

2021



BIRMINGHAM
WATER WORKS

FY2021
OPERATION &
MAINTENANCE
AND CAPITAL
BUDGETS



**THE WATER WORKS BOARD OF THE CITY OF BIRMINGHAM IS
COMMITTED TO PROVIDING THE HIGHEST QUALITY WATER AND
SERVICE TO OUR CUSTOMERS AND OUR ENTIRE SERVICE AREA.**



GOVERNMENT FINANCE OFFICERS ASSOCIATION

*Distinguished
Budget Presentation
Award*

PRESENTED TO

Birmingham Water Works Board

Alabama

For the Fiscal Year Beginning

January 1, 2020

Christopher P. Morrell

Executive Director

The Government Finance Officers Association of the United States and Canada (GFOA) presented a Distinguished Budget Presentation Award to Birmingham Water Works Board, Alabama, for its Annual Budget for the fiscal Year beginning January 1, 2020.

In order to receive this award, a governmental unit must publish a budget document that meets program criteria as a policy document, as a financial plan, as an operations guide, and as a communications device.

This award is valid for a period of one year only. We believe that our current budget document continues to conform to program requirements, and we are submitting it to the GFOA to determine its eligibility for another award.



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3600 1st Avenue North | Birmingham, AL 35222
205.244.4000 | www.bwwb.org

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SPECIAL FEATURE:

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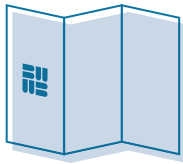
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INTRODUCTION

INTRODUCTION | KEY CONSIDERATIONS | COMPLIANCE WITH FINANCIAL POLICIES |
BUDGET HIGHLIGHTS | STRATEGIC GOALS

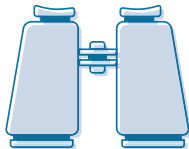
INTRODUCTION

The Birmingham Water Works Board's (BWWB) Annual Budget Document (The Budget) has been developed to communicate to customers, directors and staff how BWWB intends to fulfill its mission and vision, which are inserted below.



MISSION:

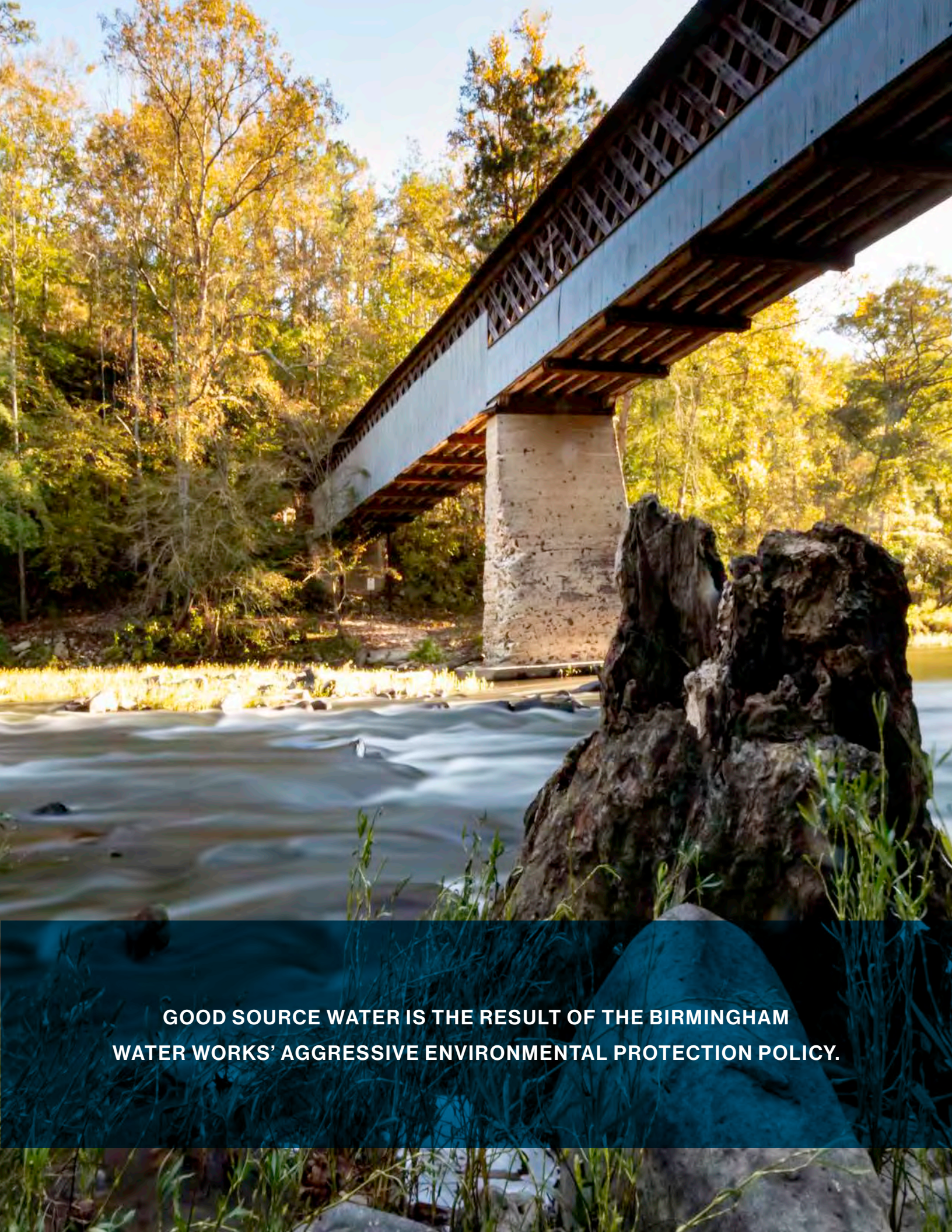
The Water Works Board of the City of Birmingham is committed to providing the highest quality water and service to our customers and our entire service area.



VISION:

As a concerned corporate citizen, we are responsive to the needs of the entire community and strive to maintain, preserve and conserve our precious water resources to ensure quality water and adequate supply for future generations.

The BWWB has adopted "Effective Utility Management" (EUM) as the framework within which it manages the utility to ensure that it implements strategies that support EUM and ultimately result in the BWWB accomplishing its mission and fulfilling its vision. In addition, the adoption of EUM has been essential in communicating a clear direction to all who are responsible for ensuring the success of the BWWB. The Approved Fiscal Year (FY) 2021 Operation & Maintenance and Capital Budgets have been prepared using the EUM framework.




**GOOD SOURCE WATER IS THE RESULT OF THE BIRMINGHAM
WATER WORKS' AGGRESSIVE ENVIRONMENTAL PROTECTION POLICY.**

KEY CONSIDERATIONS AFFECTING BUDGET DEVELOPMENT

As we operate in an ever-changing environment, we are continually faced with situations that increase the cost of service we deliver to our customers. The following are key areas that were considered in preparing the FY2021 Budget:

- Continue to prepare budgets in accordance with Government Finance Officers Association (GFOA) Certificate Program
- Defer implementing the Cost of Service study recommendation until FY2022
- Defer any rate increase needed to fund operations, capital budget, and meet budget requirements until FY2022
- Need to control operating costs by focusing on effectiveness and efficiency
- Impact of COVID-19 on consumption trends
- Continue to update BWWB's Strategic Plan
- Ensure proper alignment of functions and activities within the company to ensure maximum efficiency and effectiveness
- Continue to develop performance measures and dashboard reporting
- Continue to replace aging infrastructure
- Increase usage of Historically Underutilized Business (HUB) Program
- Establish a Business Sustainability and Capacity Building (BSCB) Program
- Includes employees continuing to receive longevity pay
- Includes employees receiving a 1.3% cost of living adjustment
- Need to expand services within our medical and beverage industry due to an increase in risks and regulations in their industry
- Need to minimize usage estimation and increase oversight of the meter reading process
- Need to increase the monitoring and safeguarding of BWWB's networks for breaches in security
- Need to enhance BWWB's ability to develop, analyze, and interpret geological data in a quantitative way
- Increase chemical budget based on historical trends and projections
- Increase the provision for estimated bad debt due to the negative financial impact of COVID-19
- Continue to focus on increasing Pay As You Go (PAYGO) as a percentage of the capital budget



BIRMINGHAM WATER WORKS PROUDLY SERVES HIGH-QUALITY DRINKING WATER TO MORE THAN 650,000 PEOPLE IN THE CITY OF BIRMINGHAM AND FIVE COUNTIES (JEFFERSON, WALKER, SHELBY, ST. CLAIR, AND BLOUNT).

COMPLIANCE WITH FINANCIAL POLICIES

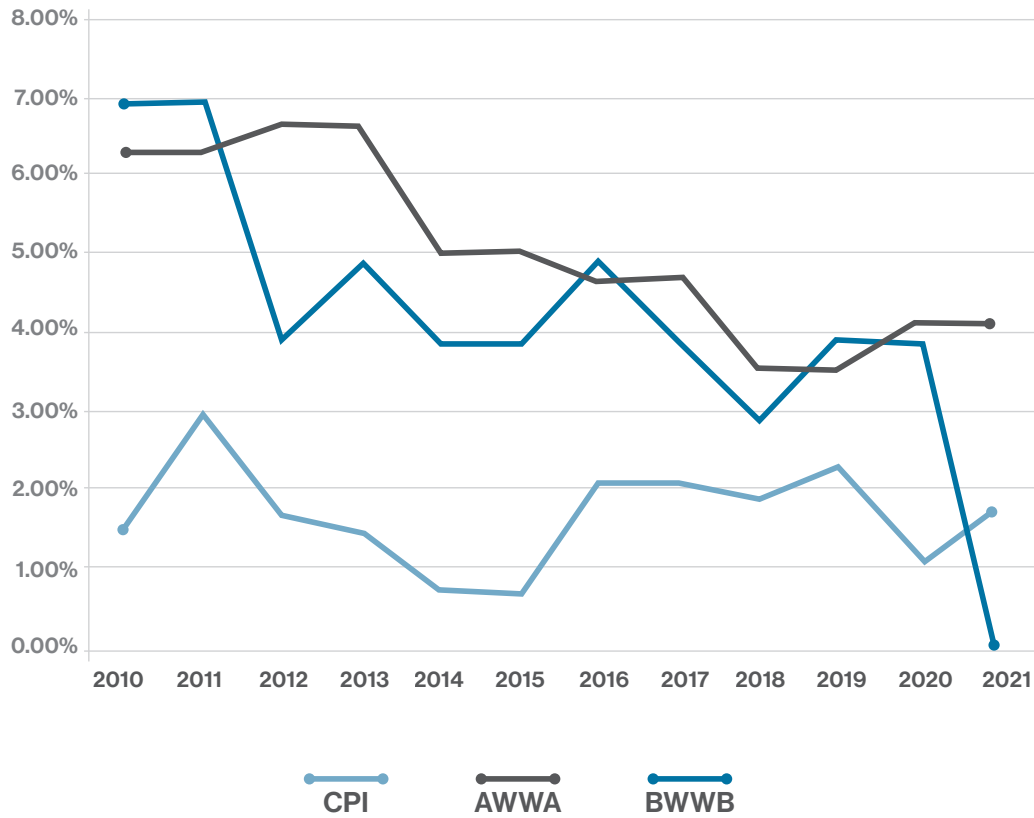
The BWWB is rated Aa2 by Moody's Investors Service and AA rated by S&P Global due in large part to its sound fiscal management evidenced by its adoption and adherence to its financial policies. The chart below shows BWWB's current policies and related trends.

Reserve Fund	
FUND	TARGET
Capital Reserve	25% of Capital Plan
Revenue	15% of O&M + Debt
Demand Shortfall	5% of O&M + Debt
Rate Stabilization	5% of O&M + Debt
Economic Development	5% of O&M + Debt
Reserves of approximately 240 days of operating expenses on hand	271 Days – Projected Days operating expenses on hand December 31, 2021 150-250 days; Moody's Criteria for Aa utilities
Strong Bond Ratings	2002: S&P A / Moody's A 2013: S&P AA / Moody's Aa2 Current: S&P AA / Moody's Aa2

Financial Goals and Policies	
POLICY	TREND
RATE INCREASES BELOW INDUSTRY AVERAGE (5.46%, 2004 – 2018)	3.9% – 2015, 2017, 2019, 2020
	2.9% – 2018
	4.9% – 2016
	0.0% – 2021
O&M INCREASES LESS THAN 5%	0.99% annual growth rate, 2015-2020
	3.31% for 2021 (<i>includes COLA: does NOT include merit</i>)
	2.03% increase in 2021 without \$1.3M bad debt
GOAL OF 70% CAPITAL BUDGET FUNDED FROM PAYGO	47.9% in 2019
	55.7% in 2020
	47.0% proposed in 2021
	Projected to reach 70% in 2028/2029
	Prior projection: reach 70% in 2026

RSE Targets	
SENIOR DEBT SERVICE COVERAGE	CURRENT
Target	1.75
Max	2.00
Min	1.50
TOTAL DEBT SERVICE COVERAGE	CURRENT
Target	1.20
Max	1.30
Min	1.10

Rate Trends: 2010 – 2021



CPI Consumer Price Index

AWWA American Water Works Association

BWWB Birmingham Water Works Board

FY2021 BUDGET HIGHLIGHTS

OPERATION & MAINTENANCE

The FY2021 Approved Operation & Maintenance Budget increased by \$3,468,203 or 3.31% from the 2020 Approved Budget. The FY2021 Approved Operation & Maintenance Budget includes funding for the following new initiatives:

- \$98,000 to continue to update the BWWB's Strategic Plan
- \$150,000 to properly align the functions and activities within the company to ensure maximum efficiency and effectiveness
- \$62,500 to develop performance measures and dashboard reporting
- \$175,000 to develop a strategy to increase Historically Underutilized Business (HUB) Program
- \$240,000 to establish a Business Sustainability and Capacity Building (BSCB) Program
- \$1,443,567 estimated Longevity Pay
- \$575,450 estimated Cost of Living Increase
- \$88,381 to add one employee to the Industrial & Commercial Accounts Department
- \$125,277 to add three employees to the Customer Support Department
- \$78,966 to add one employee to the Information Technology Department
- \$83,541 to add one employee to the Mapping & Records Department
- \$1,107,593 to increase the chemical budget based on historical trends and projections
- \$1,300,000 to increase the provision for estimated bad debts due to the negative financial impact of COVID-19

CAPITAL

The FY2021 Approved Capital Budget remained the same as the FY2020 Approved Budget.



