgrades	120	120	120	120	120	600
System Wide RTU Hardware Upgrade	700	-	-	-	-	700
	3,645	4,405	3,011	2,362	2,937	13,860
CONTINGENCY	500	500	559	488	437	2,484
TOTAL	\$ 39,211	\$ 50,845	\$ 55,222	\$ 49,249	\$ 44,172	\$ 238,698
ESCALATED TOTAL (1)	\$ 39,211	\$ 52,370	\$ 58,585	53,815	49,716	\$ 253,697
CONSTR. FUND STATE & REDEV REVOLV. ACCT	\$ 3,000	\$ 3,000	\$ 3,000	3,000	3,000	\$ 15,000
NON CORE BILLING, PSW, PSS, HP, MIGRATION (2)	\$ 290	\$ 245	\$ 325	360	40	\$ 1,260

(1) Escalated at 3% per year.

(2) Classified as a growth project, but funded separately from Growth Fund

SOUTH CENTRAL CONNECTICUT REGIONAL WATER AUTHORITY
FY2022 Single Year Capital Project Prioritization Matrix - Linear Method
Infrastructure

APPENDIX 1

Criteria Weight (by CMC) →					Prioritization Criteria								Computed Priority Value	Computed Priority Rank
					1.80	2.27	2.35	2.45	1.33	1.54	3.00	1.43		
					Customer Service and Satisfaction	Water Resource Adequacy, Water Quality	Personnel and Public Safety	Infrastructure Stability, Security, Reliability, System Vulnerability	Sustainability	Risk Evaluation	Regulatory Compliance, Legal Mandate (0 or 5 from narratives)	Technology Advancement Evaluation (0 or 5 from narratives)		
PHYSICAL INFRASTRUCTURE PROJECTS					Higher criteria rankings will result in higher priorities								-	-
FY2022 Narrative Number	Project Name	Estimated FY 2022 Project Cost	Multi-Year Project?	Total Multi-Year Budget (FY22 and beyond)										
	Contingency	\$500,000												
Ongoing Projects and Programs														
	Hamden Middle School Remediation	\$25,000	Y	\$25,000									-	-
	Lake Whitney Dam and Spillway Improvements	\$600,000	Y	\$40,000,000									-	-
	Tunnel & Diversion Improvements	\$480,000	Y	\$1,480,000									-	-
	Burwell Hill Pump Station	\$488,000												
	Well Rehabilitations	\$230,000											-	-
	Filter Media Replacement	\$500,000											-	-
	LGWTP Clarifiers & Recycle Building Improvements	\$306,000	Y	\$4,206,000									-	-
	LGWTP Backwash Polymer System Upgrades	\$300,000											-	-
	LGWTP Chemical Feed Improvements	\$900,000			Projects highlighted in	denote ongoing projects totaling \$7,794,000							-	-
	LSWTP Chemical Treatment System Improvements	\$1,155,000											-	-
	LSWTP Electrical Upgrades	\$300,000	Y	\$3,800,000										
	LWWTP Improvements	\$680,000											-	-
	West River Water Treatment Plant Effluent Pipe Injection Chamber Improvments	\$250,000												
	West River WTP Concrete Tank Improvements	\$850,000												
	AMI Meters	\$610,000												
	SCADA Upgrades	\$120,000											-	-
	Watershed Protection	\$125,000											-	-
	Capital Pipe Replacements	\$3,000,000											-	-
	Capital Pipe Service Connections	\$500,000											-	-
	Good of Service Pipe	\$425,000											-	-
	Municipal Pipe	\$1,600,000			Projects highlighted in	denote core programs totaling \$6,605,000							-	-
	Meters	\$105,000											-	-
	Service Connections	\$1,500,000											-	-
	Hydrants & Connections	\$125,000											-	-
	Valve Replacements	\$300,000											-	-
***	West River Water Treatment Plant Improvements	\$7,000,000	Y	\$15,400,000									-	-
	Ansonia Derby Tank	\$2,750,000	Y	\$3,850,000	Projects highlighted in	denote RPB approved projects totaling \$11,550,000							-	-
	North Sleeping Giant Wellfield Facility Improvements	\$1,100,000			*** Pending RPB approval at time of budgeting								-	-
	System Wide RTU Upgrades	\$700,000											-	-
Proposed FY 2022 Projects														
18	Critical Pump Station & Trans. Facilities Upgrades	\$350,000	Y	\$10,175,000	4	4	4	5	0	3	0	0	45.75	1
10	LSWTP Elevator	\$415,000			0	4	5	3	0	4	0	5	44.69	2
26	Police Equipment - Body & Dash Cameras	\$37,000			2	0	5	0	0	3	5	5	42.12	3
19	Spring Street Pump Station Replacement	\$305,000	Y	\$9,400,000	4	2	5	3	0	5	0	0	41.74	4
17	Service Area Improvements - East-West Transmission Main	\$200,000			4	4	3	5	1	3	0	0	41.53	5
9	LGWTP Local Console Upgrades	\$75,000	Y	\$450,000	0	2	2	4	2	4	0	5	39.21	6
5	Treatment Facilities Roof Replacements	\$75,000			3	3	4	4	0	2	0	0	37.69	7
12	Wellfield Facility Improvements (South Sleeping Giant)	\$1,700,000			0	2	3	4	0	3	0	5	37.36	8
20	VFD Replacements	\$150,000			0	3	1	5	0	2	0	5	34.84	9
13	Well Replacements	\$110,000	Y	\$1,400,000	2	5	0	4	1	3	0	0	33.90	10
4	Natural Resources Facilities Roof Replacements	\$30,000			2	2	4	4	0	1	0	0	32.08	11
2	Fence & Guardrail Replacements	\$100,000			4	0	5	3	0	1	0	0	31.04	12
24	Operations Tools and Safety Equipment	\$45,000			2	2	4	2	0	3	0	0	30.26	13

PHYSICAL INFRASTRUCTURE PROJECTS					Prioritization Criteria								Computed Priority Value	Computed Priority Rank	
					Criteria Weight (by CMC) →										
					1.80	2.27	2.35	2.45	1.33	1.54	3.00	1.43			
					Customer Service and Satisfaction	Water Resource Adequacy, Water Quality	Personnel and Public Safety	Infrastructure Stability, Security, Reliability, System Vulnerability	Sustainability	Risk Evaluation	Regulatory Compliance, Legal Mandate (0 or 5 from narratives)	Technology Advancement Evaluation (0 or 5 from narratives)			
FY2022 Narrative Number	Project Name	Estimated FY 2022 Project Cost	Multi-Year Project?	Total Multi-Year Budget (FY22 and beyond)	Higher criteria rankings will result in higher priorities										
21	State Street Pipe Bridge Replacement	\$600,000	Y	\$750,000	4	0	3	2	0	4	0	0	29.51	14	
15	Treatment Plant Graphics Upgrades	\$200,000	Y	\$800,000	0	2	2	4	0	2	0	5	29.27	15	
23	Fleet Vehicles and Equipment	\$400,000			0	0	5	1	0	3	0	5	29.17	16	
7	Water Treatment Plant Valve Replacement Program	\$110,000	Y	\$3,815,000	0	4	3	2	0	3	0	0	28.85	17	
14	NSG Well #4 MCC Replacement	\$100,000			0	3	1	3	0	3	0	5	28.28	18	
16	Northern Service Area Expansion	\$1,800,000	Y	\$12,000,000	2	4	0	3	1	1	0	0	27.10	19	
8	LGWTP HVAC Upgrades	\$235,000	Y	\$3,250,000	0	0	2	3	1	2	0	5	26.81	20	
3	Natural Resources Misc Infrastructure Improvs	\$30,000			2	2	2	2	0	2	0	0	24.02	21	
28	90 Sargent Drive Misc Infrastructure Improvements	\$30,000			2	1	3	3	0	0	0	0	23.47	22	
1	Land Management	\$20,000			2	1	1	3	0	3	0	0	23.39	23	
22	Water Quality Improvements	\$150,000			1	5	0	1	0	1	0	0	20.34	24	
6	Treatment Facilities Driveway Replacement	\$100,000			0	0	3	4	0	0	0	0	20.05	25	
27	90 Sargent Drive HVAC Improvements	\$30,000			1	1	2	2	1	1	0	0	19.74	26	
25	Recreation Equipment	\$40,000			3	1	1	0	0	3	0	0	17.84	27	
	Lake Menunketuc Intake Valve Stem Replacement	\$175,000											0.00	0	
	Stream Flow Regulations Improvements	\$150,000											0.00	0	
	Lake Gaillard WTP Raw Water Flow Control Valve Replacement	\$700,000											0.00	0	
	Rabbit Rock Pump Station Generator Replacement	\$100,000	Y	\$800,000									0.00	0	
	Route 80 & Benham Street PRV's	\$50,000	Y	\$350,000									0.00	0	
	Northwest Cheshire Pump Station Control Panel Replacement	\$25,000											0.00	0	
Total of Infrastructure Projects		\$36,161,000		\$111,951,000	Total Preliminary Future Infrastructure Spending Commitment										
END OF PRIORITIZATION MATRIX														Total Count of Ranked Projects	27

NOTE: The criteria weights shown were developed collaboratively by the Capital Management Committee in November 2016.

SOUTH CENTRAL CONNECTICUT REGIONAL WATER AUTHORITY
FY2022 Single Year Capital Project Prioritization Matrix - Linear Method
TECHNOLOGY

APPENDIX 1

TECHNOLOGY PROJECTS															TECHNOLOGY	
Criteria Weight (by CMC) →						Prioritization Criteria								Computed Priority Value	Computed Priority Rank	
						1.80	2.27	2.35	2.45	1.33	1.54	3.00	1.43			
						Customer Service and Satisfaction	Water Resource Adequacy, Water Quality	Personnel and Public Safety	Infrastructure Stability, Security, Reliability, System Vulnerability	Sustainability	Risk Evaluation	Regulatory Compliance, Legal Mandate (0 or 5 from narratives)	Technology Advancement Evaluation (0 or 5 from narratives)			
FY2022 Narrative Number	Project Name	Budget Manager	Estimated FY 2022 Project Cost	Multi-Year Project?	Total Multi-Year Budget (FY22 and beyond)	Higher criteria rankings will result in higher priorities										
	Contingency		\$0											-	-	
Ongoing Projects and Programs																
	Data Center Life Cycle Replacements	CB	\$550,000											-	-	
	SAP Customer Channels Sales & Marketing	SP	\$225,000	Y	\$1,350,000									-	-	
	SAP Monthly Billing	SP	\$950,000											-	-	
	SAP Software Business Enhancements	KA/SP	\$50,000													
	Cyber Security Enhancements	AP	\$100,000													
	SAP/SQL Upgrade	AP	\$70,000	Y	\$170,000											
Proposed FY 2022 Projects																
31	SAP Enhancement Pack/Hana Upgrade	KA/SP	\$250,000	Y	\$2,500,000	1	0	0	5	2	5	0	5	35.76	1	
42	Construction Database Replacement	LB/EC	\$50,000	Y	\$150,000	2	2	1	4	1	4	0	5	34.93	2	
36	Infor AM Expansion	DB/SP	\$50,000	Y	\$225,000	1	4	0	3	1	2	0	5	32.99	3	
45	GIS Lead & Copper Layer Development	JG/SP	\$35,000			2	2	0	3	1	3	0	5	31.79	4	
46	GIS Upgrades and Enhancements	JG/SP	\$75,000	Y	\$100,000	1	1	0	4	2	2	0	5	30.96	5	
44	GIS Aerial Mapping	JG/SP	\$130,000	Y	\$336,000	2	2	2	3	2	2	0	0	30.13	6	
43	Document Management	EC/SP	\$20,000			1	1	1	3	3	1	0	5	29.65	7	
38	LIMS Business Enhancements	EC/SP	\$20,000			3	3	1	2	1	1	0	5	29.48	8	
37	Infor Business Enhancements	DB/SP	\$50,000			1	2	1	3	1	1	0	5	29.26	9	
39	Contract Database Replacement	EC/SP	\$75,000			1	2	1	3	1	3	0	5	29.14	10	
40	Watershed Application Replacement	EC/SP	\$75,000			1	2	1	3	1	3	0	5	29.14	10	
34	Business Analytics Platform	DB/SP	\$75,000	Y	\$700,000	2	2	1	2	1	0	0	5	28.07	12	
33	AMI Software Business Enhancements	KA/SP	\$10,000			3	0	0	1	2	4	0	5	23.82	13	
30	SAP Work Management	KA/SP	\$50,000	Y	\$170,000	1	0	0	1	3	1	0	5	20.13	14	
35	Robotic Process Automation/Machine Learning/AI	DB/SP	\$100,000		\$550,000	4	0	0	0	2	0	0	5	17.01	15	
41	Dayforce Business Enhancement/Replacement	DB/SP	\$40,000	Y	\$560,000	1	0	0	0	0	2	0	5	15.23	16	
Total of Technology Projects			\$3,050,000	\$6,811,000		Total Preliminary Future Technology Spending Commitment										
END OF PRIORITIZATION MATRIX															Total Count of Ranked Projects	16

NOTE: The criteria weights shown were developed collaboratively by the Capital Management Committee in November 2016.

APPENDIX 2 - Five-Year Anticipated Commitment based on FY22 Spending

PROJECT	Comm Code	Five Year Budget				
		FY22	FY23	FY24	FY25	FY26
<u>NATURAL RESOURCES</u>						
Land Management		-	-	-	-	-
Watershed Protection		-	-	-	-	-
Improvements to Reservoir Intakes		-	-	-	-	-
Improvements to Reservoir Dams & Spillways	D	600	10,500	18,800	8,700	-
Bridge Refurbishments		-	-	-	-	-
Tunnel Repairs & Improvements	D	480	400	-	-	-
Miscellaneous		-	-	-	-	-
TOTAL NATURAL RESOURCES		1,080	10,900	18,800	8,700	-
<u>TREATMENT</u>						
Lake Saltonstall WTP Improvements	C	300	2,100	1,000	-	-
Lake Gaillard WTP Improvements	D	726	4,975	4,900	-	-
West River WTP Process Improvements	D,C	7,000	7,000	1,400	-	-
Lake Whitney WTP Improvements		-	-	-	-	-
Improvements to Groundwater Treatment Facilities	D,C	-	-	-	-	-
Miscellaneous	D	200	598	-	-	-
TOTAL TREATMENT		8,226	14,673	7,300	-	-
<u>TRANSMISSION AND PUMPING</u>						
Pipe and Transmission Main	D,C	1,000	1,850	2,250	2,500	2,250
Cleaning and Lining		-	-	-	-	-
Service Connections & Hydrants		-	-	-	-	-
Meters		-	-	-	-	-
Tank Painting & Improvements		-	-	-	-	0
Tank Construction/Replacement	C	2,750	1,100	-	-	0
Motor Control Center Replacements/Electrical Improvements		-	-	-	-	-
Misc. Pump Station Improvements		-	-	-	-	-
Variable Frequency Drive Replacements		-	-	-	-	-
Spring Street Pump Station Replacement	D	305	4,000	5,000		
Pump Station Generator Replacements		100	700	-	-	-
Miscellaneous		50	300	-	-	-
TOTAL TRANSMISSION & DISTRIBUTION		4,205	7,950	7,250	2,500	2,250
<u>GENERAL PLANT</u>						
Information Systems	O	595	2,765	350	40	40
Equipment		-	-	-	-	-
90 Sargent Drive	D	-	-	-	-	-
TOTAL GENERAL PLANT		595	2,765	350	40	40
TOTAL GENERAL PLANT		595	2,765	350	40	40
TOTAL T&D		4,205	7,950	7,250	2,500	2,250
TOTAL TREATMENT		8,226	14,673	7,300	-	-
TOTAL NAT RESOURCES		1,080	10,900	18,800	8,700	-
TOTAL COMMITMENTS		14,106	36,288	33,700	11,240	2,290

Notes re Commitment Code (Comm Code):

D = In Design in FY21, and assumes committed to construction if design has begun

C = In construction and cannot stop

O = Other: e.g. commitments to watershed purchases, support of technology

No Code = no commitment for future expenditures

FY 23 - FY 26 Commitment

83,518

**RWA
FY 2022
OPERATING BUDGET**



Agenda

- Recap – Financial Position
 - Steps Taken Due to COVID-19
 - Reserve Balances
 - Capital Funding Sources
- FY 2022 Operating Budget at a Glance
- Revenue & Expense Trends and Assumptions
- Maintenance Test
- Opportunities/Vulnerabilities
- Summary
- Appendix A – Revenues
- Appendix B - Major Operating and Maintenance Expenditures

Mitigating Strategies

Key Takeaway: Multi-faceted approach to COVID-19



Capital
Reductions

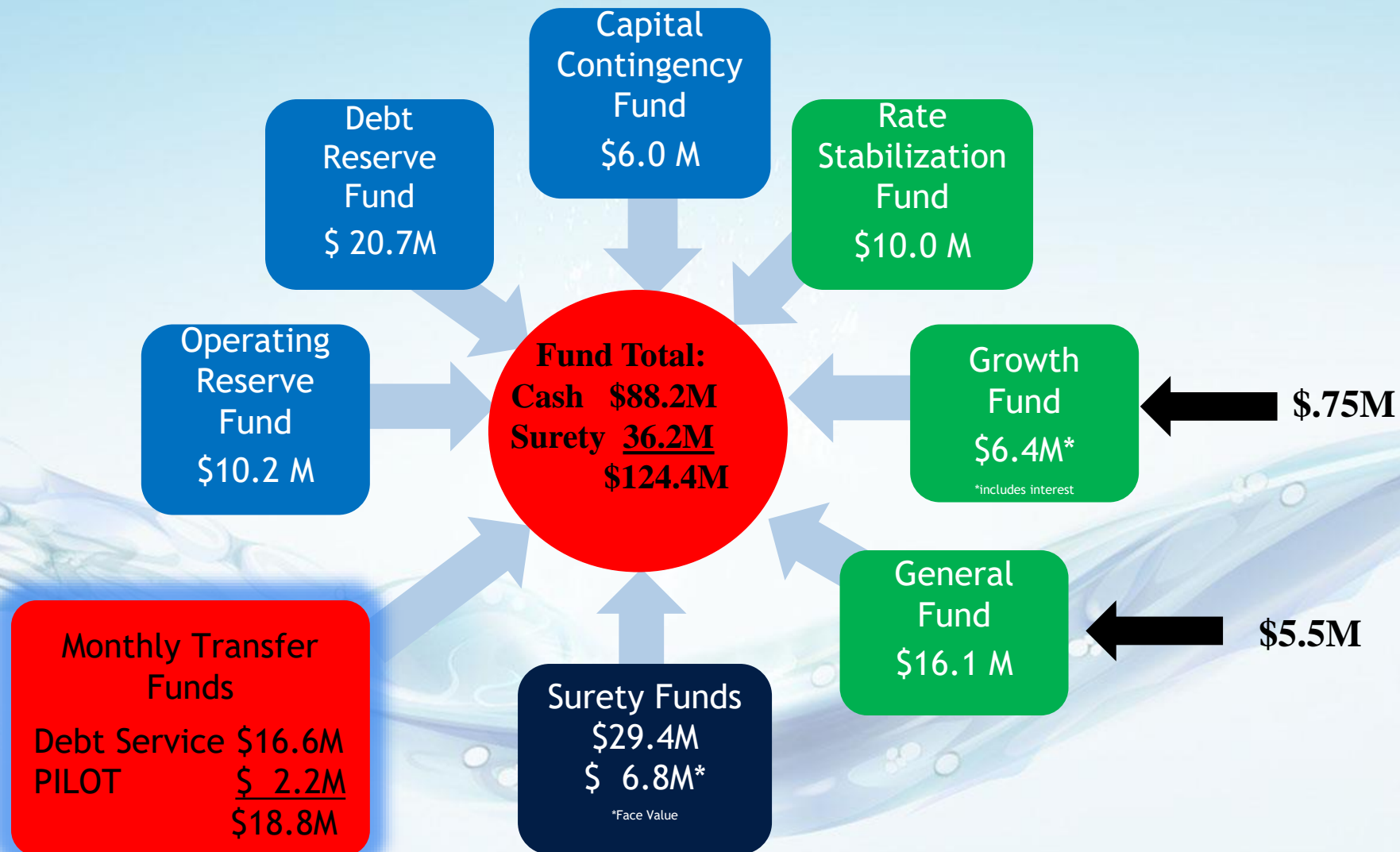
Lowering
Operating
Costs

Shared
Sacrifices

Fund
Balance
Transfers

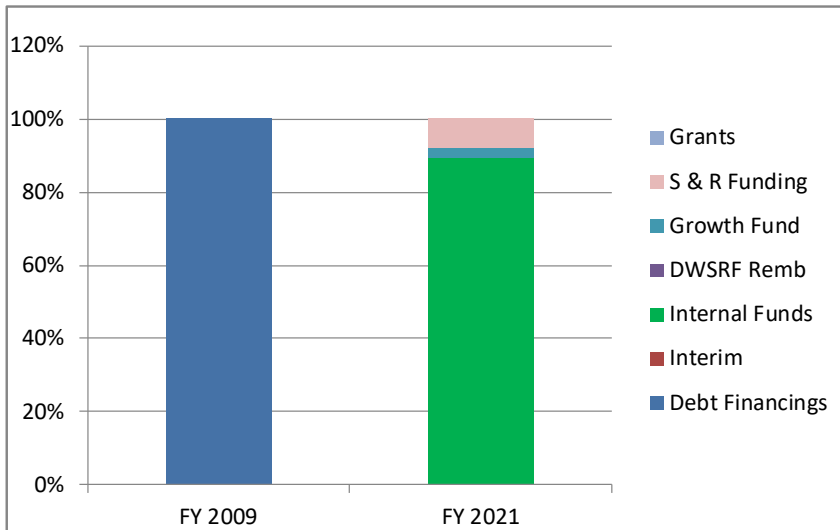
Reserve Fund Balances – Discretionary

Key Takeaway: Prudent YE Fund Transfers



FY 2021 Capital Sources

Key Takeaway: Ability to postpone rate application

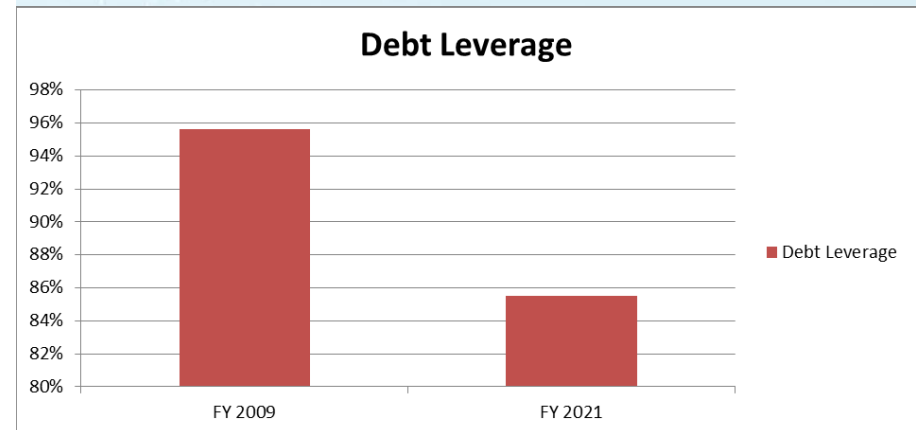


Notes:

Anticipate \$800k grant towards pay-off Interim financing in 4Q FY 2021

Anticipate three reimbursing DWSRF loans and grants in FY 2022

\$25k open space grant to be used for future land purchases



FY 2022 Operating Budget At a Glance

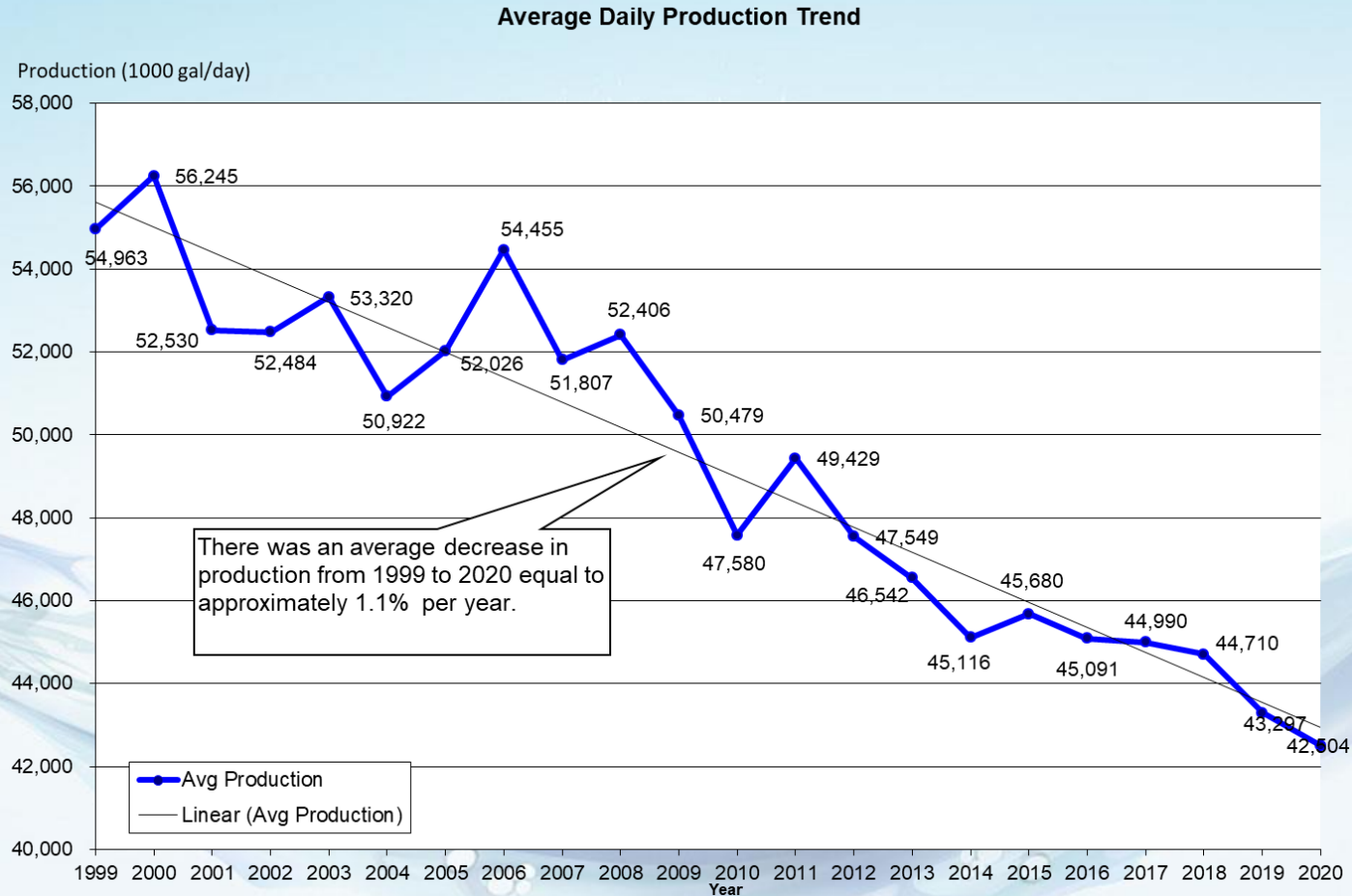
Key Takeaway: O&M expense at target w/o using General Fund

	FY2022 Budget	FY2021 Original Budget	% Change	FY2021 Revised Budget	% Change	FY2021 Projection
Revenues						
Water Revenue	\$ 116,629	\$ 117,202	-0.5%	\$ 101,381	15.0%	\$ 114,281
All Other	7,711	8,817	-12.5%	7,744	-0.4%	7,434
Total Revenue	\$ 124,340	\$ 126,019	-1.3%	109,125	13.9%	\$ 121,715
Expenses						
O&M	\$ 59,741	\$ 61,051	-2.1%	\$ 56,200	6.3%	\$ 56,200
Other Expenses	15,450	15,100	2.3%	15,100	2.3%	15,050
Debt Service 114%	50,071	49,896	0.4%	49,869	0.4%	49,354
Total Expenses	\$ 125,262	\$ 126,047	-0.6%	\$ 121,169	3.4%	\$ 120,604
Shortfall	\$ 922	\$ 28	3193.1%	\$ 12,045	-92.3%	\$ -

Revenue Trends & Assumptions



Declining Consumption Trend Continues



FY 2022 Revenue Assumptions

Water Revenues Assumptions:

- FY 2022 revenue based on billed consumption and conversion to cash receipts
- Billed consumption, excluding Wholesale minimum commitments, based on year-over-year 1% decline, adjustments made for COVID-19-related increased consumption and other known anomalies
- No increase assumed in the number of customers
- FY 2022 revenues are based on existing rates and charges
- The FY 2022 revenues reflect an anticipated transition to monthly billing in the latter part of the fiscal year – assumes “big bang” and fire service impacts
- Uncollectible factor remains at 2.25% - with outside a year increased to \$1.3 million
- Wholesale revenue, with a minimum commitment, is based on the contract

Water Revenue Attribution (from Original FY 2021 Budget)

Key Takeaway: Primary driver is declining consumption trend

FY 2021 Water Revenue Original Budget	\$117,202
Billed Consumption - 1% Decline	(767)
Wholesale	(82)
Outside One Year	300
Fire Service	(20)
Other Net Changes	(4)
FY 2022 Budget	\$116,629
FY 2021 to FY 2022 Change	(\$573)

Water Revenue Attribution (from Revised FY 2021 Budget)

Key Takeaway: Primary driver is “returning to normal” consumption and cash receipt patterns

FY 2021 Water Revenue Revised Budget	\$101,381
COVID-19 Adjustments*	15,821
Billed Consumption - 1% Decline	(767)
Wholesale	(82)
Outside One Year	300
Fire Service	(147)
Other Net Changes	123
FY 2022 Budget	\$116,629
FY 2021 to FY 2022 Change	\$15,248

*includes monthly billing impacts

Other Revenue Attribution (from Original FY 2021 Budget)

Key Takeaway: While approx. \$.1 million above the FY 2021 budget, the increase is approx. \$.4 million over the FY 2021 projection

FY 2021 Other Revenue Original Budget	\$7,038
Forestry	61
PipeSafe Suite	43
Recreation	37
Outside Lab Services	10
Other Net Changes	(35)
FY 2022 Other Revenue	\$7,154
FY 2021 to FY 2022 Change	\$116

Other Revenues Attribution (from Revised FY 2021 Budget)

Key Takeaway: Primary driver is other water charges

FY 2021 Other Revenues Revised Budget	\$6,302
Other Water Charges	638
Forestry	84
PipeSafe Suite	43
Outside Fleet Services	38
Recreation	32
Outside Lab Services	28
Other Net Changes	(11)
FY 2021 Revenues	\$7,154
FY 2021 to FY 2022 Change	\$853

Expense Trends And Assumptions



FY 2022 O&M Expense Assumptions

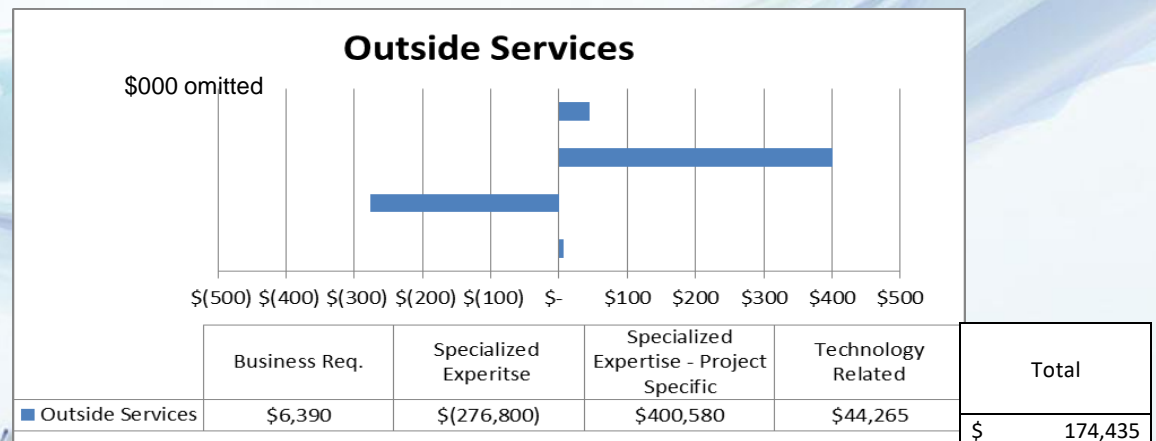
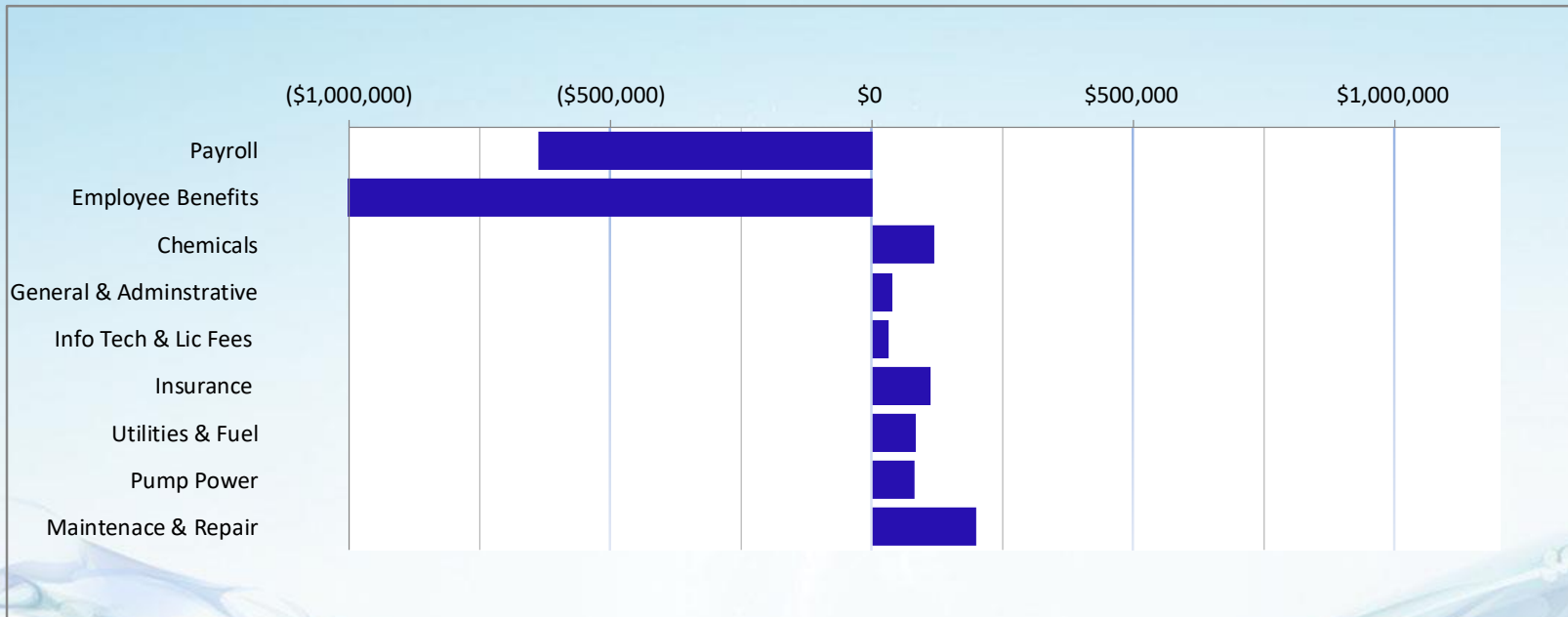
- Total **payroll** slightly above the FY 2021 original budget, prior to vacancy factors
 - Factors considered February 2021 head count
 - Vacancies budgeted at RWA level
 - Includes general wage and salary increases
 - Supports evolving business needs, strategic initiatives – including investment in technology and infrastructure and succession planning
- **Employee Benefits** reflect anticipated medical expenses, including active vs. retiree mix. Pension and opeb contributions are based on the January 2021 valuation reports and other actuarial information. This category also includes the employer contribution to 401k and payroll taxes
 - FY 2022 budgeted pension contribution assumes additional FY 2021 contribution
- **Outside/Professional Services** are categorized into Business Requirements, Specialized Expertise, Specialized Expertise – Project Related and Technology Related
 - Consistent with the FY 2021 budget, regulatory asset amortizations are in their own O&M category

O&M Expense Assumptions (Cont.)