A FIRE HYDRANT IS A CONNECTION POINT BY WHICH
FIREFIGHTERS CAN TAP INTO A WATER SUPPLY.
IT IS A COMPONENT OF ACTIVE FIRE PROTECTION.

STRATEGIC GOALS

The BWWB adheres to a set of strategic goals that focus on the framework of the Effective Utility Management (EUM) program. These goals are grouped into 5 strategic target categories along with 10 attributes of an EUM as can be seen in the diagram below.

The EUM focuses on 10 attributes that include stakeholder understanding and support, product quality, customer satisfaction, employee and leadership development, operational optimization, financial viability, infrastructure strategy and performance, enterprise resiliency, community sustainability, and water resource sustainability. Each of these has a subset of objectives and strategies that are laid out to guide the organization towards achieving its goals.



O&M Budget Highlights Grouped by EUM Attribute

O&M BUDGET HIGHLIGHTS	EUM ATTRIBUTE
Continue to prepare budgets in accordance with GFOA Certificate Program <ul style="list-style-type: none"> • Recommended best practice • Results in more operational transparency 	<ul style="list-style-type: none"> • Financial Viability • Stakeholder Understanding & Support
Defer implementing the Cost of Service study recommendation until FY2022	<ul style="list-style-type: none"> • Financial Viability
Defer any rate increase to fund operations, capital budget, and meet budget requirements until FY2022	<ul style="list-style-type: none"> • Financial Viability
Need to control operating cost by focusing on effectiveness and efficiency	<ul style="list-style-type: none"> • Financial Viability
Impact of COVID-19 consumption trends	<ul style="list-style-type: none"> • Operational Optimization • Financial Viability
Continue to update BWWB's Strategic Plan	<ul style="list-style-type: none"> • Customer Satisfaction • Operational Optimization • Financial Viability • Enterprise Resiliency • Community Sustainability • Stakeholder Understanding & Support
Ensure proper alignment of functions and activities within the company to ensure maximum efficiency and effectiveness	<ul style="list-style-type: none"> • Customer Satisfaction • Operational Optimization • Financial Viability • Enterprise Resiliency • Stakeholder Understanding & Support
Continue to develop performance measures and dashboard reporting	<ul style="list-style-type: none"> • Customer Satisfaction • Employee & Leadership Development • Operational Optimization • Financial Viability • Infrastructure Strategy & Performance • Enterprise Resiliency • Stakeholder Understanding & Support
Continue to replace aging infrastructure	<ul style="list-style-type: none"> • Product Quality • Customer Satisfaction • Operational Optimization • Financial Viability • Infrastructure Strategy & Performance • Enterprise Resiliency • Community Sustainability • Water Resource Sustainability • Stakeholder Understanding & Support

O&M Budget Highlights Grouped by EUM Attribute	
O&M BUDGET HIGHLIGHTS	EUM ATTRIBUTE
Increase usage of Historically Underutilized Business (HUB) program	<ul style="list-style-type: none"> • Operational Optimization • Financial Viability • Infrastructure Strategy & Performance • Enterprise Resiliency – Community Sustainability • Stakeholder Understanding & Support
Establish a Business Sustainability and Capacity Building (BSCB) Program	<ul style="list-style-type: none"> • Operational Optimization • Financial Viability • Infrastructure Strategy & Performance • Enterprise Resiliency • Community Sustainability • Stakeholder Understanding & Support
Includes employees continuing to receive longevity pay	<ul style="list-style-type: none"> • Customer Satisfaction • Employee & Leadership Development • Financial Viability • Enterprise Resiliency
Includes employees receiving a 1.3% cost of living increase	<ul style="list-style-type: none"> • Customer Satisfaction • Employee & Leadership Development • Financial Viability • Enterprise Resiliency
Need to expand services within our medical and beverage industry customers due to an increase in risks and regulations in their industry	<ul style="list-style-type: none"> • Customer Satisfaction • Enterprise Resiliency • Stakeholder Understanding & Support
Need to minimize usage estimation and increase oversight of the meter reading process	<ul style="list-style-type: none"> • Customer Satisfaction • Operational Optimization • Financial Viability • Stakeholder Understanding & Support
Need to increase the monitoring and safeguarding of BWVB's networks for breaches in security	<ul style="list-style-type: none"> • Operational Optimization • Enterprise Resiliency
Need to enhance BWVB's ability to develop, analyze, and interpret geological data in a quantitative way	<ul style="list-style-type: none"> • Operational Optimization • Enterprise Resiliency • Community Sustainability
Increase chemical budget based on historical trends and projections	<ul style="list-style-type: none"> • Product Quality • Operational Optimization • Financial Viability
Increase the provision for estimated bad debt due to the negative financial impact of COVID-19	<ul style="list-style-type: none"> • Financial Viability
Continue to focus on increasing PAYGO as a percentage of the capital budget	<ul style="list-style-type: none"> • Operational Optimization • Financial Viability • Infrastructure Strategy & Performance • Enterprise Resiliency • Community Sustainability

A large, cylindrical industrial water treatment tank, possibly a clarifier or aeration tank, is the central focus of the image. It has a metallic, corrugated surface and is surrounded by a network of steel walkways and railings. Several circular access ports are visible on the lower part of the tank's exterior. The entire scene is overlaid with a semi-transparent blue filter. A white horizontal line runs across the upper portion of the image, intersecting a black circle containing the white number '2'.

2

BUDGET DEVELOPMENT

BUDGET DEVELOPMENT | BUDGET PROCESS |
BUDGET CALENDAR

BUDGET DEVELOPMENT

This budget document attempts to match a staff-prepared needs assessment with projected revenues. It has been developed and prepared in accordance with applicable state and federal statutes and applicable Board policies and procedures.

The budget development process is guided by the following financial planning strategies:

- **BWWB Strategic Plan** – Where the policies and goals established in the Capital Improvements Program (CIP) will serve as the framework for the future direction and objectives of the BWWB.
- **Multi-year Budget Management Plan** – Where it is a principal objective of the BWWB to achieve multi-year stability in the Board's system of rates and charges.
- **Departmental Goals and Objectives** – Where budgeting decisions are based upon the establishment of realistic departmental goals and objectives and criteria for the measurement of performance.
- **Operational Budget Policies** – Where the BWWB will attempt to maintain a high quality of performance, while recognizing the demands related to major ongoing utility system improvements and challenges, and the need to maintain personnel levels to ensure maximum efficiency and utilization.

For the FY2021 budget, and as with most years, total revenues are projected to exceed total expenses. As such, the Board's definition of a balanced budget is when projected annual revenues and existing fund balances are sufficient to meet budgeted expenses.



**AS AN INNOVATIVE WATER LEADER IN OUR STATE AND NATIONALLY,
BIRMINGHAM WATER WORKS PRIORITIZES EFFICIENT OPERATIONS
AND ENVIRONMENTAL AND COMMUNITY STEWARDSHIP.**

BUDGET PROCESS

Annually, the BWWB prepares and adopts a financial plan for the next fiscal year (January 1 through December 31). The plan includes determining the appropriate rates, fees and charges necessary to provide sufficient revenues to meet anticipated expenses for operating and maintenance, asset repair or replacement, asset acquisition or construction to meet the service needs of the customer base, and debt service requirements for existing and projected debt. The financial plan is developed within the framework of the Board's Rate Stabilization Equalization Policy, which ensures that we charge reasonable rates sufficient to pay debt service, provide for payment towards operating and maintaining the system in good repair and replacement under work orders, and perform and comply with the covenants under the Board's Bond Indenture.

The development of the Operation & Maintenance Budget begins in June following the completion of the first five months of the current fiscal year. Each department is requested to project their staffing (including overtime needs), supplies and materials such as travel, education, contractual services and other operating and maintenance needs, chemicals and power for the next fiscal year. These projections are based on historical trends, new projects and/or requirements, changes in existing projects and/or requirements, cost adjustments and changes in regulatory requirements.

The Budget Office holds budget hearings with each department and Executive Management to review and discuss the Preliminary Budget requests with the department management team. During the budget hearings, department managers justify the need for increases if applicable. The Budget Office and/or Executive Management may recommend reducing budget line items based on current year spending and/or historical spending.

When the budget hearing is complete, the department management team enters the data approved in their respective budget hearings into the budget module.

The Budget Office confirms data entry from all departments, enters any additional data and reviews the results to meet with the Executive Management Team to review and discuss the Preliminary Operation & Maintenance Budget. The Preliminary Budget is updated upon Executive Management request.

Executive Management and the Budget Office hold a budget workshop with the Board of Directors to present the Preliminary Operation & Maintenance Budget and the Capital Budget. Management provides several schedules to support the Preliminary Budget, including:


- **Top 10** – a list of 14 major expenses in the budget with comparisons to the prior year and the variance
- **By Department** – a list of each department's expenses with comparisons to the prior year and the variance
- **Department Details** – for each department, a schedule to outline notable department expense variances and the number of employee positions included in the department and the department's expense as a percentage of the total Preliminary Budget

The Preliminary Budget is updated upon request from the Board of Directors. If needed, additional budget workshops are held with the Board of Directors and updates are made to the Preliminary Budget as requested.

The Board holds a public hearing for public feedback on the budget. The Board of Directors may request additional updates to the Preliminary Budget prior to approval. Once the Board of Directors approve the budget, the public is notified of the rate increase, if applicable, no later than 30 days prior to the beginning of the fiscal year, January 1.

After the Operation and Capital Budgets have been approved by the Board, any amendments to the budgets would have to be done through the following procedures:

- The Board approves items added to the Operation Budget that exceed the General Manager's \$50,000 expenditure authority for regular purchases and \$25,000 for consulting
- Amendments to the Capital Improvement Budget require discussion and approval by the Board



IN 1872, WHEN BIRMINGHAM WAS ONLY A YEAR OLD, THE ELYTON LAND COMPANY ESTABLISHED A WATER SYSTEM TO SERVE THE AREA AND BEGAN CONSTRUCTION OF A PUMP STATION BY VILLAGE CREEK.

BUDGET CALENDAR

Budget Calendar	
DATE	DESCRIPTION OF ACTION
June 15, 2020	Distribute Additional Staff Request Forms to Department Managers and Supervisors
June 15, 2020	Distribute budget packet information to Departments
June 22, 2020	Additional Staff Requests due to the Budget Officer
June 29, 2020	Budget packet due to the Budget Officer
June 30 – July 13, 2020	Budget Office schedules meetings and prepare for Budget Hearings
July 14 – July 31, 2020	Departmental Budget Hearings
July 15 – July 31, 2020	Budget Input Meetings
August 7, 2020	Complete Budget Information for discussion with Executive Management
September 29, 2020	Finance Committee Meeting – Submittal of Draft Budget
October 6, 2020	Budget Workshop
October 20, 2020	Budget Workshop
November 4, 2020	Budget Workshop
November 5, 2020	Public Hearing
November 19, 2020	Board Adoption of the 2021 Budget



3

FUND BALANCES

FUND STRUCTURE & BALANCES | OPERATION & MAINTENANCE
BUDGET SUMMARY | CAPITAL BUDGET SUMMARY

FUND STRUCTURE & BALANCES

The BWWB uses funds to report on its financial position and the results of its operations determined in conformity with accounting principles generally accepted in the United States. A fund is a separate accounting entity with a self-balancing set of accounts. The two funds used by the BWWB are the enterprise fund, which reports information about the general operations of the utility, and fiduciary funds, which report information about the Pension Trust Fund and the Other Post-Employment Benefits (OPEB) Trust Fund. All department expenses are accounted for in the enterprise fund.

Fund Structure		
FUND	DIVISION	DEPARTMENT
ENTERPRISE	Executive	Executive
		Board
		Company Wide
		Business System & Operations
		Internal Auditor
		Public Communication
	Finance & Administration	Customer Support Services
		Call Center
		Human Resources
		Wellness & Health Management
		Water Watchers Brigade
		Information Technology
		Accounting
		Purchasing
	Operations & Technical Services	EnviroLab & Water Quality
		Purification
		Security
		Water Resources
		SCADA
		Industrial & Commercial Accounts
	Engineering & Maintenance	E&M Shop
		System Development
		Distribution
		Engineering
		Mapping & Records
		Water Accountability
FIDUCIARY	Pension Trust Fund	N/A
	OPEB Trust Fund	N/A



NEARLY 97% OF THE WORLD'S WATER IS SALTY OR OTHERWISE UNDRINKABLE. ANOTHER 2% IS LOCKED IN ICE CAPS AND GLACIERS. THAT LEAVES JUST ABOUT 1% FOR ALL OF PEOPLE'S AGRICULTURAL, RESIDENTIAL, MANUFACTURING, COMMUNITY, AND PERSONAL NEEDS.

ENTERPRISE FUND – PROPRIETARY FUND

The fund is used to account for operations that are financed and operated in a manner similar to private business enterprises. A fund of this type is entitled Enterprise Fund in accordance with terminology set forth in accounting principles generally accepted in the United States.

The BWWB's Enterprise Fund maintains five reserve funds for unexpected capital and operating needs for the purpose of providing adequate cash flow and reserves.