- **Maintenance and Repair** includes routine maintenance and repairs. Similar to prior years, refurbishment projects that extend the life of the equipment are included in the capital budget. The FY 2022 budget reflects a continued focus on required maintenance and repairs
- The FY 2022 **pump power** budget reflects the generation pricing under the existing four year contract and anticipated increases in distribution pricing. Benefits of previous electric usage optimization are reflected
- **Info Tech & Licensing & Maintenance Fees** includes hosting costs and annual maintenance fees for SAP and several software applications
 - The main drivers of the FY 2022 budget are additional maintenance costs associated with technology projects
 - Anticipated price increases for annual maintenance fees are also included
- **G&A** for FY 2022 is higher than FY 2021 primarily due to computer/i-pad purchases, licenses and subscriptions, recruitment, and other small net changes

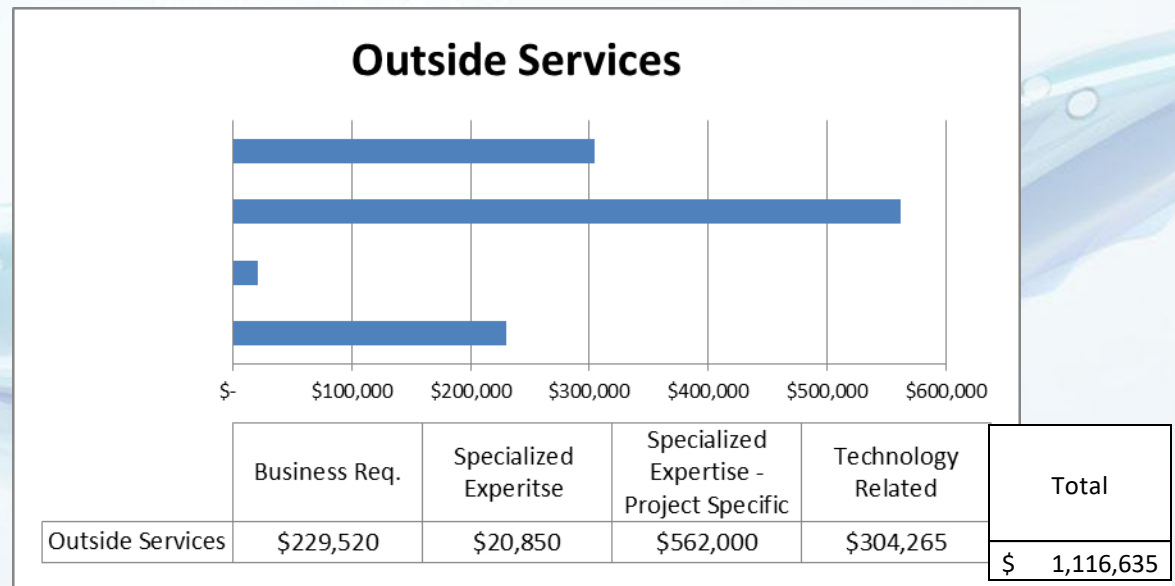
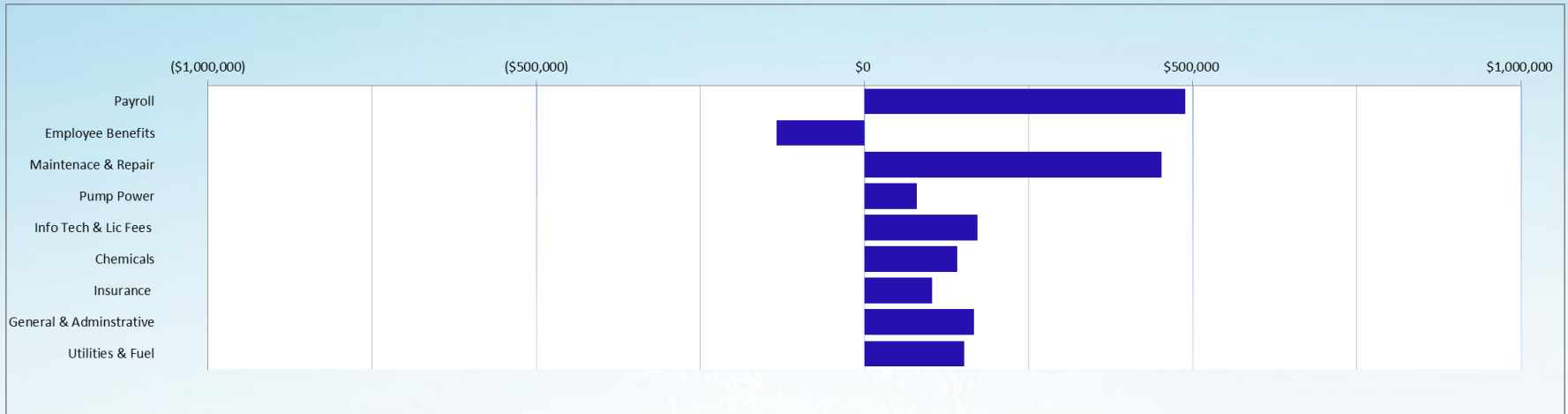
Original FY 2021 Budget to FY 2022 - O&M

Key Takeaway: FY 2022 budget consistent with target model scenario



Revised Budget FY2021 to FY2022 - O&M

Key Takeaway: FY 2022 budget consistent with target model scenario



FY 2022 Other Assumptions

PILOT Payments:

- Reflects proactive efforts
- Based on 10-1-2020 Grand List assessments and estimated mill rates

Debt Service:

- Favorable impact of prior refinancing, including 34th and 35th Series bonds
- Multiple DWSRF loans included in budget
- Water System Revenue Bond issuance w/upcoming rate application not included

Depreciation:

- \$6.5 million per last rate application

Maintenance Test

FY 2022 PROJECTED MAINTENANCE TEST


(000 omitted)

	Original FY 2021 <u>Budget</u>	Revised FY 2021 <u>Budget</u>	FY 2021 <u>Projected</u>	FY 2022 <u>Budget (a,b)</u>
Revenue:				
Water Sales	\$ 117,202	\$ 101,381	\$ 114,281	\$ 116,629
Investment Income	1,323	986	265	150
BABs Subsidy	656	656	656	657
Other - net	7,038	6,302	6,738	7,154
Common Non-Core Investment	(200)	(200)	(225)	(250)
Total Revenue	126,019	109,125	121,715	124,340
Less:				
Operating & Maintenance Expenses	61,051	56,200	56,200	59,741
Common Non-Core Investment	(100)	(100)	-	-
Depreciation	6,500	6,500	6,500	6,500
PILOT	8,700	8,700	8,550	8,950
Net revenue available for Debt Service (A)	\$ 49,868	\$ 37,825	\$ 50,465	\$ 49,149
Debt service payments (C)	\$ 43,768	\$ 43,745	\$ 43,293	\$ 43,922
Debt service x 114% (B)	\$ 49,896	\$ 49,869	\$ 49,354	\$ 50,071
Difference (A-B) - Revenue Shortfall	\$ (28)	\$ (12,045)	\$ 1,111	\$ (922)
Revenue from Rate Stabilization Fund (D)	\$ 28	\$ 12,045	\$ -	\$ 922
Coverage (A+D/C)	114%	114%	117%	114%
Required Coverage	114%	114%	114%	114%


(a) Does not reflect a planned rate application and therefore does not include add'l depreciation or debt service for capital program.

(b) FY2022 Budget includes an additional \$250k not included in O&M.


Opportunities for FY 2022 vs. Budget

- 
- Lower medical claims experience than budgeted
 - Understated medical retiree reimbursement (retiree/active mix)
 - O&M vs. Non-O&M (primarily payroll and employee benefits)
 - Lower-than-anticipated specialized expertise, including project related
 - Less storm-related hazardous tree removal and other weather related
 - Pricing projections (IT license fees, chemicals, distribution)
 - Other potential savings covering a broad range


Revenue:

- 
- Weather
 - Conversion to monthly billing
 - Billing-to-cash conversion
 - Other Revenues

Vulnerabilities for FY 2022 vs. Budget

- 
- O&M vs. Non-O&M (primarily payroll and employee benefits)
 - Vacancy factors
 - Overstated medical retiree reimbursement (retiree/active mix)
 - Medical claims experience higher than budgeted
 - Higher-than-anticipated projected pricing
 - Higher maintenance and repair costs, including weather related
 - Other vulnerabilities covering a broad range

Revenue:

- 
- Weather
 - Conversion to monthly billing
 - Billing-to-cash conversion (e.g., COVID)
 - Other Revenues

Summary/Conclusions

- Anticipate FY 2021 will be the 11th consecutive year without a RSF draw
- Prudent steps taken due to COVID-19
- FY 2022 O&M budget at targeted model scenario
- Balance contributions among:
 - Construction fund
 - Growth fund
 - General fund
 - Pension plan contributions
- Continue multi-faceted cash collection program
- Continue company-wide execution of cost management practices
- Prudent management of expenditures, consistent with revenue projections
- Continue to monitor PILOT assessments and take appropriate actions
- Pursue DWSRF financing, interim financing and monitor refinancing opportunities
- Identify and pursue grant opportunities, especially related to capital projects
- Execute against strategic plan

A dynamic water splash graphic with blue and white waves and bubbles, set against a light blue gradient background.

Any Questions?

Appendix A - Revenues



Comparison of Billed Consumption

millions of gallons

	Actual FY 2012	Actual FY 2013	Actual FY 2014	Actual FY 2015	Actual FY 2016	Actual FY 2017	Actual FY 2018	Actual FY 2019	Actual FY 2020	Projected FY 2021	Budget FY 2022
	(in millions of gallons)										
June	1,346	1,195	1,237	1,190	1,214	1,100	1,153	1,295	1,105	1,130	1,056
July	976	1,253	1,203	1,122	1,276	1,352	924	1,181	1,148	1,267	1,066
August	1,369	1,454	1,409	1,345	1,361	1,363	1,421	1,346	1,258	1,366	1,135
September	1,269	1,408	1,393	1,487	1,424	1,469	1,346	1,354	1,458	1,520	1,397
October	1,477	1,384	1,504	1,453	1,584	1,226	1,567	1,347	1,392	1,490	1,323
November	1,238	1,103	1,101	1,220	1,288	1,700	1,181	1,145	1,087	1,130	1,035
December	1,278	1,329	1,465	1,192	1,245	1,317	1,311	1,204	1,292	1,255	1,185
January	1,151	996	1,004	1,102	943	942	986	956	910	926	1,152
February	1,051	998	892	947	994	853	931	894	919	881	871
March	1,311	1,159	1,282	1,225	1,161	1,300	1,128	1,117	1,092	1,105	1,086
April	958	938	940	844	846	932	829	820	890	857	834
May	1,011	898	971	1,046	907	932	926	917	911	872	849
	14,435	14,115	14,401	14,173	14,243	14,486	13,703	13,576	13,462	13,799	12,988



Appendix B – Operating & Maintenance Expenses

Major Operating & Maintenance Categories

			(Under)/Over FY 2021		(Under)/Over FY 2021
	<u>FY 2021</u>	<u>FY2022</u>	<u>Budget Amount</u>	<u>Original FY 2021</u>	<u>Original Budget</u>
Payroll	23,087,703	23,576,955	489,252	24,216,450	(639,495)
Employee Benefits	10,842,505	10,708,583	(133,922)	11,872,171	(1,163,588)
Outside Services	2,484,758	3,601,393	1,116,635	3,426,958	174,435
Maintenance & Repair	2,726,405	3,179,100	452,695	2,981,048	198,052
Pump Power	2,970,000	3,050,000	80,000	2,970,000	80,000
Info. Tech. Licensing & Maint Fee.	2,293,295	2,465,397	172,102	2,433,295	32,102
Chemical	1,855,053	1,996,500	141,447	1,877,053	119,447
Insurance Premiums	1,539,534	1,643,098	103,564	1,532,449	110,649
General & Administrative	1,346,592	1,513,307	166,715	1,475,649	37,658
Utilities & Fuel	1,253,079	1,405,247	152,168	1,322,278	82,969
All Other	5,801,100	6,601,775	800,489	6,943,258	(341,483)
	56,200,024	59,741,356	3,541,145	61,050,609	(1,309,253)

Payroll

FY 2021 Revised Budget *	\$	23,087,703
FY 2022 Budget *		23,576,955
Variance	\$	489,252
FY 2021 Original Budget *	\$	24,216,450
FY 2022 Budget *		23,576,955
Variance	\$	(639,495)
Variance from Revised FY 2021:		
Wage & salary increases/PFP	\$	1,049,234
HC Timing/Vacancies/Other		(559,982)
	\$	489,252

Primary variance from Original is vacancy factors
partially offset by wage and salary increases

*O&M Payroll Only



Employee Benefits

FY 2021 Revised Budget *	10,842,505
FY 2022 Budget *	10,708,583
Variance	(\$133,922)

FY 2021 Original Budget *	11,872,171
FY 2022 Budget *	10,708,583
Variance	(\$1,163,588)

Variance from Revised:

Pension Contribution	\$44,650
OPEB Contribution	(101,825)
Medical/Life	(48,036)
Other Net	(28,711)
	<u>(133,922)</u>

Primary add'l variance from Original is Pension

* Represents only O&M Portion



Pump Power

Ford St. Pump Station

FY 2021 Budget	\$2,970,000
FY 2022 Budget	3,050,000
Variance	\$ 80,000

No difference in FY2021 Revised vs. Original Budget



Variance attributed to:

- Reflects anticipated increases in distribution pricing. Our generation pricing is under contract for the next four years through December 2023

Chemicals

Whitney WTP



FY 2021 Revised Budget	\$ 1,855,053
FY 2022 Budget	<u>1,996,500</u>
Variance	\$ 141,447

FY 2021 Original Budget	\$ 1,877,053
FY 2022 Budget	<u>1,996,500</u>
Variance	\$ 119,447

Variance attributed to:

- The FY2022 budget reflects anticipated pricing increases

Outside/Professional Services

FY 2021 Revised Budget	2,484,758
FY 2022 Budget	<u>3,601,393</u>
Variance	<u>\$ 1,116,635</u>

FY 2021 Original Budget	3,426,958
FY 2022 Budget	<u>3,601,393</u>
Variance	<u>\$ 174,435</u>

Business Requirements	\$	229,520
Specialized Expertise		20,850
Specialized Expertise - Project Specific		562,000
Technology Related		304,265
	\$	<u>1,116,635</u>

Business Requirements	\$	6,390
Specialized Expertise		(276,800)
Specialized Expertise - Project Specific		400,580
Technology Related		44,265
	\$	<u>174,435</u>

Insurance Premiums

FY 2022 Budget	\$ 1,643,098
FY 2021 Budget	<u>1,539,534</u>
Variance	\$ 103,564

FY 2021 Original Budget	\$1,643,098
FY 2022 Budget	<u>1,532,449</u>
Variance	\$ <u>110,649</u>



Variance attributed to:

The FY 2022 budget is based on known and projected costs associated with all insurance lines, including the Captive program.

Pricing of non-Captive lines was marketed and negotiated. The year-over-year increase is primarily due to property and umbrella insurance and to a lesser degree cyber insurance. This is based on the market environment.

*O&M Only

Information Tech. Licensing & Mtc. Fees

FY 2022 Budget	\$ 2,465,397
FY 2021 Revised Budget	<u>2,293,295</u>
Variance	\$ 172,102

FY 2022 Budget	\$2,465,397
FY 2021 Original Budget	<u>2,433,295</u>
	\$ 32,102

Variance attributed to:

Cyber	\$ 34,600
SCADA	25,000
Add'l projects	130,200
Other Net	<u>(17,798)</u>
	\$172,102

The main drivers of the increase are the additional maintenance costs associated with technology projects and cyber security. Anticipated maintenance fee price increases are also included.



Maintenance & Repairs

FY 2022 Budget	\$3,179,100
FY 2021 Revised Budget	<u>2,726,405</u>
Variance	\$ 452,695

FY 2022 Budget	\$3,179,100
FY 2021 Original Budget	<u>2,981,048</u>
	198,052



Variance attributed to:

The FY 2022 budget reflects a continued focus on required maintenance and repairs

INTRODUCTION

Over the last several years, the Authority has adopted and implemented multiple changes to its practices and policies in an effort to achieve financial stability. The organization has worked diligently to realize both capital and operating efficiencies. As testament to this effort, RWA anticipates that FY 2021 will be the eleventh consecutive year with no draw from the Rate Stabilization Fund. This is being achieved in FY 2021 by maintaining expenses at a reduced level.

The chart below illustrates the changes to our reserve balances in the FY 2009 and FY 2021 timeframe to the most recent five years. As shown below, the Rate Stabilization Fund is at its targeted goal of \$10 million, compared to a low of approximately \$3 million in FY 2010; and the General Fund is at approximately \$16.1million, compared to its low of \$158,000 in FY 2010. We prudently increased the General Fund as part of the FY 2020 year-end disposition to provide for maximum flexibility to address uncertainties associated with COVID-19. The General Fund can be used for any lawful purpose. In FY 2016, the General Fund Corporate Development was established and in FY 2018 this balance was transferred into the Growth Fund, allowing for investment in authorized “non-core” initiatives. At the end of FY 2020, the balance in the Growth Fund was approximately \$6.3 million.

Through increases to the debt coverage ratio (110% to 114%), the gradual inclusion of depreciation in the revenue requirement, and operating efficiencies realized throughout the organization, we are no longer financing 100% of our capital program. Due to this policy change, supported by both governing boards, we continue to generate internal funds used for construction as part of our year-end disposition. The use of internally generated funds continues throughout our 10-year financial model significantly contributing to the Authority’s financial stability and improving our debt leverage. The availability of internally generated funds also allowed the Authority to postpone the filing of a rate application originally planned for July 2020.

Balances - June 30 (\$000)							
	FY2009	FY2010	FY2016	FY2017	FY2018	FY2019	FY2020
Rate Stabilization Fund							
Beginning Balance	7,627	6,227	10,000	10,000	10,000	10,000	10,000
Draws	(1,400)	(3,205)					
Adds							
Ending Balance	6,227	3,022	10,000	10,000	10,000	10,000	10,000
	FY2009	FY2010	FY2016	FY2017	FY2018	FY2019	FY2020
General Fund							
Beginning Balance	172	172	10,000	10,000	10,500	10,648	10,648
Draws		(14)			(202)	(575)	
Adds				500	350	575	5,500
Ending Balance	172	158	10,000	10,500	10,648	10,648	16,148
	FY2009	FY2010	FY2016	FY2017	FY2018	FY2019	FY2020
Growth Fund							
Beginning Balance				2,465	3,500	5,000	5,500
Draws						(500)	
Adds			2,465	1,035	1,500	1,000	750
Ending Balance			2,465	3,500	5,000	5,500	6,250
	FY2009	FY2010	FY2016	FY2017	FY 2018	FY2019	FY2020
Construction Fund - Internally							
Beginning Balance			15,283	16,422	24,625	28,729	30,146
Reimbursement				409	1,585	3,262	553
Capital Program Funding			(8,337)	(5,296)	(8,307)	(14,300)	(9,991)
Adds			9,476	13,090	10,825	12,455	8,571
Ending Balance			16,422	24,625	28,729	30,146	29,279
	FY2009	FY2010	FY2016	FY217	FY2018	FY2019	FY2020
Total* - Internally							
			12,217	14,625	12,745	14,495	14,821
* Includes transfers to the Operating Reserve Fund							

The FY 2022 budget reflects positive initiatives and events. The FY 2022 budget incorporates the favorable impact of the prior refinancing efforts, including the July 2019 and February 2020 financings. The budget also reflects the continued use of Connecticut Drinking Water State Revolving Fund (DWSRF) low interest rate loans and grants. Through February 2021, we secured nine financings through DWSRF, with grants totaling approximately \$3.1 million and anticipate continued use of DWSRF financings, including one additional financing expected before the end of the fiscal year. We have also received open space grants and have been awarded two grants totaling \$44,600 for the Hamden and Bethany properties of which we have received \$25,000 to date in FY 2021. In addition, we currently utilize interim subordinate financing and expect to continue to use this funding source when prudent.

While assessments will continue to reflect a multi-year “Payments-in-Lieu-of-Taxes” (PILOT) settlement negotiated with the Town of North Branford in FY 2015. FY 2019 was the last year in which we received credits against our PILOT payments. We continue to review our PILOT assessments and follow-up with towns, as appropriate.

With continued conformity with water sector accounting practices, we capitalize the replacement of filter media versus expensing this cost, which currently ranges from \$300,000 to \$500,000 annually. Also, consistent with water sector accounting practices, we do have certain regulatory assets.

The Authority has made some difficult decisions over the last several years to achieve positive financial results, including a significantly reducing our operating and maintenance expense and capital improvement program in FY 2021 due to COVID-19. As previously mentioned, the reduced FY 2021 revised budgets are not sustainable. Our FY 2021 “Original” or “Pre-COVID-19” budget continued to support our evolving business needs and strategic initiatives. Our FY 2022 budget addresses evolving business needs and strategic initiatives, including investment in technology, supporting our infrastructure, succession planning, and revenue enhancement. Throughout the FY 2022 budget process we kept our customers in mind and impacts on the upcoming rate application.

In this regard, we modified our approach to the payroll budget and have included projected vacancy rates. We have also budgeted payroll associated with vacant positions at the Authority vs. divisional level. This change will further support filling critical positions across the Authority, while continuing the practice of position justification. In an additional effort to mitigate rate impacts, the FY 2022 budget reflects the Actuarial Required Contribution (ARC) to the pension plans. However, the FY 2021 projection includes an additional pension contribution, subject to Authority board approval. With these changes, we are pleased to share that our FY 2022 budget is less than our Pre-COVID-19 FY 2021 budget and is aligned with our targeted scenario from the last Ten-Year Financial Model.

While we have achieved considerable operating and capital efficiencies since 2009, have weathered the pandemic to date, and have instilled a cost management culture throughout the organization, there are still challenges. The trend of a steady decline in water production of approximately 1% annually continues and is anticipated for approximately another decade. This decline is not unique to RWA. Although we have also made progress in the funding status of our pension plans, we must continue to fund outstanding liabilities associated with both the pension plans and the other postemployment benefit (“OPEB”) plan and incur escalating health care costs as well as offer competitive compensation to attract and retain employees.

We will continue to assess the interest rate climate for refinancing opportunities, apply for DWSRF financing at lower interest rates and grants, pursue alternative financing, and remain focused on cash collections, prudent cost management, and the overall financial well-being of the RWA.

SUMMARY

Maintenance Test

The maintenance test on page five of this budget is a financial projection that examines the adequacy of annual water revenues to maintain the expense of the water system. To meet this test, the Authority's *General Bond Resolution* requires that annual net revenues available to pay debt service be at least 114% of the amount of the Authority's annual debt service payment. This proposed FY 2022 budget satisfies the maintenance test with a shortfall of \$922,000. It should be noted that this allocation is prior to any future rate relief. Rather than estimating the increase that will be requested associated with our upcoming rate case, or assuming approval, the Maintenance Test is being presented based on our existing rates. Based on current FY 2021 projections, the revenue fund will have approximately \$12.2 million in excess cash (prior to the transfer to the operating reserve) available for allocation in June.

More specifically, the *General Bond Resolution* requires that, at year's end—after payment of operating expenses, PILOT, depreciation expense at the beginning of the fiscal year prorated for any adjustments during the year, and debt service, the remaining revenue must equal at least 14% of that year's annual debt service payment. As it closes out each fiscal year, the Authority transfers this required excess revenue from the Revenue Fund to reserve accounts, as necessary, and to other Funds in accordance with the *General Bond Resolution*.

If the Authority's net revenue after payment of debt service exceeds the required coverage of 14%, the Authority may transfer dollars to the Construction Fund to reduce future borrowing for capital projects and, consequently, to reduce future rate increases. The Authority may also choose to transfer part of the excess to the General Fund, Growth Fund, and/or Rate Stabilization Fund.

Comparison of operating and maintenance expenses for the fiscal year from June, 2021, through May, 2022 ("FY 2022") to the fiscal year from June, 2020 through May, 2021 ("FY 2021")

Page 15 presents the operating and maintenance (O&M) budget by line item and compares the proposed budget for the new fiscal year, beginning June 2021, to the operating and maintenance budget for FY 2021. Page 15 also reflects the comparison to the "Original" or "Pre-COVID-19" FY 2021 budget. Overall, the Authority's operating and maintenance budget for FY 2022 is lower than the Pre-COVID-19 budget by 2.1% and is 6.3% higher than the revised FY 2021 budget.

The decrease from the Pre-COVID-19 budget is primarily due to an inclusion of a vacancy rate in determining payroll costs and budgeting the pension contributions at the ARC, while proposing an additional contribution in FY 2021. Prior to these adjustments the FY 2022 O&M budget is almost flat relative to the Pre-COVID-19 FY 2021 O&M budget. The small reduction in employee benefits vs. the revised FY 2021 budget primarily relates to the Retired Employee' Contributory Welfare Trust recommended cash contribution as well as medical expense. While medical expense has increased over the FY 2021 projection it is slightly lower than the FY 2021 budget.

The FY 2022 budget, similar to the Pre-COVID-19 FY 2021 budget, does reflect the planned implementation of monthly billing in the latter part of FY 2022. With the focus on supporting our infrastructure, Maintenance & Repair is higher than the revised budget by 16.6% and the Pre-COVID-19 budget by 6.6%. Outside services are higher than the revised as well the Pre-COVID-19 budget. This is primarily due to outside support for critical positions, specialized expertise, and investment in technology. The increase in electric services, including pump power, is due to anticipated increases in distribution prices. The operating and maintenance budget is also impacted by other net changes.

The overall payroll budget supports our evolving business needs, strategic initiatives, including technology and infrastructure investment and revenue enhancement. The payroll budget also includes general wage and salary increases, supports succession planning, and reflects other net changes.

As noted above, the year-over-year decrease employee benefits cost is primarily due to the anticipated medical costs, and a lower recommended cash contribution to the Retired Employee' Contributory Trust. While the ARC for the pension plans is up slightly over FY 2021, the Pre-COVID-19 FY 2021 budget included an additional contribution over the ARC. This is the primary driver of the reduction in the FY 2022 budget vs. the Pre-COVID-19 FY 2021 budget. Additional details regarding pension and Other Post Employment Benefits (OPEB) can be found on pages 18 and 19.

Projected increases in electric service, impacting utilities and fuel, administrative building, and pump power, reflects anticipated increases in distribution pricing. Our generation pricing are under contract until December 2023. The current contract started in December 2019, reflecting 100% green, renewable energy, without increasing the generation related costs.

The year-over year budget increase in “general and administrative” expense is primarily due to computer/i-pad purchases, licenses and subscriptions, and recruitment. Other net changes also impact this expense category.

The year-over-year increase in information technology fees and maintenance primarily relates to additional maintenance fees associated with planned FY 2021 and FY 2022 technology related capital projects, cyber security, and software as a service fees. Additionally, the budget reflects anticipated price increases.

The FY 2022 operating and maintenance budget is also impacted by other net changes.

Assumptions

Revenue:

- Revenue is based on billed consumption converted to cash collections.
- Adjustments were made for anomalies, including the unusually high FY 2021 consumption due to COVID-19.
- Billed water consumption after adjusting for anomalies, excluding Wholesale minimum commitments, is based on the year-over-year trend of a 1% decline in billed consumption. There is no increase assumed in the number of customers.
- Wholesale revenue, associated with a minimum commitment contract, is based on the contract.
- FY 2022 revenues are based on existing rates and charges.
- The FY 2022 revenues reflect an anticipated transition to monthly billing in the latter part of the fiscal year.

Expenses:

- Payroll reflects salary and wages. As mentioned, earlier a new approach was taken and vacancy factors were applied in calculating the payroll budget. This resulted in the O&M payroll budget being less than the Pre-COVID-19 payroll budget and an increase over the revised FY 2021 budget. Prior to applying the vacancy factors, the overall payroll budget is virtually flat with the Pre-COVID-19 FY 21 budget. The overall payroll budget supports our evolving business needs, strategic initiatives, including technology and infrastructure investment and revenue enhancement. The payroll budget also includes general wage and salary increases, supports succession planning, and reflects other net changes.
- Employee Benefits reflect anticipated medical expenses, including the mix between active employees and retirees. The pension contribution is based on the January 2021 valuation reports and other analysis by the actuary, reflecting a small year-over-year increase. Budgeting the pension contribution at the ARC in FY 2022, assumes an additional pension contribution in FY 2021, subject to authorization by the five member Authority. The other post-retirement benefits (OPEB) plan contribution is based on the actuary report for the recommended cash contribution and reflects a year-over-year decrease. This category also includes expenses such as the employer contribution to 401k and payroll taxes.
- The FY 2022 pump power budget reflects the generation pricing under the existing contract that started in December 2019, and anticipated increases in distribution pricing. Benefits of previous electric usage optimization are also reflected.
- Chemicals reflect the chemical usage at water treatment plants and known and anticipated pricing.
- Insurance Premiums are based on the known and projected costs associated with all insurance lines, including the Captive program. Pricing of non-Captive lines was marketed and negotiated. The increase reflects the market environment, especially for property and umbrella insurance. The FY 2022 budget also includes estimated reserve requirements.
- “Information Technology Licensing & Maintenance Fees” includes hosting costs and annual maintenance fees for SAP and several software applications. The main drivers of the FY 2022 increase are the additional maintenance costs associated with technology related capital projects and cyber security. Vendor maintenance fee price increases are also included.
- “Maintenance and Repair” includes routine maintenance and repairs. Similar to FY 2021, refurbishment projects that extend the life of the equipment are included in the capital budget. The FY 2022 budget reflects a continued focus on required maintenance and repairs.

Considering the budget overall, the most significant line items are the following, which representing over 85% of the budget:

Line 01	Payroll
Line 02	Employee Benefits
Line 04	General & Administrative
Line 09	Pump Power Purchased
Line 10	Chemicals
Line 20	Professional Services
Line 21	Insurance Premiums
Line 44	Info. Tech. Licensing & Mtc. Fees
Line 45	Maintenance and Repairs

FY 2022 OPERATING REVENUE

(000 omitted)

	FY 2021	FY 2021	FY 2021	FY 2022	FY 2022 Budget less FY 2021	% over /	FY 2022 Budget less FY 2021	% over /
	<u>"Original" Budget</u>	<u>"Revised" Budget</u>	<u>Projected</u>	<u>Budget (a)</u>	<u>"Original" Budget</u>	<u>(under)</u>	<u>"Revised" Budget</u>	<u>(under)</u>
Revenue:								
Water Sales	\$ 117,202	\$ 101,381	114,281	\$ 116,629	\$ (573)	(0.5)	\$ 15,248	15.0
Investment Income	1,323	986	265	150	(1,173)	(88.7)	(836)	(84.8)
BABs Subsidy	656	656	656	657	1	0.2	1	0.2
Other - net	7,038	6,302	6,738	7,154	116	1.6	852	13.5
Common Non-Core Investment (b)	<u>(200)</u>	<u>(200)</u>	<u>(225)</u>	<u>(250)</u>	<u>(50)</u>	<u>25.0</u>	<u>(50)</u>	<u>25.0</u>
Total Revenue (c)	126,019	109,125	121,715	124,340	(1,679)	(1.3)	15,215	13.9
Less:								
Operating & Maintenance Expenses	61,051	56,200	56,200	59,741	(1,310)	(2.1)	3,541	6.3
Common Non-Core Investment	(100)	(100)	-		100	(100.0)	100	(100.0)
Debt service transfers	44,272	44,249	43,773	44,337	65	0.1	88	0.2
PILOT transfers	<u>8,841</u>	<u>8,841</u>	<u>8,622</u>	<u>9,115</u>	<u>274</u>	<u>3.1</u>	<u>274</u>	<u>3.1</u>
Deductions from revenue	<u>114,064</u>	<u>109,190</u>	<u>108,595</u>	<u>113,193</u>	<u>(871)</u>	<u>(0.8)</u>	<u>4,003</u>	<u>3.7</u>
Net revenue	<u>\$ 11,955</u>	<u>\$ (65)</u>	<u>\$ 13,120</u>	<u>\$ 11,147</u>	<u>\$ (808)</u>	<u>(6.8)</u>	<u>\$ 11,212</u>	<u>(17,249.2)</u>

(a) Does not reflect a planned rate application and therefore does not include debt service necessary to fund the FY 2022 capital program.

(b) FY2022 Budget includes an additional \$250k not included in O&M.

(c) Revenue does not include draws to meet coverage and depreciation requirements.

FY 2022 PROJECTED MAINTENANCE TEST

(000 omitted)

	Original FY 2021 <u>Budget (a)</u>	Revised FY 2021 <u>Budget (a)</u>	FY 2021 <u>Projected</u>	FY 2022 <u>Budget (a)</u>
Revenue:				
Water Sales	\$ 117,202	\$ 101,381	\$ 114,281	\$ 116,629
Investment Income	1,323	986	265	150
BABs Subsidy	656	656	656	657
Other - net	7,038	6,302	6,738	7,154
Common Non-Core Investment	<u>(200)</u>	<u>(200)</u>	<u>(225)</u>	<u>(250)</u>
Total Revenue	126,019	109,125	121,715	124,340
Less:				
Operating & Maintenance Expenses	61,051	56,200	56,200	59,741
Common Non-Core Investment	(100)	(100)	-	0
Depreciation	6,500	6,500	6,500	6,500
PILOT	<u>8,700</u>	<u>8,700</u>	<u>8,550</u>	<u>8,950</u>
Net revenue available for Debt Service (A)	<u>\$ 49,868</u>	<u>\$ 37,825</u>	<u>\$ 50,465</u>	<u>\$ 49,149</u>
Debt service payments (C)	<u>\$ 43,768</u>	<u>\$ 43,745</u>	<u>\$ 43,293</u>	<u>\$ 43,922</u>
Debt service x 114% (B)	<u>\$ 49,896</u>	<u>\$ 49,869</u>	<u>\$ 49,354</u>	<u>\$ 50,071</u>
Difference (A-B) - Revenue Shortfall	<u>\$ (28)</u>	<u>\$ (12,045)</u>	<u>\$ 1,111</u>	<u>\$ (922)</u>
Revenue from Rate Stabilization Fund (D)	<u>\$ 28</u>	<u>\$ 12,045</u>	<u>\$ -</u>	<u>\$ 922</u>
Coverage (A+D/C)	<u>114%</u>	<u>114%</u>	<u>117%</u>	<u>114%</u>
Required Coverage	<u>114%</u>	<u>114%</u>	<u>114%</u>	<u>114%</u>

(a) Does not reflect a planned rate application and therefore does not include debt service necessary to fund the FY 2022 capital program.

(b) FY2022 Budget includes an additional \$250k not included in O&M.

FY 2022: PROJECTIONS OF METERED WATER REVENUE

Management uses data regarding billed consumption to project metered water revenue. Specifically, for the twelve-month period ending May 31, 2022, management estimated billed consumption using historical figures. Management then converts billed revenue to collected revenue, using patterns of collection from prior years. For FY 2022 management also estimated the impact of a transition to monthly billing in the latter part of the fiscal year as well as adjusted for anomalies associated with COVID-19.

Assumptions used in the projection of metered water revenue are as follows.

- A. Management used an “uncollectible” factor of 2.25%, within a twelve-month period, to derive FY 2022 cash receipts associated with metered water billings. An additional \$1.3 million was added for cash receipts associated with billings over one year. The Authority is currently providing for an allowance for doubtful accounts based on age and type/class of receivable.
- B. Measured in millions of gallons, billed consumption (both including and excluding wholesale) in FY 2022 is projected to be approximately 1.0% lower than projected FY 2021, prior to adjustments associated with COVID-19, other known anomalies, and the conversion to monthly billing.

The following assumptions, prior to the above mentioned adjustments, were used to calculate projected billed consumption in FY 2022:

- No new customer growth.
 - Billed consumption for June 2021 to February 2022 assumes the same billed consumption amounts for like months in FY 2021, reduced by 1% to take into account the trend of lower customer demand. Billed consumption for March to May 2022 assumes the same billed consumption amounts for like months in FY 2020, reduced by 2% to take into account the trend of lower customer demand year-over-year. However, billed consumption adjustments were also made for the anomalies due to COVID-19 from March of fiscal 2021 through the current period.
- C. To project wholesale consumption for FY 2022, management assumed that the City of Meriden, for the period from June, 2021 to May 31, 2022, will consume 3 million gallons per year. The wholesale projection assumes the annual minimum of 200 million gallons for the Aquarion Water Company and also includes approximately 67.4 million gallons for Aquarion for their “take and pay” agreements, assuming usage declines by 1%. Also included in wholesale revenue is projected usage from Connecticut Water Company. However, FY 2021 was the last annual payment of \$75,000 from the Connecticut Water Company for the capacity reservation of one million gallons per day maximum. Therefore, the \$75,000 is not included in the FY 2022 budget.

Billed Consumption - million gallons-without wholesale

FY 2021		FY 2022 Budget	
FY 2021 Projected	FY 2021 Projected "Normalized"	FY 2022 Projected	Less FY 2021 Projected "Normalized"
13,508	12,676	12,540	(136) -1%

Billed Consumption - million gallons-with wholesale

FY 2021 Projected	FY 2021 Projected "Normalized"	FY 2022 Projected	FY 2022 Budget Less FY 2021 Projected "Normalized"	
13,799	12,963	12,825	(138)	-1%

Billed Consumption - million gallons-without wholesale and with monthly billing

FY 2021 Projected	FY 2021 Projected "Normalized"	FY 2022 Projected	FY 2022 Budget Less FY 2021 Projected "Normalized"	
13,508	12,676	12,701	25	0.2%

The above table reflects billed consumptions, excluding wholesale, after adjusting for the transition to monthly billing. The 1% declining trend is mostly offset by the conversion to monthly billing, assuming all customers transition to month billing in the same month.