Reserves			
RESERVE FUND	2019	2020	2021
Capital Reserve	\$15,973,449	\$20,371,107	\$20,371,107
Revenue	29,384,580	30,566,348	30,514,050
Demand Shortfall	9,794,860	10,188,783	10,171,350
Rate Stabilization	9,794,860	10,188,783	10,171,350
Economic Development	9,794,860	8,988,783	8,971,350
Total Reserve Funds	\$74,742,609	\$80,303,804	\$80,199,207



ESTABLISHED IN 1950 BY THE PEOPLE OF BIRMINGHAM, WE CONSTANTLY STRIVE TO BE A WORLD CLASS UTILITY FOCUSED ON CUSTOMER SERVICE, FISCAL RESPONSIBILITY AND SUSTAINABLE GROWTH.

OPERATION & MAINTENANCE BUDGET SUMMARY

The Approved FY2021 Operation & Maintenance (O&M) Budget is \$108,335,378. This is an increase of 3.31% over FY2020. A summary is provided below.

Operation & Maintenance Budget Summary				
CATEGORY	FY2021	FY2020	INCREASE (DECREASE)	PERCENT CHANGE
Labor	\$ 39,133,025.23	\$ 39,276,245.07	(\$143,219.84)	(0.36%)
Employee Related Expenses	15,092,071.05	14,788,664.37	303,406.68	2.05%
Power	9,566,404.91	9,274,469.70	291,935.21	3.15%
Trans & Distrib Maintenance Materials	9,303,393.91	10,063,123.99	(759,730.08)	(7.55%)
License Fees	4,380,000.00	4,380,000.00	–	–
Chemicals	6,099,999.98	4,992,407.17	1,107,592.81	22.19%
Legal	1,063,982.40	1,081,470.00	(17,487.60)	(1.62%)
Lab Support, Purification Maintenance	1,896,339.00	1,670,307.38	226,031.62	13.53%
Outsourced Security	1,375,000.00	1,262,507.86	112,492.14	8.91%
Insurance	2,383,295.37	1,803,607.97	579,687.40	32.14%
Electrical / Pump Maintenance	475,832.54	440,832.60	34,999.94	7.94%
Billing Expense	1,100,000.00	1,102,310.00	(2,310.00)	(0.21%)
Other Operation & Maintenance Expenses	13,278,745.58	11,997,693.99	1,281,051.59	10.68%
Consultants	3,187,288.28	2,733,535.32	453,752.96	16.60%
Total Operation & Maintenance	\$108,335,378.25	\$104,864,175.42	\$104,864,175.42	3.31%

CAPITAL BUDGET SUMMARY

The Approved FY2021 Capital Budget is \$81,484,428. The amount remains the same as FY2020. A schedule of the Capital Budget is provided below.

2021 Capital Budget		
DESCRIPTION	DRIVERS	2021
FILTER PLANTS		
PFP Sodium Hypochlorite	Risk	\$1,500,000
PFP Liquid Lime	Perform	800,000
SMFP Filter Improvements	Reg	6,500,000
WFP Sodium Hypochlorite	Risk	3,000,000
WFP Liquid Lime	Perform	850,000
RAW WATER & DISTRIBUTION		
Lake Purdy Dam Stability Rehabilitation	Risk	6,960,000
Inland Lake PS and Transmission Line Improvements	Risk	800,000
Carson Loop Phase 6D	Risk	4,500,000
MAIN CAMPUS IT/SECURITY		
EnviroLab Building	Reg	3,500,000
SAP Implementation (Phase 3 - HR)	Perform	300,000
MAINTENANCE AND REPAIRS		
1A - New Distribution Mains and Hydrants (Associated w/ New Developments)	M & R	2,000,000
1B - Replace Existing Services - Revenue Water Only	M & R	–
1C - Meters and Metering Technologies	M & R	1,754,322
1D - Replace Distribution Mains – System Development Only	M & R	23,850,000
1E - Replace Distribution Services – System Development Only	M & R	6,150,000
1F - Water Plant Filters	M & R	–
1H - Tank Maintenance and Repairs	M & R	2,750,000
1I - Repair/Replace Pumps, Motors, Generators	M & R	2,800,000
1J - Reimbursable Pipeline Projects Out	M & R	–
1K - Service Line Replacement – Distribution Department Only	M & R	2,000,000
1L - Repair/Replace Distribution Hydrants and Valves	M & R	600,000
1M - Cut and Cap Program	M & R	–
1N - Developer Installed	M & R	–
2 - Office Furniture & Equipment	M & R	40,000
3 - Transportation Equipment	M & R	2,000,000
4 - General Equipment	M & R	500,000
5 - Maintenance & Repairs to Existing Facilities	M & R	3,000,000
6 - Information Technology/GIS	M & R	600,000
7 - Economic Development	Perform	–
99 - Distribution Mains, Hydrants & New Customer Tap Fees	M & R	(4,120,900)
Capitalized Operation & Maintenance		\$8,851,006
Total		\$81,484,428



4

SOURCES OF REVENUE

REVENUE PROJECTIONS & DEVELOPMENT | SOURCES OF REVENUE |
REVENUE GOALS | RATES & CHARGES | DEBT FUNDING

REVENUE PROJECTIONS & DEVELOPMENT

Annual revenue estimates are developed using projected changes in consumer consumption patterns. For FY2021, it is projected that water demand will increase by approximately 0.53% over the FY2020 estimated actuals. Revenues are reviewed monthly during the budget development process until the budget is adopted by the Board of Directors.

SOURCES OF REVENUE

Revenue sources available to meet anticipated operation and capital expenses are:

- **Rates and Charges** – comprised of monthly charges for residential, raw and commercial water services based on usage, basic facility charges, connection and maintenance fees, miscellaneous charges for ancillary services, and penalty charges related to non-payment and service interruption
- **Sewer Collection Fees** – BWVB bills and collects sewer fees for several entities for which it is paid a fee
- **Impact Fees** – charges assessed against new developments to recover major capital costs associated with expanding water service facilities
- **Development Impact Fees** – charges established to recoup the cost of installing or extending water lines to service a certain defined group of properties, some of which may not currently be developed
- **Debt** – monies borrowed through the issuance of revenue bonds or loans through the State Revolving Fund

REVENUE GOALS

As part of the rates, charges and impact fee analysis, the BWWB's revenue requirements are as follows:

- Provide sufficient revenue to fund the operating budget and the programs provided by the Board
- Provide sufficient revenue to fund the recurring capital needs
- Provide sufficient revenue to meet the debt service payments and coverage requirements
- Provide sufficient revenue to fund the reserve funds as established by the RSE Policy
- Provide sufficient revenue to meet PAYGO requirements

Adherence to revenue goals is essential to long-term financial viability.

RATES & CHARGES

Each year rates are established based on ensuring that sufficient revenues will be received to fully recover all costs of operating and maintaining the water system. These costs include daily system operating expenses; planned repair, renewal and/or replacement of aging capital assets; and payment of principal and interest on existing debt. In addition, the budget and any rate adjustments must ensure that the legal obligations contained in the bond indenture are also met.

DEBT FUNDING

DEBT REDUCTION PLANNING

In 2019, the Birmingham Water Works Board (the BWWB) issued the Series 2019 Senior Water Revenue Refunding Bonds in the amount of \$336,380,000. The Series 2019 Bonds were issued in order to advance refund various outstanding Senior Securities of the Board achieving present value savings of \$18.5 million (6.14% of the par refunded), or \$25.2 million in gross cash flow savings.

In recent years, the BWWB has settled into a two-year cadence of issuing new revenue bonds to fund capital projects. The BWWB has also taken the opportunity to refund prior issues at the same time as new bond issues, whenever financial market conditions have been favorable for refunding prior bond issues. While new bond issues increase the BWWB's overall outstanding debt, refunding saves money by taking advantage of favorable interest rates.

Even though the BWWB regularly issues new revenue bond debt to fund its capital program, it also pays for a portion of its annual capital program with revenues generated from rates, referred to as "pay as you go capital," or PAYGO. Paying for capital expenses with cash decreases the amount of debt required to be issued by the BWWB. Prior to 2018, the BWWB developed an internal financial policy to fund 25% of its annual capital program with PAYGO. In 2018, when the BWWB entered into a new billing contract with Jefferson County for providing sewer billing services, the new contract provided the BWWB with additional revenues of approximately \$9 million in 2018 and more than \$13 million in 2019 and beyond. With this additional revenue and a desire to continue to reduce outstanding debt, the BWWB chose to apply this revenue to PAYGO, and revise its internal financial policy to increase the amount of its capital budget paid for with PAYGO to 70% by 2028.

The BWWB has demonstrated a willingness to engage in practices that will reduce total outstanding debt over the long run. Standard and Poor's and Moody's Investor Service each maintain their respective bond ratings for the Board of AA and Aa2, both with a stable outlook. While the ratings agencies commended the BWWB's strong leadership and commitment to financial management, one of the main downsides to the BWWB's financial outlook from the ratings agencies' perspectives is the amount of principal outstanding. Inspired by this opportunity for improvement, the Board resolved to explore strategies for significantly reducing outstanding principal by 2030 by an estimated \$140 million.

To evaluate the various debt reduction strategies and their impacts to outstanding debt, overall financial management, and water rates, the BWVB is working with a team that includes its financial advisor and rate consultant to develop recommendations. Total current outstanding debt is \$965,615,000.

CURRENT OUTSTANDING DEBT – SUMMARY

Senior Lien Summary		
SERIES	AMOUNT OUTSTANDING	FINAL MATURITY
2010-A	\$7,240,000	1/1/2029
2011	3,165,000	1/1/2041
2012-A	16,100,000	1/1/2034
2013-A	22,780,000	1/1/2043
2015-A	24,710,000	1/1/2042
2015-B	16,140,000	1/1/2045
2016-A	154,825,000	1/1/2041
2018	84,995,000	1/1/2039
2019	335,440,000	1/1/2045
Total Senior	\$665,395,000	

Subordinate Lien Summary		
SERIES	AMOUNT OUTSTANDING	FINAL MATURITY
DWSRF Loans	\$6,780,000	2031-2035
2016-B	278,200,000	1/1/2043
2016-C	15,240,000	1/1/2023
Total Subordinate	\$300,220,000	
Aggregate Total	\$965,615,000	

Current Outstanding Debt – Annual Debt Service

AGGREGATE DEBT SERVICE

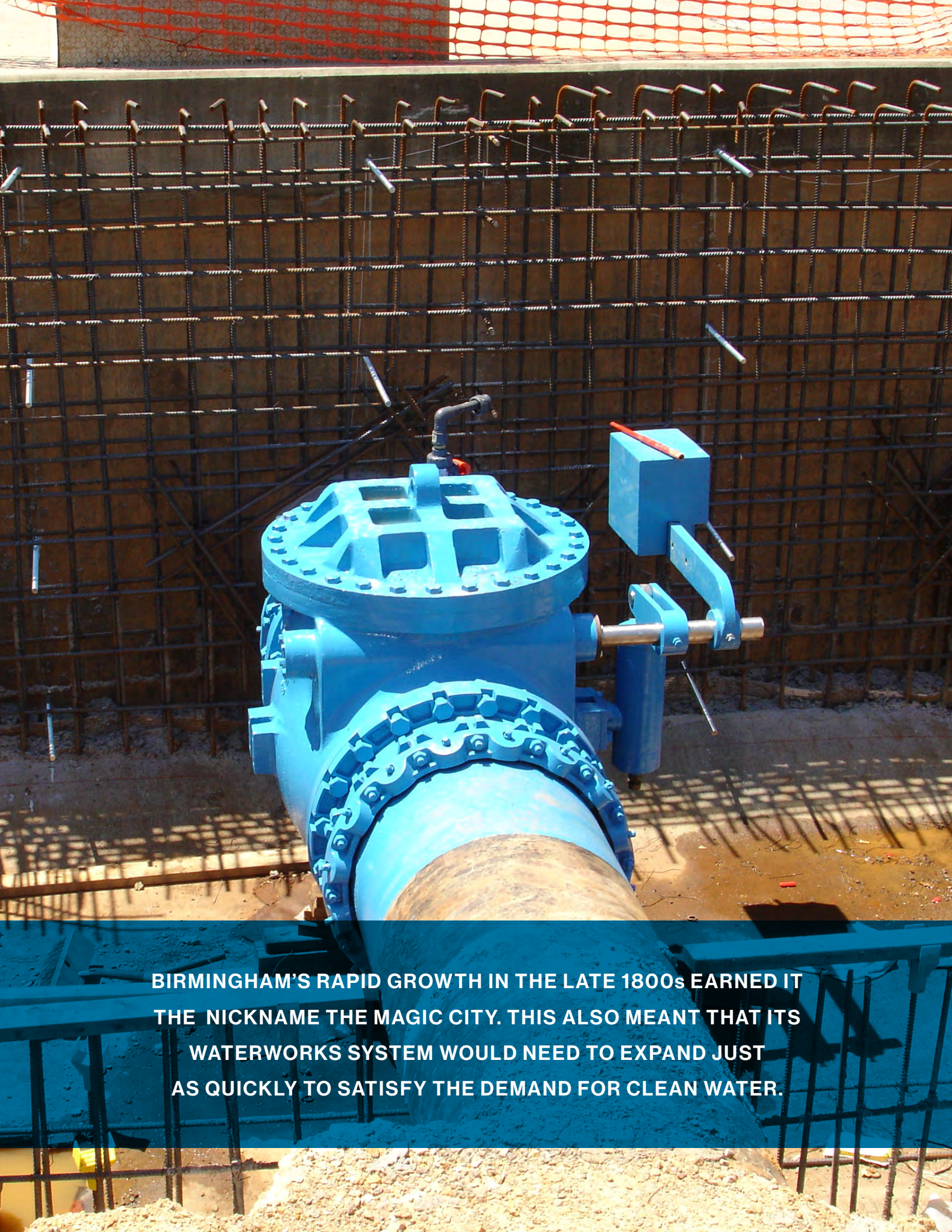
PERIOD ENDING	SENIOR LIEN DS	SUBORDINATE LIEN DS	AGGREGATE DEBT SERVICE
12/31/2021	\$46,257,422	\$19,792,934	\$66,050,356
12/31/2022	46,248,233	19,797,078	66,045,311
12/31/2023	46,263,467	19,786,929	66,050,396
12/31/2024	46,256,739	19,791,513	66,048,252
12/31/2025	46,261,546	19,789,850	66,051,396
12/31/2026	50,352,214	15,696,706	66,048,921
12/31/2027	50,363,967	15,691,754	66,055,720
12/31/2028	50,354,723	15,694,799	66,049,522
12/31/2029	50,355,790	15,685,613	66,041,403
12/31/2030	41,396,789	25,297,323	66,694,111
12/31/2031	41,400,314	25,296,780	66,697,094
12/31/2032	41,526,715	25,168,655	66,695,370
12/31/2033	41,615,805	25,077,580	66,693,385
12/31/2034	41,148,420	25,548,610	66,697,030
12/31/2035	42,071,973	24,689,280	66,761,253
12/31/2036	42,113,134	24,648,475	66,761,609
12/31/2037	42,110,462	24,653,000	66,763,462
12/31/2038	42,106,639	24,657,375	66,764,014
12/31/2039	38,211,177	24,667,625	62,878,802
12/31/2040	30,492,764	24,671,550	55,164,314
12/31/2041	30,490,777	24,677,025	55,167,802
12/31/2042	23,572,759	24,676,725	48,249,484
12/31/2043	24,194,748	24,683,050	48,877,798
12/31/2044	6,920,337	–	6,920,337
12/31/2045	6,926,571	–	6,926,571
Total	\$969,013,486	\$510,140,227	\$1,479,153,713



5

CAPITAL IMPROVEMENT PLAN

INTRODUCTION | DESCRIPTION OF PROJECT DRIVERS | CAPITAL PLANNING PROCESS |
CAPITAL PROJECT DESCRIPTIONS | 2021 APPROVED CAPITAL BUDGET |
CURRENT SYSTEM ASSETS | RAW WATER DISTRIBUTION | WATER TREATMENT |
OPERATIONAL IMPACT OF FY2021 CAPITAL PROJECTS



BIRMINGHAM'S RAPID GROWTH IN THE LATE 1800s EARNED IT THE NICKNAME THE MAGIC CITY. THIS ALSO MEANT THAT ITS WATERWORKS SYSTEM WOULD NEED TO EXPAND JUST AS QUICKLY TO SATISFY THE DEMAND FOR CLEAN WATER.

INTRODUCTION

On July 9, 1951, The Water Works Board of the City of Birmingham (BWVB) acquired all properties and ownership from The Birmingham Water Works Company. The Board supplies raw and potable water to approximately 700,000 customers in a five-county region (Jefferson, St. Clair, Blount, Shelby, Walker). The BWVB operates 4 intake stations with a total rated pumpage capacity of 285 million gallons per day (MGD). The intakes draw water from the Cahaba River, Mulberry Fork, Sipsey Fork, and Inland Lake. The BWVB owns and operates 4 surface water-fed filtration plants with a total treatment capacity of 190 MGD. The distribution system includes approximately 4,000 miles of cast iron, ductile iron, polyvinyl chloride, and galvanized line pipe. The system also includes 73 potable and raw water storage facilities, 51 pumping stations, 41 pressure reducing valve stations, 52,000 valves, 15,000 hydrants and over 220,000 meter settings. The BWVB maintains a system with over 200,000 major pieces of equipment.

In support of these assets, the BWVB has a 2021 Capital Improvement Plan (CIP) of \$81,484,428 and a 10-Year Capital Improvement Plan of \$807,171,669. CIP funds are designated to address regulatory compliance, risk management, capacity/growth, performance/cost efficiency and maintenance/replacement needs throughout the system, as well as capitalized operations and maintenance. The CIP serves as a planning instrument to identify needed capital expenditures and to coordinate the financing and timing of improvements in a way that maximizes the return to the customers. In addition, the planning process is a valuable means of coordinating and taking advantage of joint planning and development of projects where possible. Planning for capital facilities over time can promote better use of BWVB's financial resources and maintain an effective level of service for customers.

While the CIP serves as a long-range plan, it is reviewed annually and revised based on current prioritized circumstances and opportunities. Also, the project priorities may be changed due to funding opportunities and/or circumstances that cause a more rapid deterioration of an asset.

The adoption of the Capital Improvement Plan is neither a commitment to a particular project nor a limitation to a particular cost. When adopted, the CIP provides the framework for management and for the Directors with respect to rates, financing, investment planning and project planning.

GOALS OF THE CIP

The Capital Improvement Plan evaluates the operating condition of the organization's assets, where upgrade improvements can be made, and where opportunities for new projects may exist. For this reason, the BWWB has the following goals from its CIP process:

- Ensure that BWWB's 10-Year Capital Improvement Plan is affordable and finances only necessary capital expenditures
- Qualify capital investment decisions according to a fair, transparent, and objective process
- Emphasize the requirement for long-term planning
- Link the relation between the Capital and Operation and Maintenance Budgets
- Avoid the need to impose emergency repairs
- Serve as an educational tool for the community and the BWWB



THE BWWB OPERATES FOUR FILTRATION PLANTS, A CERTIFIED TESTING LABORATORY, AND HAS MORE THAN 4,000 MILES OF PIPE IN ITS DISTRIBUTION NETWORK; IT RANKED AMONG THE TOP FIVE WATER SYSTEMS IN THE UNITED STATES.

DESCRIPTION OF PROJECT DRIVERS

The following categories, listed by priority, were developed to indicate the driver for each element of the BWWB's CIP. Each project has been placed into one of these categories. It is possible that a project exists which could fall into multiple categories. Where this occurred, an effort was made to identify the most significant driver for the project.

REGULATORY COMPLIANCE

Projects associated with compliance with existing, pending, and future regulations. One regulation has a direct impact on the BWWB's CIP. An example summary of this regulation and the associated projects is provided below. Example of projects:

- **Disinfectants/Disinfection Byproducts Rule Stage 2** – Requires utilities to meet disinfection by-product maximum contaminant levels at locations in the system known to produce high levels. The final rule was issued on January 4, 2006.
- **Impact on BWWB:** Optimization of current treatment process and distribution system management practices. This includes the rehabilitation of existing facilities to position for potential use of alternative treatment strategies.

RISK MANAGEMENT

Projects associated with increasing service reliability, system redundancy, and safety of BWWB facilities for workers, the surrounding community and the environment. These activities include security program implementation, electrical system improvements, disinfection upgrades/conversion, distribution reinforcements, and dam safety improvements.

CAPACITY

Projects associated with supporting the continued growth of the BWWB service area and demand within the existing service areas. These efforts include plant expansions, system expansion/redundancy, and new source development.



THE SYSTEM HAS STRONG FINANCIAL POLICIES AND PROCEDURES, WHICH IS EVIDENCED BY OUR BOND RATINGS WITH STANDARD & POOR'S AND MOODY'S INVESTOR SERVICES OF AA AND AA2, RESPECTIVELY.

PERFORMANCE/COST EFFICIENCY

Projects associated with maintaining/improving current practices of utility operation. These efforts include some information technology initiatives, treatment process rehabilitation, and system maintenance/replacement.

MAINTENANCE AND REPLACEMENT

Projects associated with extending the useful life of existing infrastructure through replacement of system elements or rehabilitation.

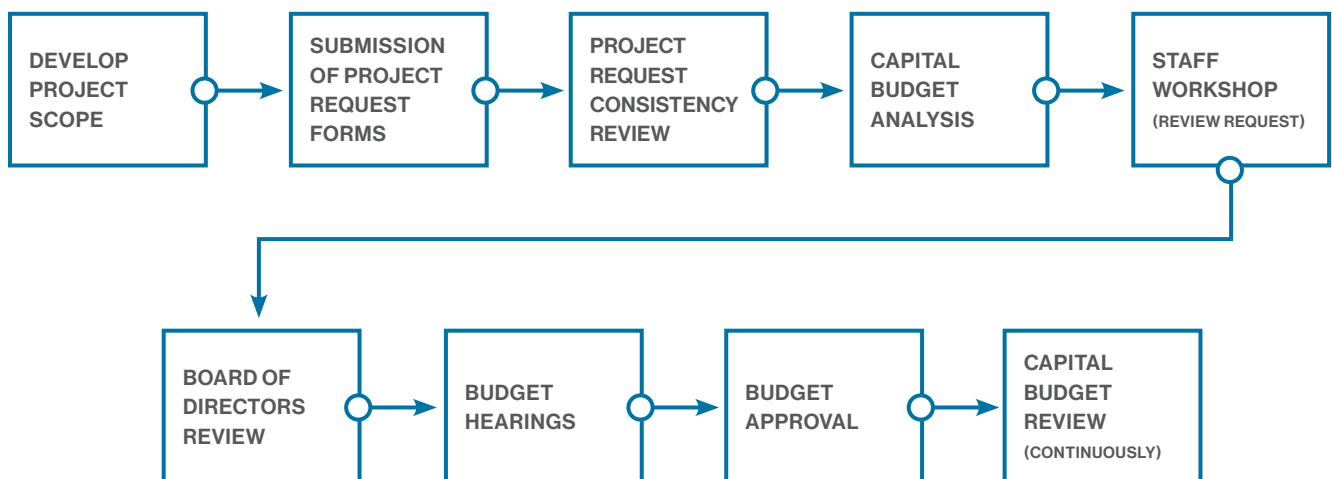
CAPITALIZED OPERATIONS AND MAINTENANCE

These are indirect project costs clearly related to the construction, development, or improvement of capital assets as a group, but not to the construction, development, or improvement of a specific capital asset.

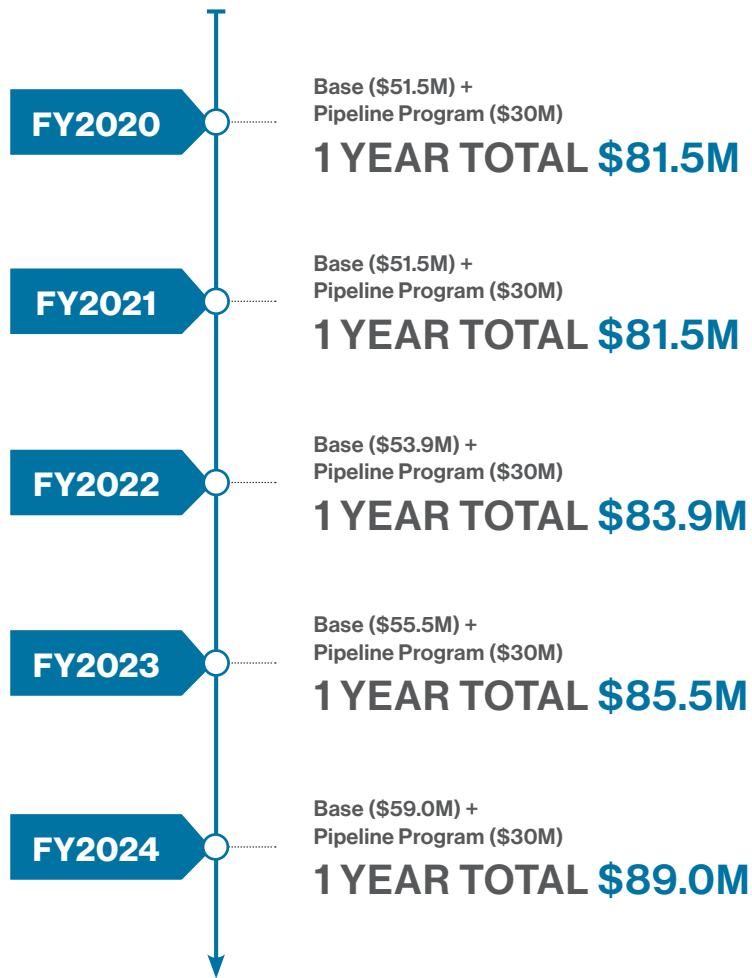
CAPITAL PLANNING PROCESS

The Capital Planning Process is created to be a vehicle to meet specific BWWB goals and/or drivers and to be consistent with BWWB's Strategic and Master Plans. The purpose of the Capital Planning Process is to encourage the flow of ideas and allow for proactive planning. During this process, departments are reviewing facilities condition assessments, preventive maintenance records, current performance of the Capital Improvement Plan, and providing justification of any other necessary project request. From these activities, the departments should become familiar with overall condition of their assets and needs.

If these needs require the expenditure of capital dollars, each department will be responsible for completing the appropriate Capital Request and Business Case Justification Form. These request forms provide information such as: project name and location, the estimated cost, project timing, a brief description and justification of the project and resulting benefit. The procedures for the development of the Capital Improvement Plan budget will generally follow the schedule below:



5-YEAR BUDGET TIMELINE



CAPITAL PROJECT DESCRIPTIONS

BUDGET ITEMS

1A. New Distribution Mains & Hydrant

This item covers the installation of distribution mains and fire hydrants generally associated with new developments that result in extensions of water services. These costs are generally reimbursed to the Board by the customer or developer

99 Distribution Mains, Hydrants & New Customer Tap Fees

This item includes the contributions and deposits received for main extensions in Budget Item 1A and new customers tap fees, in accordance with the Rules and Regulations Governing Service to Customers

1B. New Customer Service Connections – System Development Only

This item covers the BWWB's cost for new service connections. It includes all labor and materials furnished by the BWWB. Tap fees are charged to the customer to offset this cost

1C. Meters & Metering Technology

This item covers the purchase of additional and replacement meters. The additional meters are for new service connections. The replacement meters are for the continuation of the replacement program of worn out inaccurate meters. This replacement program enhances revenue and reduces lost water

1D. Replace Distribution Mains – System Development Only

Many of the system's older distribution mains, particularly galvanized steel, have deteriorated beyond economical repair. These mains are a continuing source of excessive maintenance and lost revenue (water loss). This item is intended to continue replacement of water mains due to excessive repairs, water quality, low fire flow, etc.