FY 2022 REVENUE – OTHER – NET

Original FY 2021 <u>Budget</u>	Revised FY 2021 <u>Budget</u>	FY 2021 <u>Projected</u>	FY 2022 <u>Budget</u>	FY 2022 Budget vs. FY 2021 Revised <u>Budget</u>	FY 2022 Budget vs. FY 2021 Original <u>Budget</u>
\$ 7,037,771	\$ 6,301,477	\$ 6,737,573	\$ 7,154,020	\$ 852,543	\$ 116,249

“Other operating revenue” includes the following:

Water:	Un-metered water
	Facility charges
	Service connection fees
	Field collection charges
	Miscellaneous service charges
	Miscellaneous
	Deficient check charges
	Forestry
	Jobbing
	Taps
	Recreation
Proprietary:	Lab testing for outside parties
	Property rentals
	Sewer data sales
	Garage repair program
	PipeSafe Water protection plan
	PipeSafe Sewer/Septic protection plan
	PipeSafe Complete

The budget variance for “other net revenue” for FY 2022 vs. the revised budget is primarily due to the significantly lower FY 2021 budget relative to collection fees and backflow charges. The FY 2022 budget is higher than the Pre-COVID-19 FY 2021 budget primarily due projected margin improvements in recreation, forestry, and the lab as well as growth in PipeSafe Complete. Other net revenue also includes other net changes.

FY 2022 INVESTMENT INCOME

Original FY 2021 <u>Budget</u>	Revised FY 2021 <u>Budget</u>	FY 2021 <u>Projected</u>	FY 2022 <u>Budget (a)</u>	FY 2022 Budget less FY 2021 <u>Revised Budget</u>	FY 2022 Budget less FY 2021 <u>Original Budget</u>
\$ 1,322,605	\$ 985,866	\$ 265,466	\$ 150,255	\$ (835,611)	\$ (1,172,350)

To estimate investment income for the twelve months ending May 31, 2022, management prepared schedules showing anticipated interest income for FY 2022 for all investment securities that mature after May 31, 2021. For funds that were invested during fiscal 2021 (or earlier), but mature during the months ending May 31, 2022 or later, management used the existing interest rate in budgeting FY 2022. For the funds estimated to be deposited into the Debt Service, PILOT, and Revenue Funds during FY 2022, management used a rate of approximately .15%. This rate was also used for General Fund and Rate Stabilization Fund monies not invested in maturities greater than six months. Management will continue to look for investment opportunities while considering the interest rate environment. This may result in certain securities being subject to call during the remainder of FY 2021 and FY 2022.

The following schedule depicts investment income anticipated, by fund, in FY 2022. The column labeled "Fixed" represents interest that is "locked in" because the funds are currently invested. The column labeled "Variable" represents anticipated interest on investments to be made in FY 2022. The figures in the latter column represent the respective interest rate for the fund as described above.

FY 2022 Budget

	Fixed	Variable	Total
Debt Reserve	\$ -	\$ 31,357	\$ 31,357
Operating Reserve	-	15,715	15,715
Capital Contingency	-	9,267	9,267
PILOT	-	3,492	3,492
Debt Service	-	26,198	26,198
General	-	25,707	25,707
Rate Stabilization	-	15,462	15,462
Revenue	-	23,057	23,057
	<u>\$ -</u>	<u>\$ 150,255</u>	<u>\$ 150,255</u>

PAYMENTS-IN-LIEU-OF-TAXES (“PILOT”): PAYMENTS & TRANSFERS

Payments			FY 2022 Over / (Under) <u>FY 2021 Budget</u>
FY 2021 <u>Budget</u>	FY 2021 <u>Projected</u>	FY 2022 <u>Budget</u>	
\$8,699,829	\$8,549,546	\$8,950,489	2.9%

The FY 2022 budget reflects estimates for mill rates for payments and estimates of both assessments and mill rates for determining PILOT transfers during FY 2022.

Management projected PILOT payments by using the most recent assessments (October 2020 Grand List) and estimating the mill rates as the final mill rates are not yet known. Management estimates mill rates, by town using historical trends and other information.

Transfers			FY 2022 Over / (Under) <u>FY 2021 Budget</u>
FY 2021 <u>Budget</u>	FY 2021 <u>Projected</u>	FY 2021 <u>Budget</u>	
\$8,841,489	\$8,621,926	\$9,114,503	3.1%

In addition to its payment of invoices for PILOT in July, 2021, and January, 2022, the Authority must also begin to make transfers into the PILOT fund for FY 2023, beginning in January, 2022, per its *General Bond Resolution*. To estimate the amount of these transfers, management follows a similar procedure as that for payments, first by estimating the Grand Lists as of October 2021, including estimates for pipe additions and retirements, and then trending forward its individual estimate of each town’s mill rate. The results are shown directly above. Please note that management will adjust for differences between estimated and actual PILOT.

OPERATING BUDGET: JUNE 1, 2021 - MAY 31, 2022

Operating and Maintenance Projections
Comparison by Line Number

Line	FY 2021 Budget	FY2021 Projected	FY 2021 Projected Over (Under) Budget Amount	Percent	FY 2022 Budget	FY 2022 Budget Over (Under) FY 2021 Budget Amount	Percent	"Original" FY21 Budget	Variance - FY 2022 Budget vs. Original FY21 Budget	Percent
01 Payroll *	\$ 23,087,703	\$ 22,135,218	\$ (952,485)	-4.1%	\$ 23,576,955	\$ 489,252	2.12	24,216,450	(639,495)	-2.6
02 Employee Benefits *	10,842,505	11,439,586	597,081	5.5%	10,708,583	(133,922)	-1.2	11,872,171	(1,163,588)	-9.8
03 Administrative Building Space *	927,930	915,097	(12,833)	-1.4%	943,680	15,751	1.7	951,083	(7,402)	-0.8
04 General & Administrative	1,346,592	1,339,990	(6,602)	-0.5%	1,513,307	166,715	12.4	1,475,649	37,658	2.6
05 Transportation *	673,415	684,250	10,835	1.6%	727,880	54,465	8.1	756,384	(28,504)	-3.8
06 Tools & Stores *	304,613	294,843	(9,771)	-3.2%	294,543	(10,070)	-3.3	312,639	(18,096)	-5.8
07 Utilities & Fuels	1,253,079	1,394,971	141,892	11.3%	1,405,247	152,168	12.1	1,322,278	82,969	6.3
08 Materials from Inventory	273,178	290,260	17,082	6.3%	406,760	133,582	48.9	406,678	82	0.0
09 Pump Power Purchased	2,970,000	3,000,000	30,000	1.0%	3,050,000	80,000	2.7	2,970,000	80,000	2.7
10 Chemicals	1,855,053	1,939,940	84,887	4.6%	1,996,500	141,447	7.6	1,877,053	119,447	6.4
11 Road Repairs	200,000	200,000	-	0.0%	161,779	(38,221)	-19.1	200,000	(38,221)	-19.1
13 Credit for Frozen Meters	(60,000)	(22,000)	38,000	-63.3%	(30,800)	29,200	-48.7	(60,000)	29,200	-48.7
14 Postage	288,000	196,232	(91,768)	-31.9%	420,830	132,830	46.1	428,000	(7,170)	-1.7
15 Printing & Forms	82,700	87,306	4,606	5.6%	77,000	(5,700)	-6.9	76,400	600	0.8
17 Collection Expense	648,250	601,788	(46,463)	-7.2%	1,175,065	526,815	81.3	994,425	180,640	18.2
18 Organizational Development	365,500	209,800	(155,700)	-42.6%	128,665	(236,835)	-64.8	402,000	(273,335)	-68.0
19 Public/Customer Information	288,545	247,245	(41,300)	-14.3%	408,902	120,357	41.7	414,069	(5,167)	-1.2
20 Outside Services	2,484,758	2,920,481	435,723	17.5%	3,601,393	1,116,635	44.9	3,426,958	174,435	5.1
21 Insurance Premiums	1,539,534	1,592,726	53,191	3.5%	1,643,098	103,564	6.7	1,532,449	110,649	7.2
22 Worker's Compensation	53,801	54,718	916	1.7%	45,570	(8,231)	-15.3	53,321	(7,751)	-14.5
23 Damages (Uninsured Losses)	60,000	75,000	15,000	25.0%	65,000	5,000	8.3	60,000	5,000	8.3
24 Training & Cont. Education	240,082	104,781	(135,301)	-56.4%	268,732	28,650	11.9	455,556	(186,824)	-41.0
25 Authority Fees	156,500	131,500	(25,000)	-16.0%	156,500	-	0.0	156,500	-	0.0
26 Consumer Counsel	62,500	38,000	(24,500)	-39.2%	60,000	(2,500)	-4.0	62,500	(2,500)	-4.0
27 Representative. Policy Board Fees	168,955	116,000	(52,955)	-31.3%	169,000	45	0.0	168,955	45	0.0
28 Organizational Dues (Corp)	101,555	114,055	12,500	12.3%	101,555	-	0.0	101,555	-	0.0
29 Donations	18,500	18,500	-	0.0%	36,920	18,420	99.6	41,008	(4,088)	-10.0
34 Central Lab Expenses	432,534	433,150	616	0.1%	447,075	14,541	3.4	443,643	3,432	0.8
40 Environmental Affairs	92,831	153,388	60,557	65.2%	115,220	22,389	24.1	96,831	18,389	19.0
44 Info Tech-Licensing & Maintenance Fee	2,293,295	2,165,307	(127,988)	-5.6%	2,465,397	172,102	7.5	2,433,295	32,102	1.3
45 Maintenance and Repairs	2,726,405	2,905,996	179,591	6.6%	3,179,100	452,695	16.6	2,981,048	198,052	6.6
46 Regulatory Asset Amortization	421,711	421,898	187	0.0%	421,898	187	0.0	421,711	187	0.0
Totals	56,200,024	56,200,024	(0)	0.0%	59,741,356	3,541,145	6.3	61,050,609	(1,309,253)	-2.1
Common Non-Core	(100,000)	0	100,000			100,000		(100,000)	100,000.00	
Grand Total	\$ 56,100,024	\$ 56,200,024	\$ 100,000	0%	\$ 59,741,356	\$ 3,641,145	6.5	60,950,609	(1,209,254)	

Note: FY 2021 Projection includes an additional pension contribution, subject to Authority approval.

Line 1 – TOTAL PAYROLL

Original FY 2021 Budget	Revised FY 2021 Budget	FY 2021 Projected	FY 2022 Budget (a)	FY 2022 Budget less FY 2021 Revised Budget	FY 2022 Budget less FY 2021 Original Budget
\$ 29,123,097	\$ 27,517,889	\$ 25,956,933	\$ 28,067,804	\$ 549,915	\$ (1,055,293)

Consistent with FY 2021, budget managers used the “Forecaster” software application/system to forecast payroll by department. Salary and position information was input into “Forecaster.” Budget managers also reviewed and determined the distribution among operating and maintenance (O & M), capital, and other accounts, as appropriate. Budget managers reviewed anticipated changes and overtime levels. This resulted in a FY 2022 payroll budget slightly above the Pre-COVID-19 budget, before applying the vacancy factors. As mentioned earlier, a new approach was taken in the FY 2022 budget. Vacancies were budgeted at the Authority level and vacancies factors were applied. The vacancy factors took into consideration actual head count at the end of February 2021. The overall payroll budget supports evolving business needs and strategic initiatives including investment in technology and infrastructure and succession planning.

The following compares the payroll budget for FY 2022 to the budget for FY 2022 and to projected expenditure for FY 2021:

Payroll allocated as follows	FY 2021 Original Budget	FY 2021 Revised Budget	FY 2021 Projected	FY 2022 Budget	FY 2022 Budget less FY 2021 Revised Budget	FY 2022 Budget less FY 2021 Original Budget
Operating & Maintenance expenses	\$ 24,216,450	23,087,703	\$ 22,135,218	\$ 23,576,955	489,252.38	(639,495)
Capital projects	2,785,928	2,440,922	1,764,761	2,542,943	102,020.59	(242,985)
Other revenue accounts	2,120,719	1,989,263	2,056,955	1,947,906	(41,357.64)	(172,813)
Total	\$ 29,123,097	\$ 27,517,889	\$ 25,956,933	\$ 28,067,804	\$ 549,915	\$ (1,055,293)

Total Full-time Equivalents:

FY 2022 Budget 280*

FY 2021 Original Budget 291

FY 2021 Revised Budget 286.5

* This is net of the vacancy factor

Note: Includes head count supporting outside services contracts and other proprietary offerings.
Does not include seasonal recreation, summer interns, or Haz Waste Coordinator.

Line 2 – TOTAL EMPLOYEE BENEFITS PRIOR TO ALLOCATION

Original FY 2021 <u>Budget</u>	Revised FY 2021 <u>Budget</u>	FY 2021 <u>Projected</u>	FY 2022 <u>Budget</u>	FY 2022 Budget less FY 2021 <u>Revised Budget</u>	FY 2022 Budget less FY 2021 <u>Original Budget</u>
\$ 14,277,666	\$ 12,923,020	\$ 13,225,687	\$ 12,748,313	\$ (174,707)	\$ (1,529,353)

There are four basic elements of employee benefits: (1) pension and OPEB contributions; (2) medical and life insurance; (3) payroll taxes; and (4) miscellaneous items. Management budgets each element independently.

	FY 2021 Original Budget	FY 2021 Revised Budget	FY 2021 Projected	FY 2022 Budget
Active employees:				
Pension	\$ 4,430,582	3,171,243	4,265,804	\$ 3,220,439
Group insurance	67,430	67,430	67,430	135,983
Dental plan	184,624	184,624	159,085	211,516
Health insurance	4,654,148	4,654,148	4,214,322	4,585,294
Payroll taxes	2,128,097	2,039,790	1,865,242	1,960,000
401-k plan	761,243	761,243	700,000	763,909
Other	196,124	189,124	98,385	136,974
subtotal	12,422,248	11,067,602	11,370,268	11,014,115
GASB 45 (trust fund)				
OPEB Contribution	1,855,418	1,855,418	1,855,418	1,734,198
Death benefit	117,000	117,000	117,000	78,000
Dental plan	24,657	24,657	20,000	39,849
Health insurance (under 65)	917,787	917,787	829,123	850,383
Health insurance (over 65)	572,639	572,639	572,639	583,159
OPEB Reimbursement	(1,632,083)	(1,632,083)	(1,538,762)	(1,551,391)
subtotal	1,855,418	1,855,418	1,855,418	1,734,198
Total employee benefits	\$ 14,277,666	\$ 12,923,020	\$ 13,225,687	\$ 12,748,313

* "Other post employment benefits"

The line items above are allocated as follows	FY 2021 <u>Original Budget</u>	FY 2021 <u>Revised Budget</u>	FY 2021 <u>Projected</u>	FY 2022 <u>Budget</u>
Operating & maintenance expense	\$ 11,872,171	\$ 10,842,505	\$ 11,439,586	10,708,583
Capital projects	1,365,808	1,146,312	824,771	1,154,997
Other revenue accounts	1,039,687	934,203	961,330	884,733
	<u>\$ 14,277,666</u>	<u>\$ 12,923,020</u>	<u>\$ 13,225,687</u>	<u>\$ 12,748,313</u>

Total Employee Benefits (continued)

1. The FY 2022 budget includes a pension fund contribution of \$3,220,439. This contribution assumes an additional contribution at the end of FY 2021, pending approval by the Authority board. With this additional current year pension contribution combined with the FY 2022 budget, the combined contribution will be at the nine year level contribution based on asset market values as of the end of December 2020. This is the time period in our 2019 and 2020 Ten Year Models. The FY 2022 pension contribution is at the actuarial required contribution (ARC). The nine year level contribution achieves fully funded plans (other than annual service costs) by the end of FY 2025. Based on recent year analysis, targeting achievement of fully funded within the seven year horizon would put significant pressure on rates. The ARC and the level contribution are based on current assumptions used for the January 2021 valuation, regarding return on assets and other factors. Asset returns and other factors impact the contribution level and may result in a longer period, or higher contributions, to achieve a fully funded status.
2. Management proposes to budget healthcare costs for FY 2022 at 98,846 lower than the FY 2021 budget. However, the FY 2022 budget is \$455,182 higher than the FY 2021 projection. Medicare Part B expenses are not included as these expenses, consistent with FY 2021, are being processed through the Retired Employee' Contributory Welfare Trust. The health care costs reflected in the FY 2022 budget are a result of input from Lockton Companies.

The proposed change, FY 2021 budget to FY 2022 budget, is as follows:

<u>Health Insurance</u>	<u>Increase/ (Decrease) from FY 2021 Budget to FY 2022 Budget</u>
Active employees	\$ (41,961)
Retirees under the age of 65	(67,404)
Retirees over the age of 65	<u>10,520</u>
	<u>\$ (98,846)</u>

As proposed for FY 2022, the amount for under 65 (active and retiree) medical care reflects a 9.4% COVID-19 adjustment and a 12.3% (or 8.5% annual increase) increase over claims for the period January to December 2020. Dental care was based on pre-COVID-19 claims (April 2019 through March 2020) trended forward by 9.2% (4% annual increase). Budgeted amounts are net of employee contributions. Specific assumptions were also applied to a number of factors including fixed costs, stop-loss, employee contributions, and over 65 medical.

Health care costs shown on the preceding page are categorized by employees and retirees and, further, by retirees under the age of 65 and over the age of 65. This categorization reflects the Authority's compliance with the Governmental Accounting Standards Board ("GASB") Statements related to *Postemployment Benefits Other Than Pensions*, referred to as "OPEB."

3. For purposes of the proposed budget, management has separated health care and death benefits for retirees from the same category of benefit for employees because it established a trust fund, mentioned above, in FY 2009 from which it makes payments for current costs associated with retirees' health care and death benefits. Starting with the FY 2015 budget

and continuing for FY 2022, management budgets the gross contribution into this trust fund as this amount will be contributed irrespective of incurred retiree healthcare and death benefits. The FY 2022 contribution is from the actuarial valuation report as of January 2021 and is based on the recommended cash contribution to the trust.

4. Payroll taxes for FY 2022 are based on payroll assumptions, including projected annual increases in salaries and wages.
5. “Other” items are budgeted at their anticipated cost, including insurance for long-term disability; the Employee Assistance Program; safety shoes, safety training, employee recognition, etc.