1E. Replace Distribution Services – System Development Only

Many of the system's older services, particularly galvanized steel, have deteriorated beyond economical repair. These services are a continuing source of excessive maintenance and lost revenue (water loss). This item is intended to continue the program for replacement of these older services

1F. Water Plant Filters

In order to maintain the effectiveness and efficiency of the filter plants, it is necessary to rebuild the filters and replace the filter media on a regular basis. This item provides for a regular program of filter media replacement

1G. Purchase Watershed Property

In order to protect valuable water resources, it is advantageous to purchase watershed property when it becomes available. This item provides funding for purchasing watershed property as it becomes available

1H. Tank Maintenance & Repair

In order to maintain the integrity of the Board's storage tanks, it is necessary to have a comprehensive tank maintenance program. This item will provide for regular maintenance and rehabilitation as required. This includes updating to current standards and recoating the storage tanks on a scheduled basis

1I. Repair/Replace Pumps, Motors, Generators

In order to maintain acceptable operational efficiency of pumps, motors, and other appurtenances, it is necessary to have a repair/replacement program. This item will provide for repair or replacement of equipment, as necessary to maintain optimum operating efficiency

1J. Reimbursable Pipeline Projects Out

This item covers installation of new distribution mains at the cost of the BWWB

1K. Service Line Replacement – Distribution Department Only

This item covers installation of main and service line replacements at the cost of the BWWB

1L. Repair/Replace Distribution Hydrants and Valves

Repair/Replace Distribution Hydrants and Valves

1M. Cut and Cap Program

This item includes the pilot program for the cut and cap of 2-inch service lines

1N. Developer Installed

This item includes new development associated installation cost

2. Office Furniture & Equipment

This item includes replacement of office furniture and equipment

3. Transportation Equipment

This item includes the replacement of vehicles due to excessive mileage and / or repair cost and 3 additional vehicles

4. General Equipment

This budget item sets aside monies to purchase general equipment. Departments will be required to submit justification for review and approval to purchase under this capital item

5. Maintenance & Repairs to Existing Facilities

This item includes upgrades, replacements and repairs needed to improve safety, operations and efficiency of existing facilities. These are typically small capital construction projects less than \$300,000 total installed cost

6. Information Technology/GIS

This item includes replacement of computer software and equipment to maintain existing network and other technology enhancements

7. Economic Development

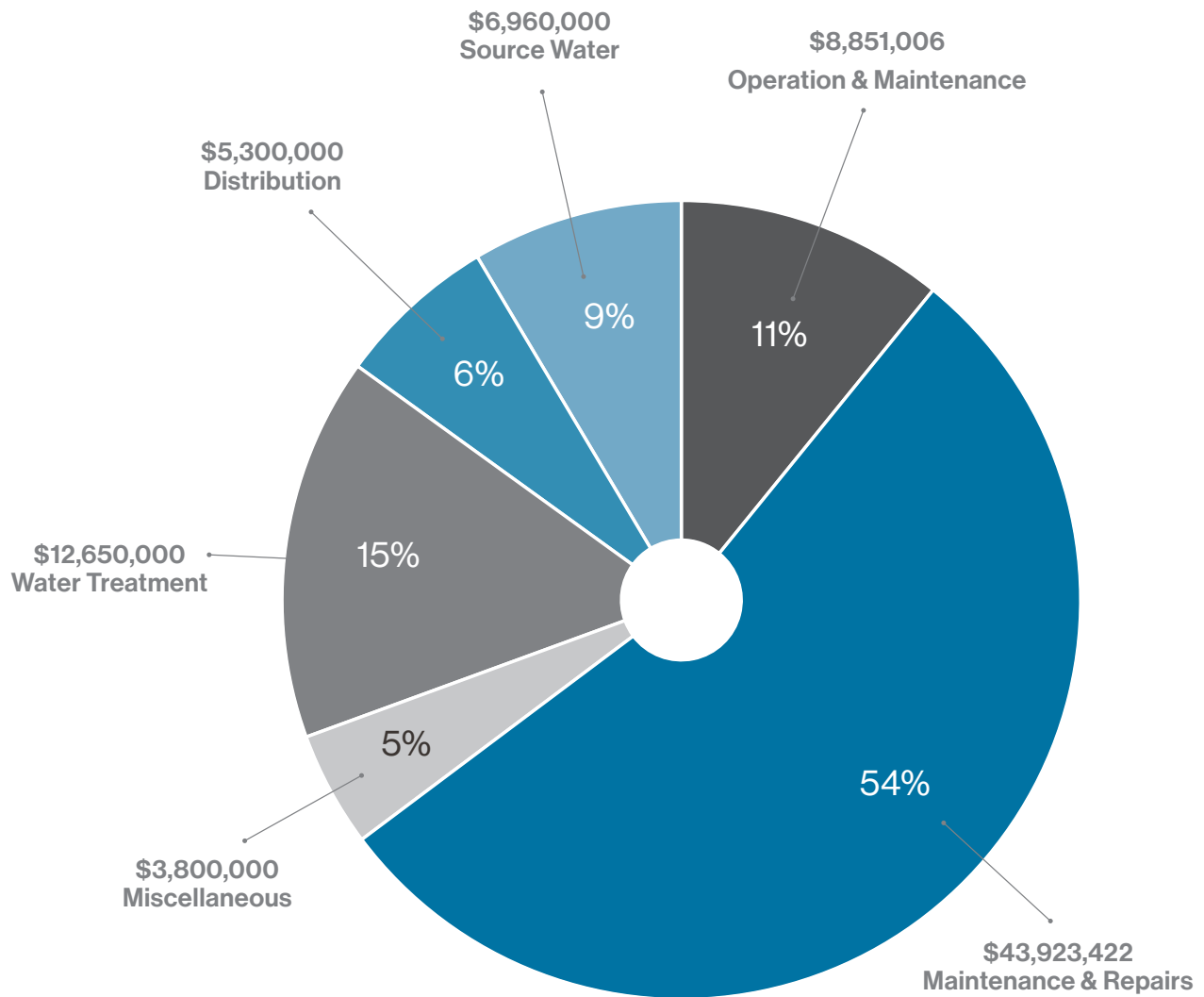
This item includes the development of programs and processes to increase economic development for BWWB

APPROVED 2021 CAPITAL BUDGET

2021 Approved Capital Budget		
DESCRIPTION	DRIVERS	2021
FILTER PLANTS		
PFP Sodium Hypochlorite	Risk	\$1,500,000
PFP Liquid Lime	Perform	800,000
SMFP Filter Improvements	Reg	6,500,000
WFP Sodium Hypochlorite	Risk	3,000,000
WFP Liquid Lime	Perform	850,000
RAW WATER & DISTRIBUTION		
Lake Purdy Dam Stability Rehabilitation	Risk	6,960,000
Inland Lake PS and Transmission Line Improvements	Risk	800,000
Carson Loop Phase 6D	Risk	4,500,000
MAIN CAMPUS IT/SECURITY		
EnviroLab Building	Reg	3,500,000
SAP Implementation (Phase 3 - HR)	Perform	300,000
MAINTENANCE AND REPAIRS		
1A - New Distribution Mains and Hydrants (Associated w/ New Developments)	M & R	2,000,000
1B - Replace Existing Services - Revenue Water Only	M & R	–
1C - Meters and Metering Technologies	M & R	1,754,322
1D - Replace Distribution Mains – System Development Only	M & R	23,850,000
1E - Replace Distribution Services – System Development Only	M & R	6,150,000
1F - Water Plant Filters	M & R	–
1H - Tank Maintenance and Repairs	M & R	2,750,000
1I - Repair/Replace Pumps, Motors, Generators	M & R	2,800,000
1J - Reimbursable Pipeline Projects Out	M & R	–
1K - Service Line Replacement – Distribution Department Only	M & R	2,000,000
1L - Repair/Replace Distribution Hydrants and Valves	M & R	600,000
1M - Cut and Cap Program	M & R	–
1N - Developer Installed	M & R	–
2 - Office Furniture & Equipment	M & R	40,000
3 - Transportation Equipment	M & R	2,000,000
4 - General Equipment	M & R	500,000
5 - Maintenance & Repairs to Existing Facilities	M & R	3,000,000
6 - Information Technology/GIS	M & R	600,000
7 - Economic Development	Perform	–
99 - Distribution Mains, Hydrants & New Customer Tap Fees	M & R	(4,120,900)
Capitalized Operation & Maintenance		\$8,851,006
Total		\$81,484,428

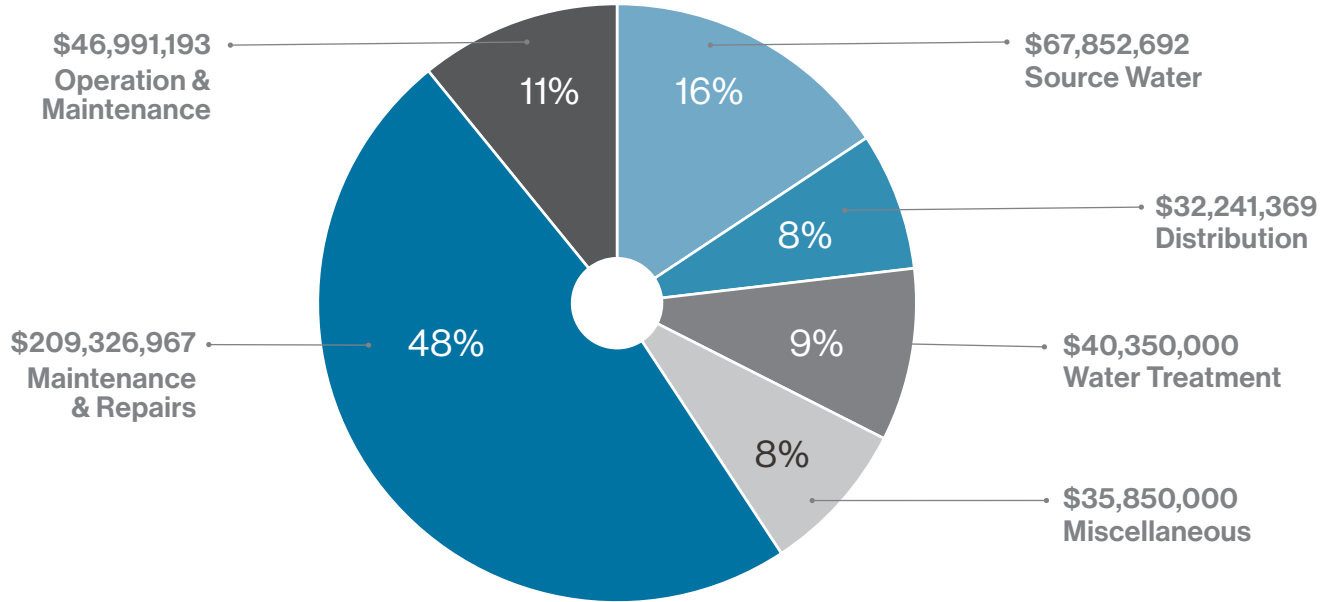
The chart below is an allocation of the FY2021 Approved Capital Budget.

2021 APPROVED CAPITAL BUDGET

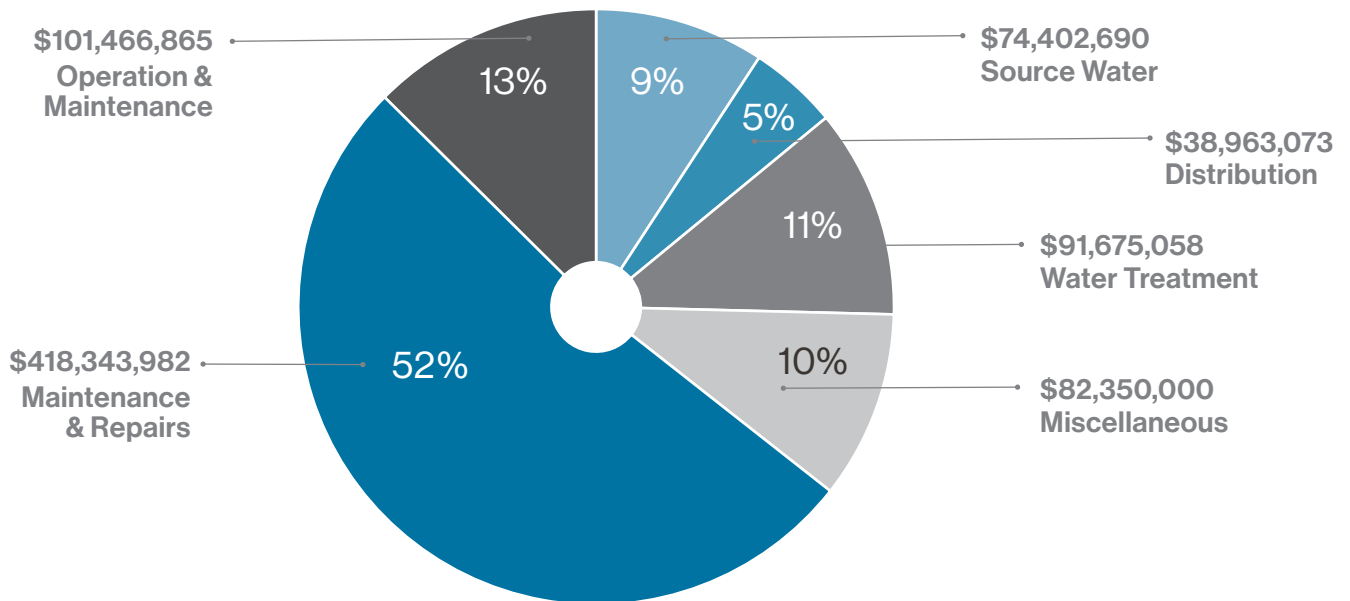


MISCELLANEOUS WATER TREATMENT DISTRIBUTION SOURCE WATER O&M M&R

5-YEAR PLAN 2021-2025



10-YEAR PLAN 2021-2030



MISCELLANEOUS
 WATER TREATMENT
 DISTRIBUTION
 SOURCE WATER
 O&M
 M&R

CURRENT SYSTEM ASSETS

Our goal is to maintain the existing assets in order to produce the nation's highest quality water.

4

TREATMENT
PLANTS



73

WATER
TANKS



51

DISTRIBUTION
PUMP STATIONS



220,000

METERS/
CONNECTIONS



2

SLUDGE
FACILITIES



20

PRESSURE
GRADIENTS



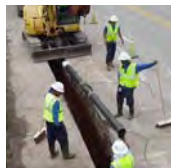
154

BUILDINGS



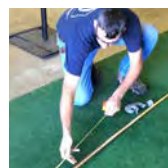
4,046 mi.

WATER MAIN



1,000 mi.

SERVICE LINES



5

IMPOUNDMENTS



15,000

HYDRANTS



52,000

VALVES



41

PRESSURE
REDUCING VALVES



RAW WATER DISTRIBUTION

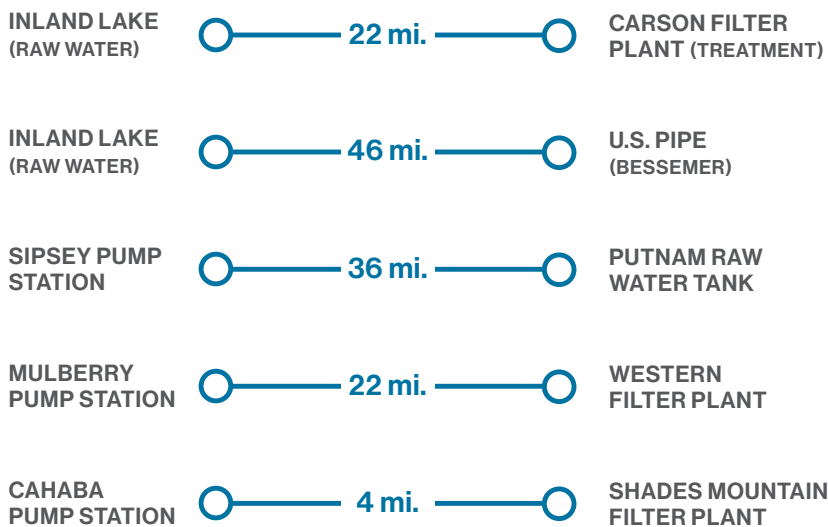
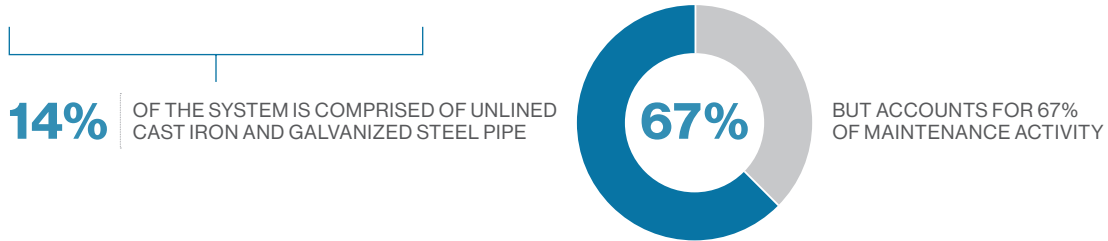
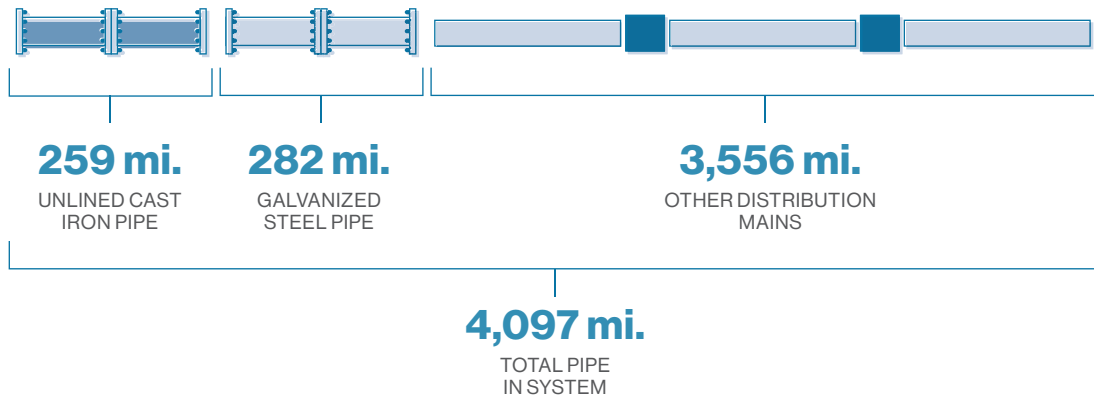
The Birmingham Water Works Board (BWVB) ensures the availability of water to every home, school, business and park within its service area. BWVB system provides retail service to an area of approximately 700 square miles and approximately 196,000 customer accounts in Jefferson, Blount, St. Clair, Walker and Shelby Counties. The system consists of 4 raw water intake systems, 3 raw water boosters, 5 dams, and 53 raw water storage tanks. Water must be pumped long distances from source of supply to storage/use.

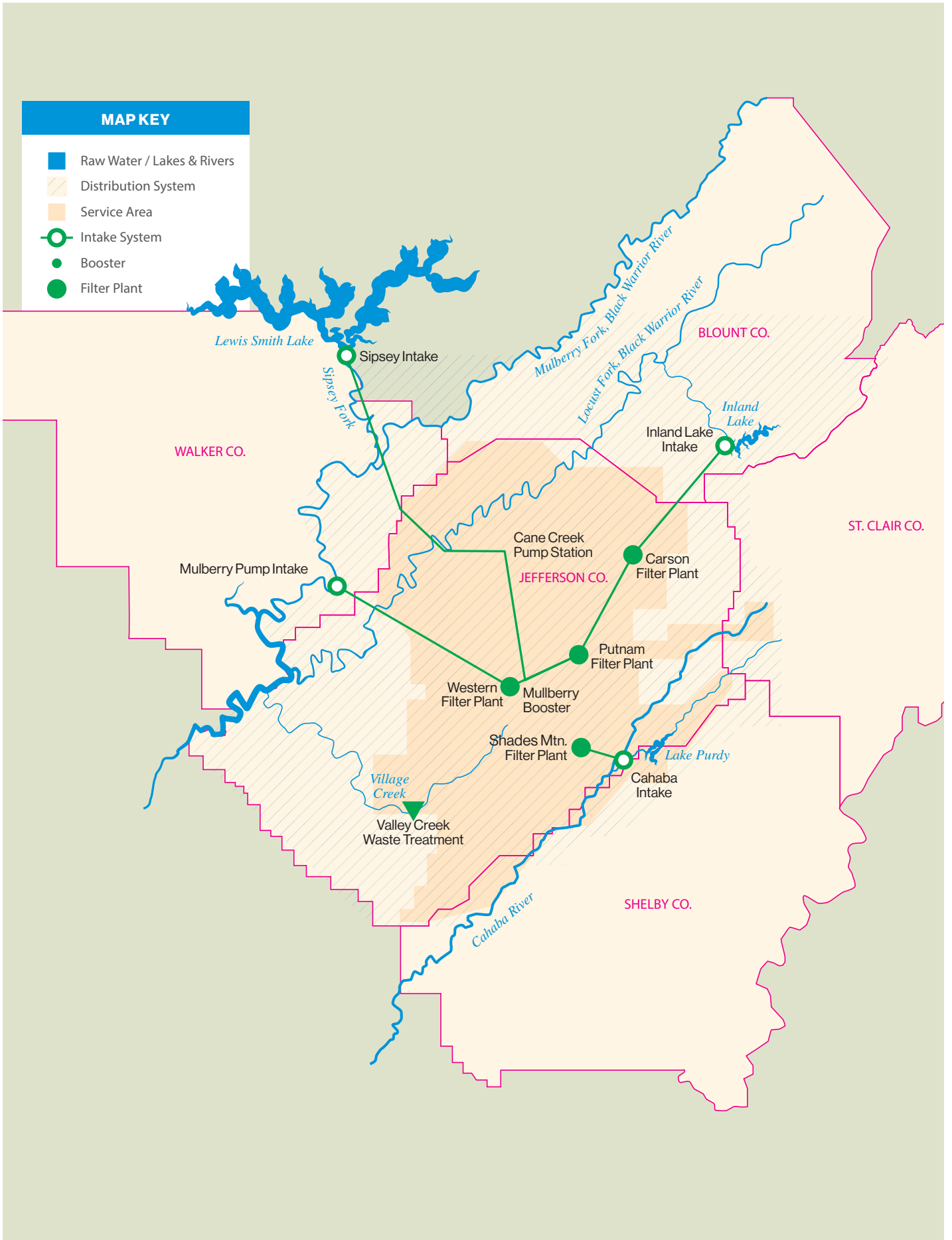
OBJECTIVE: WHAT WE ARE TRYING TO ACCOMPLISH

The objective of these asset classes is to ensure the system provides adequate storage of treatable water and equalizes demand to meet the current and future service demands of BWVB. It also ensures that adequate water storage capacity meets water regulations and provides maximum operational efficiency for industrial purchase, wholesale customers, and meets fire protection needs.

HOW WE WILL ACHIEVE OUR OBJECTIVE

The Capital Improvement Plan includes renewal and replacement projects needed to maintain adequate water supplies and storage to meet current water demands.





WORK COMPLETED OR SCHEDULED IN FY2020 – 2023:

Lake Purdy Dam Stabilization Project Goals:

- Improve the stability of the existing dam
- Mitigate seepage
- Increase the spillway capacity

Sipsey Pump Station Pump Repair Goals:

- Maintain the operational efficiency of the Sipsey Pump Station.
- Repair and refurbishing of existing vertical turbine pumps.
- Provide treatable water to our water treatment plants.

Mulberry Raw Water Surge Tanks Goals:

- Maintain and repair existing 750,000 unit raw water tank.
- Increase structural integrity by preventing rust and deterioration.
- Increase life span by 20 – 25 years.

**LAKE PURDY DAM
STABILIZATION PROJECT:
THE GOAL OF THE PROJECT IS
TO IMPROVE THE STABILITY OF
THE EXISTING DAM, MITIGATE
SEEPAGE, AND INCREASE THE
SPILLWAY CAPACITY.**



DISTRIBUTION

The Distribution System consists of 4,064 miles of piping, 1,000 miles of service lines, 48 distribution pump stations, 51 distribution storage tanks, 41 pressure-reducing valve stations, 52,000 valves, 15,000 hydrants, and 20 pressure gradients.

OBJECTIVE: WHAT WE ARE TRYING TO ACCOMPLISH

The objective of this asset class is to support the ongoing rehabilitation of existing water lines; improvements related to optimizing system performance and reliability, e.g. looping, paralleling and replacing lines approaching capacity; and adding new transmission and distribution mains to support growth and service deficiencies in specific areas.

HOW WE WILL ACHIEVE OUR OBJECTIVE

The Capital Improvement Plan includes renewal and replacement projects needed to maintain adequate water supplies and storage to meet current water demands.

WORK COMPLETED OR SCHEDULED IN FY2019–2021:

Inland Lake Pump Station and Transmission Line Improvements Construction Project:

This project includes removing and replacing failing main line valves, check valves and blow-off. This will involve the installation of new 60-inch main line valves, 60-inch check valves and a 60-inch magnetic flow meter.

Carson Loop Phase 6D:

The project consists of 3,700 feet of 36-inch buried ductile iron pipe and fittings along from Grand River West to Floyd Bradford Road and Amber Hills Road. This project also includes a 600-foot-long pipe bridge over the Cahaba River.

Water Line Replacement Project:

Replacement of the system's older distribution mains, particularly galvanized steel due to excessive repairs, water quality, low fire flow, etc.

Meter Replacement Project:

The replacement meters are for the continuation of the replacement program of worn out inaccurate meters. This replacement program enhances revenue and reduces lost water.

WATER TREATMENT

The Birmingham Water Works Board (BWVB) consists of 4 water treatment plants and is the State of Alabama's largest water utility.



SHADES MOUNTAIN 80 MGD



WESTERN 60 MGD



PUTMAN 24 MGD



CARSON 25 MGD

OBJECTIVE: WHAT WE ARE TRYING TO ACCOMPLISH

The objective of this asset class is to ensure exceptional treatment facilities are being maintained to produce water quality that exceeds drinking water standards.

HOW WE WILL ACHIEVE OUR OBJECTIVE

The Capital Improvement Plan includes renewal and replacement of equipment, membranes, disinfection units and electrical/control components to ensure the water quality provided to our customers exceeds federal and state drinking water standards.

WORK COMPLETED OR SCHEDULED IN FY2019 – 2021:

Shades Mountain Filter Plant (SMFP) Filter Improvements:

As part of BWWB's overall filter rehabilitation program, BWWB has chosen to upgrade the filters at each plant in such a way as to provide the flexibility for installation of GAC in the filters. Consistent with that approach, this project will establish the infrastructure to allow the existing filters to be converted into GAC Filter Absorbers. GAC treatment will allow the BWWB to continue to use free chlorine for secondary disinfection while achieving compliance with Stage 2.

SMFP Residuals:

SMFP has purchased two 26-inch solids dewatering centrifuges. These units will replace the 37-year-old failing plate and frame system currently in place. The centrifuges still require installation as well as demolition of the existing plate and frame. Electrical and piping upgrades and modifications will be required. Additionally, a new dredge will be acquired to guarantee consistent removal of solids from the sedimentation basin to the dewatering equipment. Solids dewatering is critical to regulator operations at SMFP.

WFP Liquid Lime:

Design and construct liquid lime facility to eliminate existing dry lime system. The goal of the project is to address the following objectives:

- Reduce clogging which limits operation downtime.
- Reduce operation and maintenance time to mix powder.