Line 20 – OUTSIDE SERVICES/PROFESSIONAL SERVICES

FY 2021	FY 2021	FY 2021	FY 2022
<u>Original Budget</u>	<u>Revised Budget</u>	<u>Projected</u>	<u>Budget</u>
\$3,426,958	\$2,484,758	\$2,920,481	\$3,601,393

Professional Services

Professional Services have been categorized into Business Requirements, Specialized Expertise, Specialized Expertise – Project Specific, and Technology Related. Consistent with FY 2021, certain regulatory asset amortizations, previously reported under Professional Services, have been removed from this category. All regulatory asset amortizations have been reflected in a separate line within the operating and maintenance budget. Business Requirements include expenditures associated with trustee fees, external audit, projected legal fees, required outside services in support of billing, regulatory requirements, and other required services. The specialized expertise category includes ongoing professional expertise such as for business continuity planning, engineering, other specialized professional services. Specialized expertise that is project specific is separately identified. Examples include the water supply plan, asset management, strategic initiatives, and other project specific professional expertise.

The revised FY 2021 budget for this category was significantly reduced. All categories have increased vs. the revised budget. In comparison to the Pre-COVID-19 budget, the primary drivers of the increase relate to project specific specialized expertise as well as technology related professional services. Increases in these categories primarily relate to strategic initiatives and investment in technology. The increase in business requirements primarily relates to professional expertise in support of the Lead & Copper Rule as well as anticipated trustee fees due to anticipated new financing.

	FY 2021 Original Budget	FY 2021 Revised Budget	FY 2021 Projection	FY 2022 Budget
Business Requirements	\$1,191,735	\$968,605	\$924,394	\$1,198,125
Specialized Expertise	778,400	480,750	437,315	501,600
Specialized Expertise - Project Specific	381,420	220,000	765,104	782,000
Technology Related	1,075,403	815,403	793,668	1,119,668
Total	<u>\$3,426,958</u>	<u>\$2,484,758</u>	<u>\$2,920,481</u>	<u>\$3,601,393</u>

Line 4 – GENERAL AND ADMINISTRATIVE

Original FY 2021 <u>Budget</u>	Revised FY 2021 <u>Budget</u>	FY 2021 <u>Projected</u>	FY 2022 <u>Budget</u>	FY 2022 Budget less FY 2021 <u>Revised Budget</u>	FY 2022 Budget less FY 2021 <u>Original Budget</u>
\$ 1,475,649	\$ 1,346,592	\$ 1,339,990	\$ 1,513,307	\$ 166,715	\$ 37,658

The budget proposed for FY 2022 is higher than FY 2021 primarily due to computer/i-pad purchases, licenses and subscriptions, and recruitment and other 1 net changes also impacting this expense category.

The following are the significant items in this category:

	FY 2021 Original Budget	FY 2021 Revised Budget	FY 2021 Projected	FY 2022 Budget
Cellular telephones and pagers	\$ 295,042	\$ 290,355	\$ 243,750	\$ 286,400
Computer/software/supplies	250,010	248,260	246,706	311,295
Disaster Recovery	155,000	157,000	156,000	156,000
Dues, licenses & subscriptions	146,261	138,891	138,744	172,426
Furniture and Equipment	49,650	47,750	33,655	38,630
Meter reading expenses & meal allowance	47,293	47,198	7,621	10,121
Recruitment	110,000	67,966	223,000	200,000
Rental expense	46,056	46,056	42,556	40,424
Safety equipment & supplies	38,752	38,252	43,255	38,456
Supplies	96,090	84,068	78,895	85,968
All other	241,495	180,795	125,808	173,587
	<u>\$ 1,475,649</u>	<u>\$ 1,346,591</u>	<u>\$ 1,339,990</u>	<u>\$ 1,513,307</u>

Operating Budget: June 1, 2021 - May 31, 2022

Budget Projections

Comparison by Line Number

Business Strategy

Line	Accounts	FY 2021			FY 2021 Projected		Total FY 2022 Budget	FY 2022 Budget		FY 2022 Budget	
		Original Budget	Budget	Projected	Over (Under) Budget Amount	Percent		Over (Under) FY21 Original Budget	Percent	Over (Under) FY21 Budget	Percent
01	Payroll *	\$ 1,132,338	\$ 957,689	\$ 768,272	\$ (189,417)	(19.8)	\$ 849,564	\$ (282,774)	(25.0)	\$ (108,125)	(11.3)
04	General & Administrative	65,234	60,534	70,889	10,355	17.1	\$78,500.00	13,266	20.3	17,966	29.7
18	Organizational Development	12,000	12,000	-	(12,000)	(100.0)	50,000	38,000	316.7	38,000	316.7
20	Outside Services	245,900	57,500	40,900	(16,600)	(28.9)	114,500	(131,400)	(53.4)	57,000	99.1
Grand Total		1,487,472	1,091,723	884,061	(207,662)	(19.0)	1,107,864	(379,608)	(25.5)	16,141	1.5

* Includes capital, other revenue accounts & O&M

BUSINESS STRATEGY

MISSION

The Business Strategy has responsibility over the RWA's business transformation, analysis, innovation, and strategic planning.

Bringing together an ability to elicit and inspire new business capabilities needs with an organizational perspective on technology solutions, this division's mission is to align business strategies and objectives with technology solutions to ensure we are providing excellent customer service while delivering high quality water in a cost effective and efficient manner.

OVERVIEW

Business Transformation/Partnering fosters business relationships to provide process efficiency and continuous improvement across all operating and functional areas of the RWA. As process improvement subject matter experts, Business Transformation provides thought leadership, manages business capability needs/demands as inputs to new projects and initiatives, as well as identifies and facilitates improvements to existing processes with a "drive to do it better" mindset.

Business Analysis straddles the line between the technical resources in IT and the business functions that require application support and planning. The group spearheads the identification of business, customer, and stakeholder demand for technology and innovation that enables the business areas to meet current and future needs through, requirements gathering, process workshops, and regular planning activities. With a cross-functional focus on Customer Care, Shared Services, and Asset & Operations, this team facilitates the development and maintenance of capability roadmaps to communicate the needs of the business and clearly identify needed application enhancements and new functionality.

Strategic Planning assists with development of the Authority's strategic goals and objectives. Strategic Planning works with all areas of the business to ensure metrics and initiatives support the Authority's strategic goals, building alignment and engagement around the strategic plan at all levels of the organization. This group will ensure that the strategic plan is tied to capital & operational plans. Process monitoring, metric reporting, and Executive and Board-level summaries are also within Strategic Planning's purview.

Enterprise Architecture keeps the alignment of processes and the Authorities technology solutions. The focus the enterprise architecture (EA) efforts to provide a forward-looking perspective on how our technology solutions can support both the business capabilities and our customer's expectations for service and engagement using technology. By providing this perspective, organizational planning, budgeting and project selection can clearly reflect and align with the needs of the business. EA ensures the RWA is prepared not only to successfully address the organizational technology needs of today, but is positioned to meet the technology needs of the future.

Innovation Hub provides data analysis support and methodical problem solving approaches to help develop process improvement skills in all employees. The Innovation Hub is centered on the four (4) Center of Excellence (CoE) workstreams: Procure-to-Pay, Meter-to-Cash, Source-to-Tap, and Hire-to-Retire. By engaging with employees across the organization in effective problem identification and resolution, improvement becomes embedded in the organization, delivering excellent service in all aspects of the Authority's business. Authority's I-Hub is focused to build tools using artificial intelligence and machine learning technology to help business automation.

SIGNIFICANT CHANGES BETWEEN THE PROPOSED BUDGET FOR THE NEW FISCAL YEAR BEGINNING JUNE 1, 2021 (“FY 2022”) AND PRIOR FISCAL YEAR 2022 BUDGET

The overall budget proposed for the Business Strategy Division in FY 2022 is \$16,141 more than the 2021 budget, or up 1.5%. Variances of more than \$25k are highlighted below:

Line 01: Payroll

This decrease of \$108,125 or 11.3% is due to vacancies being budgeted at the Authority level not at the divisional level, partially offset by annual wage and salary increases

Line 18: Organizational Development

The Organizational Development line item is increasing by \$38,000 or 316.7% in order to support system assessments and secure partnerships that will ensure our technology roadmap enables the 50-year vision and to secure services for the process reengineering required to support the decommissioning of document printing tools given the outsourcing of our bill print functions in FY21.

Line 20: Outside Services

The Outside Services line item is increasing by \$57,000 or 99.1% to procure services related to Enterprise Architecture planning and solutions, project support during the initiation and planning phases, best practice insights and facilitation, and application optimization.

Operating Budget: June 1, 2021 - May 31, 2022

Budget Projections

Comparison by Line Number

Corporate Services

Line	Accounts	FY 2021	FY 2021	FY 2021	FY 2021 Projected	Percent	Total	Percent	FY 2022 Budget	Percent	FY 2022 Budget	Percent
		Original Budget	Budget	Projected	Over (Under) Budget Amount		FY 2022 Budget		Over (Under) FY21 Original Budget		Over (Under) FY21 Budget	
01	Payroll *	\$ 1,866,403	\$ 1,862,331	\$ 1,802,757	\$ (59,574)	(3.2)	\$ 1,931,097		\$ 64,694	3.5	\$ 68,766	3.7
02	Employee Benefits *	14,253,666	12,899,020	13,219,687	320,667	2.5	\$ 12,727,313		(1,526,353)	(10.7)	(171,707)	(1.3)
03	Administrative Building Space *	96,488	78,492	90,492	12,000	15.3	91,992		(4,496)	(4.7)	13,500	17.2
04	General & Administrative	254,771	205,734	334,147	128,413	62.4	349,654		94,883	37.2	143,920	70.0
05	Transportation *	174,214	87,107	118,044	30,937	35.5	141,850		(32,364)	(18.6)	54,743	62.8
06	Tools & Stores *	9,000	8,000	8,000	-	-	8,000		(1,000)	(11.1)	-	-
07	Utilities & Fuels	4,980	4,980	5,013	33	0.7	5,085		105	2.1	105	2.1
18	Organizational Development	77,000	60,500	60,200	(300)	(0.5)	1,165		(75,835)	(98.5)	(59,335)	(98.1)
19	Public/Customer Information	393,569	268,045	228,245	(39,800)	(14.8)	387,652		(5,917)	(1.5)	119,607	44.6
20	Outside Services	380,500	372,000	210,877	(161,123)	(43.3)	277,500		(103,000)	(27.1)	(94,500)	(25.4)
21	Insurance Premiums	1,842,948	1,834,948	1,867,715	32,767	1.8	1,956,069		113,121	6.1	121,121	6.6
22	Worker's Compensation	60,000	60,000	60,000	-	-	50,000		(10,000)	(16.7)	(10,000)	(16.7)
23	Damages (Uninsured Losses)	60,000	60,000	75,000	15,000	25.0	65,000		5,000	8.3	5,000	8.3
24	Training & Cont. Education	220,310	210,500	50,500	(160,000)	(76.0)	136,000		(84,310)	(38.3)	(74,500)	(35.4)
29	Donations	37,508	15,000	15,000	-	-	35,000		(2,508)	(6.7)	20,000	133.3
45	Maintenance and Repairs	20,504	19,004	19,004	-	-	19,004		(1,500)	(7.3)	-	-
Grand Total		19,853,416	18,147,216	18,266,235	119,020	0.7	18,283,937		(1,569,479)	(7.9)	136,721	0.8

* Includes capital, other revenue accounts & O&M

CORPORATE SERVICES

MISSION

Serving as a strategic business partner in furthering the mission of the Authority. The objective of the Corporate Services Division is to maximize employee performance in service of the RWA's strategic objectives.

OVERVIEW

The Corporate Services Division provides a range of services related to talent management, employee and labor relations, training and organizational development, safety, compensation and benefits. In addition, the Police Department; which is charged with the protection of visitors, board members, employees, facilities and landholdings of the Authority, around the clock and the Communication & Outreach functions are departments within the Corporate Services Division.

Areas of responsibility include:

Talent Management: the full scope of HR processes to attract, develop, motivate and retain high-performing employees.

Employee and Labor Relations: create and maintain positive relations between the RWA and its employees including responsibility for union contract negotiations, grievance process, contract interpretation and enforcement.

Benefits administration: creating, managing and updating our employee benefits program in order to ensure the maximum engagement among employees.

Compensation Management: design and maintain compensation systems and processes with the goal of reducing turnover, boosting employee engagement and attracting talent while maintaining market competitiveness.

Training and Development: facilitate quality learning and education programs in order to improve employees' job performance and provide career growth opportunities.

Environmental Health Safety & Risk: develop, implement and maintain programs, systems and policies to ensure company's compliance with Occupational Safety and Health laws and regulations to ensure the safety of our employees

Compliance: maintaining compliance with federal and state statutes.

Communications & Outreach (C&O): is responsible for developing and overseeing strategic and integrated external and internal communications plans and programs designed to reinforce the RWA's purpose, mission, vision and brand. The overall charge of the department is to use a variety of methods and tools to channel the RWA's corporate viewpoint to its many constituencies and to strengthen stakeholder confidence in the organization's ability to deliver reliable, affordable, high-quality water and related services through innovative, conscious and sustainable business practices.

C&O also includes legislative influence, education and the operation of HazWaste Central.

A variety of “hands-on” water science education opportunities are offered to district-wide school children, consumers and residents. These programs are conducted at our innovative Whitney Water Center or off-site depending upon the needs of the participating group. The purpose of our education programs is to create an educated constituency for clean water by increasing public understanding of how the relationship between human activities and ecological impacts can define water quality. Over 11,000 children and adults benefit from our education programs each year.

HazWaste Central is an initiative to protect water quality by providing an environmentally desirable alternative to disposing of household and small business hazardous waste in the region. It is a joint venture with the South Central Regional Council of Governments and is paid for by 17 participating municipalities. HazWaste Central serves over 6,000 households a year.

The C&O department is also responsible for corporate donations and community outreach efforts that include the RWater to Go Wagon. This mobile water station is a driver of community outreach to promote the quality and value of tap water. Annually, it serves over 50,000 people through school and sport functions, and charity walks and runs.

SIGNIFICANT CHANGES BETWEEN THE PROPOSED BUDGET FOR THE NEW FISCAL YEAR BEGINNING JUNE 1, 2021 (“FY 2022”) AND BUDGETED FY 2021.

The Division’s proposed FY 2022 budget of \$18,283,937 is approximately \$136,721 or approximately 1% more than that shown for the FY 2021 budget amount of \$18,147,216

Line 01: Payroll Increase of \$68,766 or 3.7 %
The increase in payroll is primarily due to wage and salary increases as well as other net changes.

Line 02: Employee Benefits Decrease of \$171,707 or 1.3 %
The decrease in employee benefits is primarily due to a lower Recommended Cash Contribution to the Retired Employee’ Contributory Welfare Trust and medical (under 65). While medical (under 65) is \$136,258 lower than the FY 2021, this cost is \$392,232 higher than the FY 2021 projection. Other small net reductions include payroll taxes and 401k, partially offset by a slightly higher contribution to the pension plans.

Line 04: General & Administrative Increase of \$143,920 or 70%
The increase in General & Administrative is primarily due to anticipated increase in recruiting costs vs. the FY 2021 budget. However, this increase is comparable to the projection for FY 2021.

Line 05: Transportation Increase of \$54,743 or 62.8%
The increase in Transportation, relates to Captive Auto & Truck Insurance. The FY 2022 budget reflects known and projected insurance cost and is \$23,806 higher than the FY 2021 projection and less than the original FY 2021 budget.

Line 19: Public/Customer Information Increase of \$119,607 or 44.6%
This increase is primarily due to restoring this expense category back to pre-COVID-19 levels.

Line 20: Outside Services Decrease of \$94,500 or 25.4%
The decrease is primarily due to the FY 2021 budget anticipating a transition of work performed by an employee to a consultant that did not occur.

Line 21, Insurance

Increase of \$121,121 or 6.6%

This increase is based on known and projected costs associated with all insurance lines, including the Captive program. Pricing of non-Captive lines was marketed and negotiated. The increase reflects the market environment, especially for property and umbrella insurance.

Line 24: Training & Cont. Education

Decrease of \$74,500 or 35.4%

This decrease is primarily due to lower anticipated tuition assistance costs in FY 2022. While this category is a decrease from the FY 2021 budget, there is an increase of \$85,500 over the FY 2021 projection.

Operating Budget: June 1, 2021 - May 31, 2022

Budget Projections

Comparison by Line Number

Customer Care

Line	Accounts	FY 2021			FY 2021 Projected Over (Under)		Total FY 2022 Budget	FY 2022 Budget Over (Under)		FY 2022 Budget Over (Under)	
		Original Budget	Budget	Projected	Budget Amount	Percent	Budget	FY21 Original Budget	Percent	FY21 Budget	Percent
01	Payroll *	\$ 2,344,030	\$ 2,077,840	\$ 1,805,980	\$ (271,860)	(13.1)	1,758,715	\$ (585,315.22)	(25.0)	\$ (319,125)	(15.4)
04	General & Administrative	115,100	78,600	38,234	(40,366)	(51.4)	71,500	(43,600)	(37.9)	(7,100)	(9.0)
14	Postage	428,000	288,000	196,232	(91,768)	(31.9)	420,830	(7,170)	(1.7)	132,830	46.1
15	Printing & Forms	25,500	34,000	44,006	10,006	29.4	29,500	4,000	15.7	(4,500)	(13.2)
17	Collection Expense	697,650	411,700	381,000	(30,700)	(7.5)	790,840	93,190	13.4	379,140	92.1
20	Outside Services	305,686	62,556	29,604	(32,952)	(52.7)	149,900	(155,786)	(51.0)	87,344	139.6
24	Training & Cont. Education	3,600	1,500	500	(1,000)	(66.7)	4,000	400	11.1	2,500	166.7
44	Info Tech-Licensing & Maint Fee	15,480	15,480	25,000	9,520	61.5	27,310	11,830	76.4	11,830	76.4
Grand Total		3,935,046	2,969,676	2,520,556	(449,120)	(15.1)	3,252,595	(682,451)	(17.3)	282,919	9.5

* Includes capital, other revenue accounts & O&M

CUSTOMER CARE

MISSION

The mission of the Customer Care Department is to deliver a superior customer experience by balancing between the care we show in our interactions, billing and collections. The team is focused on the customer journey, along with teams dedicated to contact center operations and billing & collections activity. Since 1983, RWA has offered recreation permits to area residents who can take advantage of various outdoor activities at nine areas in RWA's district and a Customer Care representative will process permit request and respond to all inquiries related to this program.

OVERVIEW

Customer Care focuses on supporting the needs of residential, industrial, and commercial customers. The customer service staff provides caring customer service, accurate billing, and pursues collections activities with respect. The primary responsibilities of the department include billing and collections activities, answering customer inquiries and addressing customer complaints, scheduling service appointments as required, processing recreation permits, and other miscellaneous customer activities for the Authority's almost 120,000 total customers or nearly a population of 430,000 averaging about 8,000 calls per month. Customer Care also provides mail and messenger service for the organization, cashier services for employees. During COVID-19, we have stopped serving external customers, visitors or guest to RWA.

SIGNIFICANT CHANGES BETWEEN THE PROPOSED BUDGET FOR THE NEW FISCAL YEAR BEGINNING JUNE 1, 2021 ("FY 2022") AND PRIOR FISCAL YEAR 2021 BUDGET

The overall budget proposed for the Customer Care in FY 2022 is \$282,919 higher than the FY 2021 budget, an increase of 9.5%. It's important to note that approximately \$220,000 of this increase relates to the increased mailings associated with the move from quarterly to monthly billings. Variances of more than \$25K +/- to FY21 budget are highlighted below:

Line 1: Payroll

Payroll decreased by \$319,125 or 15.4% from the FY 2021 budget. The variance reflects vacancies being budgeted at the Authority level and not at the divisional level. Incorporated into the number of vacancies is the overall realignment of Customer Care organization and an associated net reduction in head count. The FY 2022 budget also includes the general wage and salary increases and planned overtime costs associated to the monthly billing project.

Line 14: Postage

Postage increased by \$132,830 or 46.1%. The FY2022 increase is driven by the planned move from quarterly to monthly billing.

Line 17: Collection Expense

Collection expenses increased by \$379,140 or 92.1%. The primary driver of this increase is due to the move from quarterly to monthly billing in January 2022, \$250,600 of this increase is related to the anticipated increase in payment processing costs. In addition there will also be an increase in the number of liens that can be processed using the enhancement utilizing SAP functionality.

Line 20: Outside Services

Outside Services increased \$87,344 or 139.6%. This planned increase is driven by the move from quarterly to monthly billing and a parallel shift to an improved print/mail provider along with a transactional survey to measure and improve customer satisfaction and experience.

Operating Budget: June 1, 2021 - May 31, 2022

Budget Projections

Comparison by Line Number

Engineering & Environmental Services

Line	Accounts	FY 2021		FY 2021		FY 2021		FY 2021 Projected		Total FY 2022 Budget	FY 2022 Budget Over (Under)	FY 2022 Budget		FY 2022 Budget	
		Original Budget	Budget	Budget	Projected	Budget Amount	Percent	Budget Amount	Percent			FY21 Original Budget	Percent	FY21 Budget	Percent
01	Payroll *	\$ 3,425,340	\$ 3,084,728	\$ 2,872,138	\$ (212,590)	(6.9)		2,919,645	\$ (505,694.89)		(14.8)	\$ (165,082)	(5.4)		
04	General & Administrative	69,871	58,401	54,313	(4,088)	(7.0)		64,098	(5,773)		(8.3)	5,697	9.8		
05	Transportation *	620,036	600,036	561,050	(38,986)	(6.5)		594,980	(25,056)		(4.0)	(5,056)	(0.8)		
06	Tools & Stores *	71,700	68,977	86,000	17,023	24.7		78,904	7,204		10.0	9,927	14.4		
15	Printing & Forms	3,000	3,000	1,500	(1,500)	(50.0)		1,500	(1,500)		(50.0)	(1,500)	(50.0)		
18	Organizational Development	20,000	-	-	-	-		20,000	-		-	20,000	-		
20	Outside Services	661,000	427,250	551,201	123,951	29.0		711,000	50,000		7.6	283,750	66.4		
24	Training & Cont. Education	49,200	13,300	11,830	(1,470)	(11.1)		29,200	(20,000)		(40.7)	15,900	119.5		
40	Environmental Affairs	96,831	92,831	153,388	60,557	65.2		115,220	18,389		19.0	22,389	24.1		
45	Maintenance and Repairs	772,080	568,580	598,585	30,005	5.3		884,275	112,195		14.5	315,695	55.5		
46	Regulatory Asset Amortization	421,711	421,898	421,898	-	-		421,898	187		0.0	-	-		
Grand Total		6,210,769	5,339,001	5,311,903	(27,098)	(0.5)		5,890,720	(320,049)		(5.2)	551,720	10.3		

* Includes capital, other revenue accounts & O&M

ENGINEERING & ENVIRONMENTAL SERVICES

MISSION STATEMENT

The Engineering & Environmental Services Division is responsible for efficiently maintaining the Authority's assets in excellent condition. This is accomplished by performing inventory assessments, condition assessments, completing predictive and scheduled maintenance, implementing long-term asset management plans, making decisions based on risk, and meeting service requirements. Our assets include treatment and distribution facilities, underground infrastructure, dams and reservoirs, our fleet, and over 27,000 acres of land. The Engineering & Environmental Services Division provides the Authority with planning, design and construction management of large-scale capital improvement projects. The division also provides a plan for overall development of the Authority's water system and administers a comprehensive dam safety program.

OVERVIEW

Engineering & Environmental Services is comprised of four departments:

- Capital Planning & Delivery
- Environmental Planning
- Fleet
- Real Estate
- Contracts and New Services

Capital Planning & Delivery administers a large portion of the capital improvement program for the planning, design and construction of dam and intake improvements, pumping stations, treatment plants, water main rehabilitation, maintaining and building water storage tanks, well redevelopment and replacement, large transmission mains, pressure reducing facilities, and major building additions. The Authority's Engineers review designs, plans, and specifications for various projects, as well as inspect contractors' work. Capital Planning & Delivery also participates in consultant selection and review of consultant designs for Authority projects.

Capital Planning & Delivery administers the dam inspection and maintenance program. This program includes updating structural stability analyses and Emergency Operation Plans ("EOP's") on a periodic basis. The department is also responsible for the 50-year water supply plan, including identifying future sources of supply, and development of population and demand forecasts.

Capital Planning & Delivery is responsible for the inspection and maintenance of water storage tanks, pipe bridges, and large diameter piping at the treatment plants and pumping stations. The department also manages the Authority's capital pipe replacement program and water main relocations requested by the State Department of Transportation where they direct the process for engineering review, design cost estimating, and billing of reimbursable costs.

The department provides manual and computerized drafting and, graphic design services to numerous departments. It also provides technical assistance to other departments and outside persons regarding water availability, system flows, and pressures.

Environmental Planning personnel undertake varied activities to protect source water quality, including site plan development reviews; watershed inspections; preparedness for hazardous spills of material; construction of storm water treatment wetlands; in-lake management; and land protection. Compliance

with local, state, and federal environmental regulations is accomplished by implementing a program which coordinates monitoring and reporting responsibilities, and includes periodic environmental audits of facilities and operations, followed by implementation of audit recommendations. In addition, this department oversees the flows and releases from our water diversions and dams for our ten active reservoirs. The Division provides seasonal reservoir water quality information to our Treatment Department and assists with distribution system water quality sampling. They also issue special permits for research or special events involving access to our properties by the public.

Fleet Services is responsible for the acquisition, maintenance, and repair of the Authority's:

Over 150 Automobiles and trucks

Approximately 90 Pieces of portable equipment, including trailers, backhoes, pay loaders, and excavators

Approximately 30 boats, most used for fishing at Lake Saltonstall

Other small equipment including mowers, generators, and hydraulic equipment

Typically, Fleet performs over 1,000 repairs monthly on Authority-owned vehicles and equipment. Fleet also adds to Authority's non-water revenues by conducting a vehicle repair program for the Greater New Haven WPCA, Easter Seals/Goodwill of Greater New Haven, Inc., the Orchard House Adult Day Care, Hadley Corporation, and other regional organizations as well as employees' personal vehicles.

The Real Estate Department oversees proposed changes in land use, acquisition of property interests related to watershed protection or new water system facilities, and the disposition of property, as well as other land use matters, such as property encroachments and maintaining property lines. This work is guided by the Authority's *Land Use Plan*, which prescribes the use of landholdings, as required by its enabling legislation, and other documents such as the "The Land We Need for the Water We Use." They are also responsible for the management of the Authority's 27,000-plus acres of land and conservation easements located throughout twenty-two communities, management of wildlife habitat, operational management of our diversions, reservoir levels, and management of the Authority's timber resources. Additionally, in November 2018, the Recreation Department reporting responsibilities were moved to the Real Estate Department.

Our charter mandates that we provide recreational opportunities. Since 1983, the RWA has offered the purchase of recreation permits to area residents so they can take advantage of fishing, biking, hiking or cross-country skiing at nine areas in 13 communities in the RWA's district. Special events, programs and contests are offered year-round to permit holders to encourage children and adults to unplug from their electronic devices and reconnect with their natural surroundings.

The Real Estate Manager also is responsible for PILOT areas, including maintenance of property assets in GIS, preparation and maintenance of historical annual assessors' filings, and reviewing all PILOT invoices.

Contracts and New Services is responsible for a wide range of technical, contractual and records-related functions, including being the RWA's initial point of customer contact for all new water main and service applications, final depository for all facility records, and producing contracts and billing for construction projects.

Functions performed by the department include administration of the RWA's Rules and Regulations, processing services and main extensions, providing an accounting of associated revenues, administering the Residential Booster Pump Program, notifying customers about service area changes and administering revenue protection and theft prevention programs.

In addition, the department assists the construction billing process for the installation of water mains, services, and hydrants for privately funded projects and related facility repairs.

SIGNIFICANT CHANGES BETWEEN THE PROPOSED BUDGET FOR THE NEW FISCAL YEAR BEGINNING JUNE 1, 2021 (“FY 2022”) AND THE FY 2021 BUDGET

The Division’s proposed FY 2022 budget of \$5,890,720 is approximately \$551,720 or 10.3%, over the FY 2021 budget of \$5,339,001. This difference is explained below.

Line 1 Payroll

The FY 2022 payroll budget of \$2,919,645 is less than FY 2021 budget of \$3,084,728 by \$165,082 or 5.4%. This is primarily due to vacancies not being budgeted at the divisional level partially offset by annual wage and salary increases.

Line 08 Materials From Inventory

The FY 2022 proposed budget of \$50,000 is \$50,000 greater than the FY 2021 budget of \$0. This increase will address certain pre-existing non-conforming services and meters.

Line 20 Outside Services

The FY 2022 proposed budget of \$711,000 is \$283,750, or 66.4%, over the FY 2021 budget of \$427,250. The FY 2022 difference from the FY 2021 budget is a result primarily of the following:

Increase in Miscellaneous Engineering by \$75,000 which reflects increases primarily in expenditures for Master Planning

Increase in Research and Development of \$20,000 for system-wide modeling efforts

Increase in Consultant Services by \$87,000 for Business Continuity work deferred in FY 2021 and now necessary, and outside payroll for transitioning open positions

Other small management changes

Line 45 Maintenance and Repairs

The FY 2022 proposed budget of \$884,275 is \$315,695, or 55.5%, over the FY 2021 budget of \$568,580. The FY 2022 difference from the FY 2021 budget is a result primarily of the following:

- An increase in Miscellaneous Dam Repairs by \$77,000 to return expenditures in this category to a typical and necessary levels and complete identified dam maintenance projects
- An increase in Miscellaneous Maintenance and Repairs of \$100,000 to provide funds for work deferred in FY 2021 and return this category to a typical level and complete identified projects in FY 2022
- An increase in Pipe Bridge Maintenance of \$37,000 to complete identified projects, some of which were deferred in FY 2021
- An increase in Contractor Maintenance of \$55,000 to provide necessary funds for an increasing amount of hazardous tree work
- An increase in costs associated with the Hamden Middle School Remediation of \$19,500 for post-remediation groundwater monitoring
- Other small net changes

Operating Budget: June 1, 2021 - May 31, 2022

Budget Projections

Comparison by Line Number

Executive & Financial Services

Line	Accounts	FY 2021		FY 2021		FY 2021		FY 2021 Projected		Total		FY 2022 Budget		FY 2022 Budget	
		Original Budget	Budget	Projected	Over (Under)	Budget Amount	Percent	Budget	Percent	FY21 Original Budget	Percent	FY21 Original Budget	Percent	FY21 Budget	Percent
01	Payroll *	\$ 2,674,630	\$2,598,532	\$ 2,730,005	\$ 131,473	5.1	\$ 4,195,433	\$ 1,520,802	56.9	\$ 1,596,900	61.5				
03	Administrative Building Space *	500	500	421	(79)	(15.8)	500	-	-	-	-				
04	General & Administrative	165,398	148,399	86,722	(61,677)	(41.6)	114,584	(50,814)	(30.7)	(33,815)	(22.8)				
06	Tools & Stores *	94,569	96,069	101,214	5,145	5.4	106,220	11,651	12.3	10,151	10.6				
08	Materials from Inventory	2,500	2,500	-	(2,500)	(100.0)	2,500	-	-	-	-				
15	Printing & Forms	45,500	44,500	34,250	(10,250)	(23.0)	44,250	(1,250)	(2.7)	(250)	(0.6)				
17	Collection Expense	296,775	236,550	220,788	(15,763)	(6.7)	384,225	87,450	29.5	147,675	62.4				
18	Organizational Development	293,000	293,000	128,000	(165,000)	(56.3)	27,500	(265,500)	(90.6)	(265,500)	(90.6)				
19	Public/Customer Information	20,500	20,500	19,000	(1,500)	(7.3)	21,250	750	3.7	750	3.7				
20	Outside Services	744,549	707,049	781,331	74,282	10.5	827,425	82,876	11.1	120,376	17.0				
22	Worker's Compensation	4,125	4,125	4,165	40	1.0	4,251	126	3.0	126	3.0				
24	Training & Cont. Education	25,400	21,900	15,000	(6,900)	(31.5)	19,500	(5,900)	(23.2)	(2,400)	(11.0)				
25	Authority Fees	156,500	156,500	131,500	(25,000)	(16.0)	156,500	-	-	-	-				
26	Consumer Counsel	62,500	62,500	38,000	(24,500)	(39.2)	60,000	(2,500)	(4.0)	(2,500)	(4.0)				
27	Repres. Policy Board Fees	168,955	168,955	116,000	(52,955)	(31.3)	169,000	45	0.0	45	0.0				
45	Maintenance and Repairs	8,000	8,000	6,000	(2,000)	(25.0)	8,000	-	-	-	-				
Grand Total		4,763,401	4,569,579	4,424,896	(144,683)	(3.2)	6,141,137	1,377,736	28.9	1,571,558	34.4				

* Includes capital, other revenue accounts & O&M

EXECUTIVE AND FINANCIAL SERVICES

MISSION

Executive and Finance includes the following:

- The Representative Policy Board (“RPB”)
- The Authority of five members (“the Authority”)
- The office of the Chief Executive Officer (“CEO”)
- Financial Services

Summarized in the next section are the respective functions of the RPB and the Authority. The CEO is responsible for executing the policies of the Authority and for directing other employees of the company.

Also summarized below is the office of the CEO and Financial Services. These are the areas within the Executive and Financial Services FY 2022 budget.

OVERVIEW

RPB:

The RPB’s powers include, but are not limited to, the following: 1) authorize water rates; 2) appoint the five members of the Authority; 3) authorize the Authority’s appointment of the CEO; 4) authorize land sales; 5) authorize the acquisition of a water system or wastewater system or capital expenditure in excess of \$2 million; 6) authorize “non-core” acquisitions or investments, in accordance with our enabling legislation, in excess of \$1 million; 7) authorize issuance of new bonds; 8) appoint a certified public accountant for the annual audit of the Authority’s financial statements; and, 9) employ an Office of Consumer Affairs to act as consumer advocate. RPB compensation is governed by the enabling legislation and included within the Executive budget.

Authority:

The five-member Authority governs the operations of the water system according to the provisions of its enabling legislation, including approval of the organization’s annual operating and capital budgets. The Authority meets monthly to review the organization’s finances and operations and to consider other matters of importance. In addition, the Authority applies to the RPB for that body’s consideration with regard to the authorizations noted above. Members of the Authority have fiduciary responsibility for the company’s retirement plans. Under its enabling legislation, members of the Authority receive compensation for their services, as authorized by the RPB, and this expense is included within the Executive budget.

Executive/Office of the CEO:

The Executive FY 2022 budget reflects the CEO, the Assistant to the President, the Senior Advisor to the President and Executive Communications, and the Business Development Director. At the end of FY 2022, the Executive budget has four full-time positions.

In addition, in the FY 2022 budget vacancies across the Authority, net of vacancy factors, are reflected within the Executive budget.

Financial Services:

Financial Services is budgeted in FY 2022 as comprising thirteen full-time positions, with one and half vacant positions budgeted within Executive and comprises three main areas as noted below.

- Accounting
- Finance
- Purchasing

Financial and accounting functions include the following: 1) create, coordinate, and administer the annual budget process; 2) manage financing of the capital program, i.e., issuance of bonds or other financing, including Drinking Water State Revolving Fund (DWSRF) and interim and/or other alternative financing; 3) general and fixed asset accounting, including transaction processing; 4) payroll processing and analysis; 5) preparation of internal and external financial reports, including working with external auditors and internal controls; 6) rate setting, including preparing and defending applications for increases in water rates and other charges; 7) ensure compliance with the Authority's *General Bond Resolution*; 8) direct the investment of funds held by the Authority; 9) assist the trustee in managing the pension fund portfolios as well as the retired employees contributory trust fund portfolio; 10) financial planning and analysis, including updates to the ten-year model; 11) Revenue and billing analytics, including providing a financial perspective regarding billing, accounts receivable, and related areas; and 12) support of strategic initiatives (e.g., "non-core" growth).

Purchasing manages inventory and ensures that the Authority receives maximum value in its procurement of materials, equipment, and services, including implementing innovative approaches such as consignment inventory. Purchasing functions include oversight of bidding and contracting and the day-to-day operations of the stockroom.

SIGNIFICANT CHANGES BETWEEN THE PROPOSED BUDGET FOR THE NEW FISCAL YEAR BEGINNING JUNE 1, 2021 ("FY 2022") AND FY 2021 BUDGET

The budget for Executive and Financial Services in FY 2022 is higher than the FY 2021 budget spending by \$1,571,558 or 34.4%. This variance includes vacancies across the Authority as noted above. Excluding these vacancies the FY 2022 budget is a decrease of approximately 3%. Variance explanations are for year-over-year changes of \$25,000 or more.