OPERATIONAL IMPACT OF FY2021 CAPITAL PROJECTS

OPERATIONAL IMPACT ASSOCIATED WITH THE PFP & WFP SODIUM HYPOCHLORITE PROJECTS

As part of the America's Water Infrastructure Act of 2018 (AWIA), plants that house gas chlorine systems were identified as key risk mitigation projects. The project design will convert the gas chlorine systems to bulk liquid sodium hypochlorite at the Putnam Filter Plant (PFP) and the Western Filter Plant (WFP). The motivation to switch to bulk liquid sodium hypochlorite is based on reducing the health risk to plant staff and the surrounding community associated with a potential chlorine gas leak. The estimated annual maintenance cost for each facility is expected to increase as follows:

Estimated Annual Maintenance Cost	
O&M ITEM DESCRIPTION	COST (\$)
Annual Chemical Cost	\$285,640.00
Power Cost	16,973.00
Equipment/Maintenance Cost	32,300.00
Labor Cost	9,690.00
Total O&M	\$344,603.00



6

APPROVED OPERATION & MAINTENANCE BUDGET

OVERVIEW | O&M BY DIVISION AND DEPARTMENT |
O&M SUMMARY BY EXPENSE CATEGORY | COMPENSATION & BENEFITS |
CONSULTANT SERVICES | DEBT SERVICE

OVERVIEW

The Approved FY2021 Operation & Maintenance Budget (including debt service) is \$108,335,378, which is 3.31% or \$3,468,203 higher than the FY2020 Approved Budget. The following pages will provide details by Division and Department as well as budget information as it relates to the Approved FY2021 operation budget.



THE DISTRIBUTION SYSTEM CONSISTS OF 4,000 MILES OF PIPING, 1,000 MILES OF SERVICE LINES, 48 DISTRIBUTION PUMP STATIONS, 51 DISTRIBUTION STORAGE TANKS, 41 PRESSURE-REDUCING VALVE STATIONS, 60,000 VALVES, 14,000 HYDRANTS, AND 20 PRESSURE GRADIENTS.

O&M SUMMARY BY DIVISION AND DEPARTMENT

O&M Summary by Division and Department						
DIVISION	FUNDS CENTER	2017 NET ACTUAL	2018 NET ACTUAL	2019 NET ACTUAL	2020 NET BUDGET	2021 NET BUDGET
EXECUTIVE	Executive	\$1,112,978.62	\$1,341,913.02	\$884,050.16	\$1,165,241.50	1,031,299.80
	Board	161,529.76	175,428.82	203,442.41	191,804.27	191,804.27
	Company Wide	22,344,490.90	23,684,480.06	26,617,904.57	25,428,455.60	28,021,822.98
	Business System & Operations	275,024.43	657,171.81	636,047.48	824,015.84	809,537.86
	Internal Auditor	231,072.97	238,862.81	244,186.21	251,879.35	254,649.24
	Public Communication	419,933.46	469,460.99	514,374.75	762,064.33	754,286.63
FINANCE & ADMINISTRATION	Customer Support Services	4,209,026.34	5,278,357.03	6,412,480.26	6,681,526.04	6,654,578.49
	Call Center	1,111,946.54	1,376,930.54	1,617,059.18	1,843,110.07	1,810,577.04
	Human Resources	1,624,005.28	2,545,984.01	2,527,396.94	2,855,859.99	2,752,203.12
	Wellness & Health Management	105,770.34	180,039.17	219,777.88	294,530.40	294,530.40
	Water Watchers Brigade	270,200.04	280,078.14	254,201.16	367,311.98	368,649.49
	Information Technology	2,833,359.88	4,217,075.31	4,775,431.12	5,260,712.58	5,411,789.51
	Accounting	1,377,097.91	1,676,984.24	1,729,101.29	1,908,890.35	1,855,977.45
	Purchasing	2,448,203.61	2,093,276.37	2,260,112.98	2,248,311.52	2,402,007.87
OPERATIONS & TECHNICAL SERVICES	EnviroLab & Water Quality	2,692,713.33	2,794,697.03	2,858,165.91	3,002,928.36	3,051,716.00
	Purification	12,782,400.34	13,654,135.10	14,944,831.20	14,087,235.78	15,593,448.07
	Security	1,274,198.20	2,193,430.31	2,176,569.24	2,248,512.85	2,388,311.31
	Water Resources	6,969,130.63	6,944,547.55	7,190,893.68	7,534,864.01	7,655,038.46
	SCADA	750,968.58	770,704.70	741,636.08	837,353.78	921,362.09
	Industrial & Commercial Accounts	43,139.76	198,796.71	261,355.36	287,553.24	379,226.22
ENGINEERING & MAINTENANCE	E&M Shop	4,404,304.48	4,812,641.65	5,120,331.70	5,157,745.35	4,917,508.28
	System Development	580,273.62	730,073.41	718,290.42	705,646.67	851,908.51
	Distribution	15,597,039.93	15,840,674.19	16,000,168.37	16,300,750.24	15,836,927.81
	Engineering	1,260,213.38	1,804,024.71	1,703,707.34	1,488,707.72	1,451,960.28
	Mapping & Records	256,676.04	257,857.86	228,154.18	266,239.84	276,306.93
	Water Accountability	2,746,036.73	2,514,135.04	3,361,307.17	2,865,923.76	2,397,950.14
	All Departments	\$87,881,735.10	\$96,731,760.58	\$104,200,977.04	\$104,867,175.42	\$108,335,378.25



**WATER IS PART OF A DEEPLY INTERCONNECTED SYSTEM.
WHAT WE POUR ON THE GROUND ENDS UP IN OUR WATER,
AND WHAT WE SPEW INTO THE SKY ENDS UP IN OUR WATER.**

O&M SUMMARY BY EXPENSE CATEGORY

Operation & Maintenance Summary By Expense Category				
CATEGORY	FY2021	FY2020	INCREASE (DECREASE)	PERCENT CHANGE
Labor	\$39,133,025.23	\$39,276,245.07	(\$143,219.84)	(0.36%)
Employee Related Expenses	15,092,071.05	14,788,664.37	303,406.68	2.05%
Power	9,566,404.91	9,274,469.70	291,935.21	3.15%
Trans & Distrib Maintenance Materials	9,303,393.91	10,063,123.99	(759,730.08)	(7.55%)
License Fees	4,380,000.00	4,380,000.00	–	–
Chemicals	6,099,999.98	4,992,407.17	1,107,592.81	22.19%
Legal	1,063,982.40	1,081,470.00	(17,487.60)	(1.62%)
Lab Support, Purification Maintenance	1,896,339.00	1,670,307.38	226,031.62	13.53%
Outsourced Security	1,375,000.00	1,262,507.86	112,492.14	8.91%
Insurance	2,383,295.37	1,803,607.97	579,687.40	32.14%
Electrical / Pump Maintenance	475,832.54	440,832.60	34,999.94	7.94%
Billing Expense	1,100,000.00	1,102,310.00	(2,310.00)	(0.21%)
Other Operation & Maintenance Expenses	13,278,745.58	11,997,693.99	1,281,051.59	10.68%
Consultants	3,187,288.28	2,733,535.32	453,752.96	16.60%
Total Operation & Maintenance	\$108,335,378.25	\$104,867,175.42	\$3,468,202.83	3.31%

COMPENSATION & BENEFITS

The Compensation & Benefits budget for FY2021 is \$49,673,192, which is an increase of \$77,865 or 0.16% more than the FY2020 Approved Budget.

The FY2021 Approved Budget includes the addition of six new full-time employees to the Customer Support (3 positions), Information Technology (1 position), Commercial & Industrial (1 position) and Mapping & Records (1 position) departments.

There is no budgeted merit adjustment.

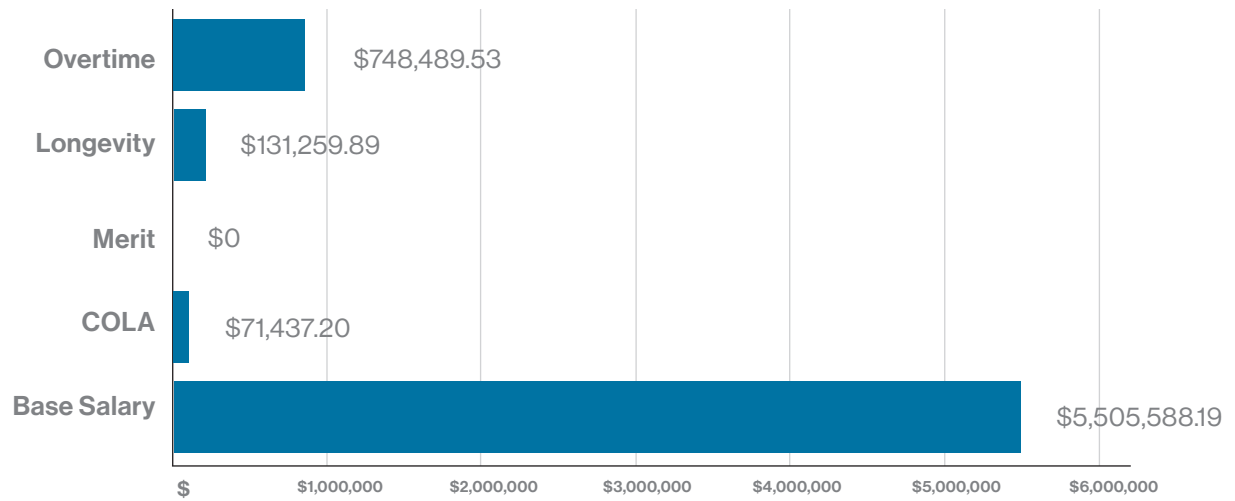
The 2021 budgeted longevity is \$1,443,567 a decrease of 7.57% from the approved 2020 amount.

The cost of living adjustment (COLA) for employees is estimated at 1.3%. The FY2021 Approved Budget includes funding for 800.66 full-time equivalent positions.

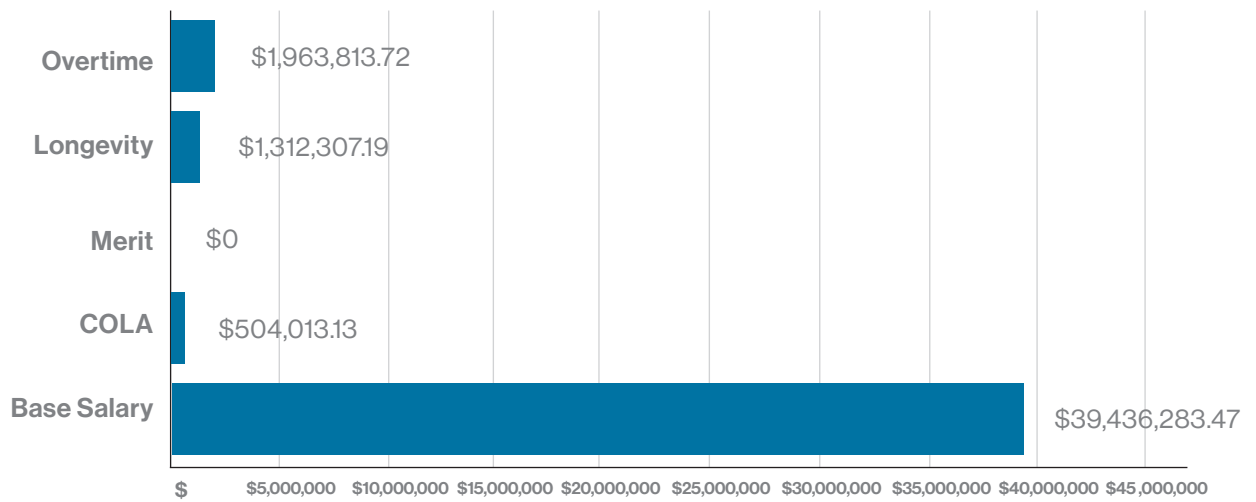
Overtime decreased by \$75,307 (2.7%) or 1,918.62 hours. The trend has shown that these hours are needed to support leak repairs, plant operations and repairs, infrastructure inspection and installation related to an increase in new development and work related to Raw Water staffing deficiencies during vacation and holidays.

Compensation & Benefits				
CATEGORY	FY2021	FY2020	INCREASE (DECREASE)	PERCENT CHANGE
Regular Salary	\$40,134,450.66	\$38,977,530.29	\$1,156,920.37	2.97%
Vacation Pay	\$2,932,289.24	\$2,852,235.50	\$80,053.74	2.81%
Holiday Pay	\$1,875,131.76	\$1,818,028.35	\$57,103.41	3.14%
Cola Amount	\$575,450.33	\$683,149.76	(\$107,699.43)	(15.77%)
Overtime Amount	\$2,712,303.25	\$2,787,609.99	(\$75,306.74)	(2.70%)
Merit Amount	–	\$915,029.88	(\$915,029.88)	(100.00%)
Longevity Amount	\$1,443,567.08	\$1,561,743.53	(\$118,176.45)	(7.57%)
Total Budget	\$49,673,192.32	\$49,595,327.30	\$77,865.02	0.16%
Total FTE	800.66	799.40	1.26	0.16%
Overtime Hours	66,915.91	68,834.53	(1,918.62)	(2.79%)

Capital Labor



O&M Labor

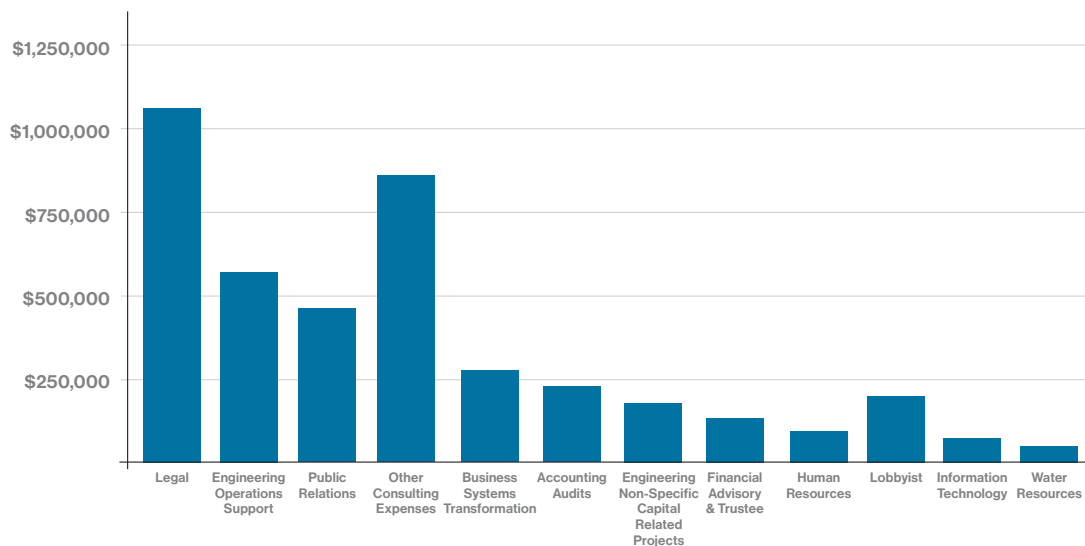


CONSULTANT SERVICES

The Consultant Services budget for FY2021 is \$4,250,421, which is an increase of \$435,416 or 11.41% higher than the FY2020 Approved Budget.