Line 1: Payroll

The increase of \$1,596,900 or 61.5% is attributable to the inclusion of vacancies net of the vacancy factors with Executive. Adjusted for this, payroll is a decrease of \$121,142 or approximately 5%. This reduction is due to the composition of the positions within Executive and Financial Services and is partially offset by the annual increases in wages and salary.

Line 04: General & Administrative

The decrease of \$33,815 or 22.8% is primarily due to FY 2022 projections within Executive associated with miscellaneous administrative costs related to the governing boards and other small net changes. The FY 2022 budget is higher than the FY 2021 projection, impacted by COVID-19.

Line 17: Collection Expense

The increase of \$147,675 or 62.4% is primarily due to the anticipated higher bank fees in the latter part of FY 2022, with the implementation of monthly billing.

Line 18: Business Improvement

The decrease of \$265,000 or 90.6% reflects lower investment necessary in support of economic development and the utilities management program, supporting succession planning. This decrease is also due to the budgeting anticipated expenses associated with “common non-core” separately from O&M expense.

Line 20: Outside Services

Outside services for FY 2022 increase by \$120,376 or 17.0%. The FY 2022 budget is aligned with the FY21 projection and also includes higher budget primarily due to anticipated small increases in trustee fees (due to an increase in the number of issues), audit fees, a cost service study, and use of professional services for specialized projects and support.

Operating Budget: June 1, 2021 - May 31, 2022

Budget Projections

Comparison by Line Number

Operations

Line	Accounts	FY 2021	FY 2021	FY 2021	FY 2021 Projected	Percent	Total	FY 2022 Budget	Percent	FY 2022 Budget	Percent
		Original Budget	Budget	Projected	Over (Under)		FY 2022 Budget	Over (Under)		Over (Under)	
					Budget Amount		Budget	FY21 Original Budget		FY21 Budget	
01	Payroll *	\$ 15,126,985	\$ 14,495,563	\$ 13,633,714	\$ (861,849)	(5.9)	\$ 13,882,608	\$ (1,244,377)	(8.2)	\$ (612,955)	(4.2)
02	Employee Benefits *	24,000	24,000	6,000	(18,000)	(75.0)	21,000	(3,000)	(12.5)	(3,000)	(12.5)
03	Administrative Building Space *	641,100	621,294	576,478	(44,816)	(7.2)	593,837	(47,263)	(7.4)	(27,457)	(4.4)
04	General & Administrative	360,185	347,833	314,645	(33,188)	(9.5)	313,486	(46,699)	(13.0)	(34,347)	(9.9)
05	Transportation *	2,390	2,490	4,294	1,804	72.4	4,694	2,304	96.4	2,204	88.5
06	Tools & Stores *	200,716	190,018	150,534	(39,484)	(20.8)	157,523	(43,193)	(21.5)	(32,495)	(17.1)
07	Utilities & Fuels	1,251,298	1,182,099	1,322,958	140,859	11.9	1,332,162	80,864	6.5	150,063	12.7
08	Materials from Inventory	389,900	264,550	283,260	18,710	7.1	344,260	(45,640)	(11.7)	79,710	30.1
09	Pump Power Purchased	2,970,000	2,970,000	3,000,000	30,000	1.0	3,050,000	80,000	2.7	80,000	2.7
10	Chemicals	1,877,053	1,855,053	1,939,940	84,887	4.6	1,996,500	119,447	6.4	141,447	7.6
11	Road Repairs	200,000	200,000	200,000	-	-	161,779	(38,221)	(19.1)	(38,221)	(19.1)
12	Meter Expense	14,278	6,128	7,000	872	14.2	10,000	(4,278)	(30.0)	3,872	63.2
13	Credit for Frozen Meters	(60,000)	(33,750)	(22,000)	11,750	(34.8)	(30,800)	29,200	(48.7)	2,950	(8.7)
15	Printing & Forms	2,400	1,200	7,550	6,350	529.2	1,750	(650)	(27.1)	550	45.8
20	Outside Services	163,920	43,000	402,900	359,900	837.0	300,400	136,480	83.3	257,400	598.6
24	Training & Cont. Education	46,042	21,878	12,951	(8,927)	(40.8)	25,378	(20,664)	(44.9)	3,500	16.0
29	Donations	3,500	3,500	3,500	-	-	1,920	(1,580)	(45.1)	(1,580)	(45.1)
34	Central Lab Expenses	443,643	432,534	433,150	616	0.1	447,075	3,432	0.8	14,541	3.4
44	Info Tech-Licensing & Maint Fee	210,000	210,000	235,000	25,000	11.9	229,998	19,998	9.5	19,998	9.5
45	Maintenance and Repairs	2,180,464	2,130,821	2,282,407	151,586	7.1	2,267,821	87,357	4.0	137,000	6.4
Grand Total		26,047,874	24,968,211	24,794,281	(173,930)	(0.7)	25,111,391	(936,483)	(3.6)	143,180	0.6

* Includes capital, other revenue accounts & O&M

OPERATIONS

MISSION

The Operations Division is responsible for production and distribution of drinking water from well operated facilities and maintenance of associated infrastructure in compliance with water quality regulations.

VISION

The Operations Division strives to work as an innovative and integrated team to deliver high quality water.

OVERVIEW

The Operations Division is responsible for the operations and maintenance of RWA's facilities and infrastructure. Operations provides 24/7 system control and emergency response. The Operations Division is comprised of the following departments:

Water Treatment: This department operates and maintains four surface water treatment plants and 7 wellfields. These facilities are staffed by Class IV operators licensed by the Connecticut Department of Public Health.

Field Operations: Distribution is responsible for the inspection, testing, and maintenance of the water system including: 34 raw water, distribution, and booster pumping stations; over 1,700 miles of distribution system pipe and 7.5 miles of raw water supply mains; 28 pressure regulating valves; 35 storage tanks and finished water reservoirs; and hydrants. In addition, this group constructs water main and service line repair and replacements. Field Operations is also responsible for all RWA buildings and grounds located throughout 15 cities and towns including building maintenance services for 90 Sargent Drive Headquarters. Such tasks include landscaping; custodial services; painting; roof repairs; and mechanical, electrical and plumbing repairs and replacements. Facilities also maintains four active and three inactive surface water supply systems as well as 14 Class C, 3 Class B, 3 Class BB, and 12 Class A dams; 11 unclassified dams; and a series of diversions and dikes.

Water Quality: Water quality staff coordinate the quality control and assurance program to ensure compliance with Connecticut Department of Public Health regulations. This group also staffs the organization's cross-control program and responds to water quality complaints. As drinking water regulations are issued by regulatory agencies, water quality coordinates RWA's response to changes.

Laboratory: The laboratory department includes lab analysts, chemists, and microbiologists to conduct tests for internal use and external customers. The laboratory is accredited in 3 states. For RWA, the laboratory performs 65,000 analyses annually.

Instrumentation & Control (I&C): This group is staffed by I&C engineers and technicians. RWA's in-house general maintenance electricians are also part of this department. I&C performs all low-voltage electrical system maintenance, repairs, and installations. I&C is responsible for the Supervisory Control and Data Acquisition (SCADA) system. SCADA is the backbone control and monitoring system for all aspects of the water treatment and distribution system.

SCADA is used 24/7 for continuous monitoring and controlling as well as recording events and alarms for trending, evaluation, and historical purposes.

Control Room: The Control Room is staffed 24/7 at RWA’s headquarters and operates and monitors the SCADA system. The Control Room also provides after-hours emergency customer communication and is RWA’s central emergency dispatch center.

Field Service: Field Service is responsible for providing resolution to customer inquiries, complaints, and emergencies through visits to customer homes, conducting meter changes, installing and maintaining fixed and radio read system devices including new automated metering infrastructure (AMI) technology, installing and removing meters, terminating water service for delinquency, and tapping mains for new services. Field personnel are often considered the “face” of the RWA as a result of daily face-to-face customer interactions.

Meter Reading/Meter Shop: The Meter Reading Department is responsible for the accurate and timely reading of customer water meters to accommodate billing schedules. Functions of this area include the reading of meters not currently installed with AMI and manhole readings requiring a two-man crew. Support is also provided by a meter inspector for accounts with consumption in question, leak inspections, and other accounts with reading anomalies. The Meter Shop is responsible for testing the accuracy of meters removed from service and random testing of new meters prior to installation. The Meter Shop conducts meter field tests and also repairs and cleans meters.

SIGNIFICANT CHANGES BETWEEN THE PROPOSED BUDGET FOR THE NEW FISCAL YEAR BEGINNING JUNE 1, 2021 (“FY 2022”) AND FY 2021 BUDGET

The budget for this division in FY 2022 is higher than the FY 2021 budget by \$143,140 or .6%. Variance explanations are for year-over-year changes of \$25,000 or more.

Line 1: Payroll

FY 2022 decrease of \$612,955 or -4.2% primarily due to vacancies within the division. Vacancies across all divisions are being budgeted separately in FY 2022.

Line 3: Administrative Building Space

FY 2022 decrease of \$27,457 or -4.4%, however is in line with FY21 projected expenses.

Line 06: Tools & Stores

FY 2022 decrease of \$32,495 or -17.1%, however is and in line with FY21 projected expenses.

Line 07: Utilities and Fuels

FY 2022 increase of \$150,063 or 12.7% is largely due to anticipated price increases in utilities. In addition this increase includes additional costs for communications of our SCADA system.

Line 08: Materials from Inventory

FY 2022 increase of \$79,710 or 30% primarily due to increase maintenance and repair of RWA assets and is lower than the Pre-COVID-19 FY 2021 budget.

Line 9: Pump Power Purchased

FY 2022 budget will increase by \$80,000 or 2.7%, which represents an anticipated increase in distribution charges, as our generation rates are fixed.

Line 10: Chemicals

FY 2022 budget will increase by \$141,447 or 7.6%, however in line with FY 2021 projected expenses.

Line 11: Road Repairs

FY 2022 decrease of \$38,221 or -19.1% is based on projected work in FY 2022.

Line 20: Outside Service

FY 2022 increase of \$257,000 and includes work in asset management and critical asset evaluations. In addition, this work also includes expert consultant services to assist with RWA preparing for new regulations associated with EPA's revised Lead and Copper Rule.

Line 45: Maintenance and Repairs.

FY 2022 budget will increase by \$137,000 or 6.4%, and is associated with increased costs on for a variety of maintenance and repair activities. This also includes additional costs with maintenance contracts in the Field Service Department.

Operating Budget: June 1, 2021 - May 31, 2022

Budget Projections

Comparison by Line Number

Technology

Line	Accounts	FY 2021			FY 2021 Projected		Total FY 2022 Budget	FY 2022 Budget		FY 2022 Budget	FY 2022 Budget	
		Original Budget	Budget	Projected	Over (Under)	Percent		Over (Under)	Percent		Over (Under)	Percent
					Budget Amount							
01	Payroll *	\$ 2,553,371	\$ 2,441,206	\$ 2,344,067	\$ (97,140)	(4.0)	2,530,742	\$ (22,629)	(0.89)	\$ 89,536	3.7	
03	Administrative Building Space *	405,700	405,700	405,700	-	-	437,100	31,400	7.74	31,400	7.7	
04	General & Administrative	445,090	447,090	441,040	(6,050)	(1.4)	521,485	76,395	17.16	74,395	16.6	
05	Transportation *	113,000	113,000	119,000	6,000	5.3	125,000	12,000	10.62	12,000	10.6	
07	Utilities & Fuels	66,000	66,000	67,000	1,000	1.5	68,000	2,000	3.03	2,000	3.0	
18	Organizational Development	-	-	21,600	21,600	-	30,000	30,000	-	30,000	-	
20	Outside Services	925,403	815,403	903,668	88,265	10.8	1,220,668	295,265	31.91	405,265	49.7	
24	Training & Cont. Education	79,004	24,004	10,000	(14,004)	(58.3)	39,354	(39,650)	(50.19)	15,350	63.9	
44	Info Tech-Licensing & Maint Fee	2,207,815	2,067,815	1,905,307	(162,508)	(7.9)	2,208,089	274	0.01	140,274	6.8	
Grand Total		6,795,383	6,380,218	6,217,382	(162,837)	(2.6)	7,180,438	385,055	5.67	800,220	12.5	

* Includes capital, other revenue accounts & O&M

TECHNOLOGY

MISSION

The mission of “Information Technology” is to provide exceptional innovative technological solutions to our internal/external customers in order to advance and ultimately achieve Regional Water Authority’s (RWA’s) strategic goals.

OVERVIEW

Information Technology is responsible for supporting employees through strategic and tactical planning regarding information technology, and also for the daily management of the Authority’s computing and communication systems. IT supports over twenty RWA business functions with four systems developed in-house and twenty-five packaged systems.

Information Technology maintains approximately 140 desktops, 96 tablets and 160 laptops, 47 iPads and 50 laptops in support of business continuity. In addition to numerous peripheral hardware devices, the production infrastructure consists of 42 physical and 68 virtual servers, 2 HP Layer 3 routing switches, 55 HP Layer 2 switches, 23 Firewalls for remote sites, internet, IBM, Sensus, Police, VPN and radio system protections. There are 3 Aventail VPN remote access devices in support of a virtual private network, 2 redundant wireless access controllers, and 38 wireless access points. A test network is supported with 1 HP layer 3 switch, 1 HP layer 2 switch, 4 physical servers, 1 firewall, and various peripheral devices.

IT has also established an off-site disaster recovery system backing up critical Tier I-IV systems at Cyrus One, a data center in Stamford, CT. (Cyrus One purchased our original provider of disaster recovery services, Cervalis, in 2015.) The core SAP systems are hosted at IBM’s data center in Ashburn, VA with disaster recovery in Dallas, TX. SAP Mobile and Stream Serve Print solutions are on premise. Other hosted/cloud systems are AMI, Dayforce, Infor EAM, Risk, Dossier and All Data (Fleet Maintenance) and Recreation.

Communications are supported by an Avaya telephone system, an integrated Interactive Voice Response (“IVR”) system, voice mail system, voice recording logger, call accounting, and a Motorola Astro Digital radio system with 7 transmitter sites throughout New Haven County, 80 mobiles and 60 portables. Also supported are 4 remote Avaya telephone systems with voice mail and a SpectraLink wireless phone system at each of the Treatment Plants. Communications supports all wiring for the WAN (Wide Area Network) and LAN (Local Area Network). Communications also maintains the Local Telco circuits and Fiber connections. In addition, Communications supports the 13 DCU’s for hiTechFOCUS (AMI) and 190 Smartphones.

The Authority’s GIS employs ESRI’s ArcGIS enterprise mapping solution across the organization with 21 in-house local client installations as well as a custom web application, Water Works Web, which serves as a data viewer. We also employ a custom Water Works Mobile web application on iPads in the field for access to current production data. Through the Water Works web applications, the users have immediate access customer information as well as water infrastructure representing over 1700 miles of pressurized main, 11,200 fire hydrants, over 115,000 service connections, and 150,000 valves among myriad other associated water features across 16 towns in which we maintain water infrastructure. In addition to maintaining and updating water infrastructure data, GIS manages an aerial flyover program used to obtain high quality 100-scale Orthophoto and a full set of land base Planimetric data which serves as support for updates to the distribution system infrastructure mapping.

SIGNIFICANT CHANGES BETWEEN THE PROPOSED BUDGET FOR THE NEW FISCAL YEAR BEGINNING JUNE 1, 2022 (“FY 2021”) AND PRIOR FISCAL YEAR 2021 BUDGET

The overall budget proposed for Information Technology in FY 2022 is \$800,220 or 12.5% more, when compared to the FY2021 budget. Variance explanations are for year-over-year changes of \$25,000 or more.

Line 1: Payroll

Payroll increases by 89,576 or 3.7%, primarily due to annual wage and salary increases and full-year impact of positions filled during the current fiscal year. Vacancies have not been budgeted at the divisional level.

Line 03: Administrative Building Space

Administrative Building Space is increasing by \$31,400 or 7.7% in FY 2022 due to the need for additional T1 communication lines. Additionally, Internet Direct cost increase for additional speed required to support and Office365 rollout and our web infrastructure. New WAN site installation for the Maltby lakes site.

Line 04: General & Administrative

General & Administrative is increasing by \$74,395 or 16.6% primarily due to computer, i/pad, and printer replacements.

Line 20: Outside Services

Outside Services for FY 2022 increases by \$405,265 or 49.7%, for additional consulting services for the Technology division including IT service and support, cyber security, GIS and Project Management.

Below are the primary drivers of the variance.

Work Management & Asset Management consulting; Development & Execution of Work Management & Asset Management (Infor SaaS) and GIS SaaS solution.

SPOFs (Single Point of Failures - Resources) remediation utilizing tactical-IT resources. Allows critical IT subject matter experts (SMEs) to focus on capital projects and value-added services for RWA while reducing single-source dependencies.

The FY 2022 budget also includes consulting services for developing a disaster recovery site re-location plan. This will allow RWA to move the current physical Stamford, CT DR center location to a cloud-based disaster recovery solution and cost optimization.

A cyber security assessment is included for Phase 1 for SCADA as well as the 2nd phase for Enterprise IT and outside IT services. Internal IT Cybersecurity services for identifying to address potential risks around ransomware/Cybersecurity.

SAP Customer Channels Sales & Marketing expenses for the execution of web assessment roadmap for our intranet and internet.

SAP Enhancement Pack/Hana Upgrade assessment to evaluate alternative paths related to an enhancement pack upgrade or move to SAP HANA (SaaS) - including professional services/consultative support for the evaluation and RFP.

Outside services also includes post go-live transition and stabilization associated with monthly billing.

Annual outside services include Stream Serve, Square - 9, LIMS, Sensus DCU, Network Administration, FIS Great Plains, Forecaster Payroll, IVR System, GIS, Risk Master, Sparta SAP Managed Services and SAP Work Manager. LIMS LabWare consulting services has been added for post-production support and technical resource for IT resources. The FY 2022 budget reflects contract price increases.

Line 44: Information Technology Licensing and Maintenance Fees

IT licensing and maintenance fees for the FY 2022 budget are anticipated to increase by \$140,274 or be 6.83% higher than the prior fiscal year. The main drivers of the increase are the additional maintenance costs associated with capital projects and cyber security.

SOUTH CENTRAL CONNECTICUT REGIONAL WATER AUTHORITY

PROPOSED RESOLUTION

April 1, 2021

(Fiscal Year 2022 Capital Budget and Operating Budget)

RESOLVED, that copies of the proposed Capital Budget and Operating Budget for FY 2022 beginning on June 1, 2021 and ending on May 31, 2022, be distributed to members of the Representative Policy Board and the Office of Consumer Affairs.