Consultant Services	
EXPENSE CATEGORY	2021 NET CONSULTING DOLLARS
Legal	\$1,063,982.00
Engineering - Operations Support	570,000.00
Public Relations	457,610.00
Other Consulting Expenses	857,707.00
Business Systems Transformation	263,488.00
Accounting Audits	224,299.00
Engineering - Non-Specific Capital Related Projects	176,610.00
Financial Advisory & Trustee	130,308.00
Human Resources	89,000.00
Lobbyist	193,361.00
Information Technology	67,256.00
Water Resources	46,800.00
Total	\$4,250,421.00
2020 Consultant Services	3,815,005.32
2021 Increase from 2020	435,415.68
2020 Percentage increase from 2019	11.41%

2021 Net Consulting Dollars



DEBT SERVICE

The Debt Service budget for FY2021 is \$66,050,356, which is an increase of \$2,535 higher than the FY2020 Approved Budget.

Debt Service Coverage				
	EST. ACTUAL 2020	PROPOSED 2021	2.0% 2021	3.9% 2021
TOTAL REVENUES	\$203,596,838	\$206,396,000	\$209,963,000	\$213,466,000
Less: Impact/System Development Fees	(1,746,000)	(1,390,000)	(1,390,000)	(1,390,000)
Less: Interest on Construction Funds	(107,508)	(107,508)	(107,508)	(107,508)
Plus: Loss on the Sale/Disposition of Assets	429,744	429,744	429,744	429,744
Total Revenues per Official Statement Definition	\$202,173,074	\$205,328,236	\$208,895,236	\$212,398,236
REVENUE REQUIREMENTS				
O&M Expenses	(104,867,175)	(108,335,378)	(108,335,378)	(108,335,378)
<i>Total Revenues Available for Debt Service and PAYGO</i>	<i>97,305,898</i>	<i>\$96,992,858</i>	<i>\$100,559,858</i>	<i>\$104,062,858</i>
DEBT SERVICE				
Senior Debt Service	(46,252,831)	(46,257,423)	(46,257,423)	(46,257,423)
Subordinate Debt Service	(19,794,990)	(19,792,934)	(19,792,934)	(19,792,934)
Total Debt Service	(66,047,821)	(66,050,356)	(66,050,356)	(66,050,356)
<i>Base Charge Revenue as a Percent of Annual Debt Service</i>	<i>113.8%</i>	<i>114.3%</i>	<i>113.6%</i>	<i>112.9%</i>
PAYGO Spending	(31,250,000)	(30,900,000)	(34,500,000)	(38,000,000)
<i>PAYGO as Percent of Capital Budget</i>	<i>46.7%</i>	<i>47.0%</i>	<i>52.5%</i>	<i>57.8%</i>
Total Revenue Requirements	(\$202,164,996)	(\$205,285,734)	(\$208,885,734)	(\$212,385,734)
SURPLUS/(DEFICIT)	\$8,078	\$42,502	\$9,502	\$12,502
DEBT SERVICE COVERAGE RATIOS				
Senior Debt Service Coverage (Target = 1.75)	2.14	2.10	2.25	2.25
Total Debt Service Coverage (Target = 1.20)	1.50	1.47	1.57	1.57



**THE AVERAGE TOTAL HOME WATER USE PER PERSON
IN THE UNITED STATES IS ABOUT 50 GALLONS A DAY.**

Based on the BWWB's RSE Model, customer water rates should increase by 3.9% each year, beginning in 2022 through 2025. The goal is to maintain rate increases below industry standards, which was 5.64% from 2008 through 2018. A 3.9% rate increase equates to \$1.71 per month for the average customer using 6CCF of water.

- Residential consumption is projected to decline at a rate of 1.71%, and non-residential consumption is projected to decline at a rate of 3.11% over the next five years. Although overall consumption is projected to decline, the 3.9% rate increase should result in increased revenue over the next five years.
- Operations & Maintenance (O&M) expenses are projected to increase by 2% annually. The BWWB's goal is to keep annual O&M increases below 5%.
- The total debt service will increase at an average rate of 2.5% over the next five years.
- The PAYGO is projected to reach 70% by the year 2028.
- The BWWB is projected to exceed Debt Service Coverage Targets over the next five years.

Debt Service Coverage – 5 Year Projection

	RECOMMENDED				
	2021	2022	2023	2024	2025
Rate Increase	0.00%	3.90%	3.90%	3.90%	3.90%
Typical Water Bill – 6 CCF Customer	\$44.63	\$46.12	\$47.67	\$49.55	\$51.47
TOTAL REVENUES	\$206,396,000	\$215,379,000	\$222,788,000	\$230,643,000	\$238,777,000
Less: Impact/System Development Fees	(1,390,000)	(1,390,000)	(1,390,000)	(1,390,000)	(1,390,000)
Less: Interest on Construction Funds	(107,508)	(107,508)	(107,508)	(107,508)	(107,508)
Plus: Loss on the Sale/Disposition of Assets	429,744	429,744	429,744	429,744	429,744
Total Revenues per Official Statement Definition	\$205,328,236	\$214,311,236	\$221,720,236	\$229,575,236	\$237,709,236
REVENUE REQUIREMENTS					
O&M Expenses	(108,335,378)	(110,502,086)	(112,712,128)	(114,966,370)	(117,265,697)
Total Revenues Available for Debt Service and PAYGO	96,992,858	103,809,150	109,008,108	114,608,866	120,443,538
Debt Service					
Senior Debt Service	(46,257,423)	(48,121,714)	(50,010,430)	(52,143,894)	(54,288,894)
Subordinate Debt Service	(19,792,934)	(19,797,078)	(19,786,929)	(19,791,513)	(19,789,850)
Total Debt Service	(66,050,356)	(67,918,792)	(69,797,359)	(71,935,406)	(74,078,744)
Base Charge Revenue as a Percent of Annual Debt Service	114.3%	110.3%	106.4%	107.8%	109.3%
PAYGO Spending	(30,900,000)	(35,800,000)	(39,200,000)	(42,650,000)	(46,350,000)
PAYGO as Percent of Capital Budget	47.0%	45.7%	49.8%	54.6%	59.4%
Total Revenue Requirements	(\$205,285,734)	(\$214,220,878)	(\$221,709,486)	(\$229,551,777)	(\$237,694,441)
SURPLUS/(DEFICIT)	\$42,502	\$90,358	\$10,750	\$23,459	\$14,795
DEBT SERVICE COVERAGE RATIOS					
Senior Debt Service Coverage (Target = 1.75)	2.10	2.16	2.18	2.20	2.22
Total Debt Service Coverage (Target = 1.20)	1.47	1.53	1.56	1.59	1.63

DEBT SERVICE COVERAGE – COVID-19

Based on scenario analyses of financial impacts, which evaluate the duration and severity of COVID-19 impacts to BWVB and its customers, the Board could expect the following impact to its Revenue, PAYGO Spending, and Debt Service Coverage Ratios as compared to initial projections for 2021.

Debt Service Coverage COVID-19			
	POSSIBLE BEST CASE 2021	PROPOSED 2021	POSSIBLE WORST CASE 2021
TOTAL REVENUES	\$207,695,000	\$206,396,000	\$201,223,000
Less: Impact/System Development Fees	(1,390,000)	(1,390,000)	(1,390,000)
Less: Interest on Construction Funds	(107,508)	(107,508)	(107,508)
Plus: Loss on the Sale/Disposition of Assets	429,744	429,744	429,744
Total Revenues per Official Statement Definition	\$206,627,236	\$205,328,236	\$200,155,236
REVENUE REQUIREMENTS			
O&M Expenses	(108,335,378)	(108,335,378)	(108,335,378)
Total Revenues Available for Debt Service and PAYGO	98,291,858	96,992,858	91,819,858
Debt Service			
Senior Debt Service	(46,257,423)	(46,257,423)	(46,257,423)
Subordinate Debt Service	(19,792,934)	(19,792,934)	(19,792,934)
Total Debt Service	\$66,050,356	\$66,050,356	\$66,050,356
Base Charge Revenue as a Percent of Annual Debt Service	113.8%	114.3%	113.6%
PAYGO Spending	(\$32,150,000)	(\$30,900,000)	(\$205,285,734)
PAYGO as Percent of Capital Budget	46.9%	47.0%	37.1%
Total Revenue Requirements	(\$206,535,734)	(\$205,285,734)	(\$200,085,734)
SURPLUS/(DEFICIT)	\$91,502	\$42,502	\$69,502
DEBT SERVICE COVERAGE RATIOS			
Less: Impact/System Development Fees	2.15	2.10	2.01
Less: Interest on Construction Funds	1.50	1.47	1.45

INITIAL CONSUMPTION PROJECTION

Consumption is projected to increase by 363,969 Centum Cubic Feet (CCF) or .53%.
The schedule below provides a summary of consumption projections for FY2021.

2021 Initial Consumption Projection					
	2019 ACTUAL	2020 BUDGET	2020 ACTUAL	2021 PROJECTED	2020 TO 2021 DIFFERENCE IN CCF
RESIDENTIAL					
Block 1 (0-3 CCF)	5,046,962	5,000,000	5,335,954	5,200,000	-
Percent Change from 2020 Budget	-	-	6.72%	4.00%	-
Block 2 (3-15 CCF)	6,102,061	6,000,000	6,478,297	6,100,000	-
Percent Change from 2020 Budget	-	-	7.97%	1.67%	-
Block 3 (15+ CCF)	2,230,650	1,950,000	1,816,947	1,900,000	-
Percent Change from 2020 Budget	-	-	(6.82%)	2.56%	-
Subtotal: Residential	13,379,673	12,950,000	13,631,198	13,200,000	(431,198)
Percent Change from 2020 Budget	-	-	5.26%	1.93%	-
NON-RESIDENTIAL	14,371,947	13,419,672	11,947,475	12,750,000	802,525
Percent Change from 2020 Budget	-	-	(10.97%)	(4.99%)	-
WHOLESALE	-	830,328	869,532	860,000	(9,532)
Percent Change from 2020 Budget	-	-	4.72%	3.57%	-
RAW WATER	3,778,607	3,200,000	3,747,826	3,750,000	2,174
Percent Change from 2020 Budget	-	-	17.12%	17.19%	-
Total Consumption	31,530,227	30,400,000	30,196,031	30,560,000	363,969
Percent Change from 2020 Budget	-	-	(0.67%)	0.53%	-

Note: Wholesale started as its own customer class on January 1, 2020. Previously, Wholesale was part of the Non-Residential customer class.
Budgeting for Non-Residential subclasses begins in 2021

2021 TOTAL REVENUE PROJECTIONS

Revenue is projected to increase by \$2,799,162 or 1.37% over the estimated actual amount for FY2020. The schedule below provides a summary of consumption projections for FY2021.

2021 Total Revenue Projections			
	2020 BUDGET	2020 EST. ACTUAL	2021 PROJECTED
VOLUMETRIC REVENUE			
Residential	\$45,150,000.00	\$46,859,410.00	\$45,711,000.00
Block 1 (0-3 CCF)	12,950,000.00	13,820,121.00	13,468,000.00
Block 2 (3-15 CCF)	20,520,000.00	22,155,777.00	20,862,000.00
Block 3 (15+ CCF)	11,680,500.00	10,883,512.00	11,381,000.00
Difference from 2020 Budget		1,708,910.00	560,500.00
Non-Residential	\$53,678,688.00	\$47,789,899.00	\$51,000,000.00
Difference from 2020 Budget		(5,888,789.00)	(2,678,688.00)
Wholesale	\$3,138,640.00	\$3,286,831.00	\$3,251,000.00
Difference from 2020 Budget		148,191.00	112,000.00
Raw Water	\$3,779,200.00	\$4,426,182.00	\$4,429,000.00
Difference from 2020 Budget		646,982.00	649,800.00
TOTAL VOLUME REVENUE	\$105,474,028.00	\$102,362,322.00	\$104,391,000.00
TOTAL FIXED CHARGE REVENUE	\$75,142,705.00	\$75,142,705.00	\$75,506,000.00
OTHER REVENUE			
Fire Protection Revenue	5,560,000.00	5,709,000.00	5,709,000.00
Other Operating Revenues	2,978,000.00	3,518,028.00	3,588,000.00
Jefferson County Sewer Billing	13,953,783.00	13,953,783.00	14,233,000.00
Total Operating Revenues	\$203,381,516.00	\$200,685,838.00	\$203,427,000.00
Total Non-Operating Revenues	\$2,910,999.00	\$2,911,000.00	\$2,969,000.00
Total Revenues	\$206,292,515.00	\$203,381,516.00	\$206,396,000.00

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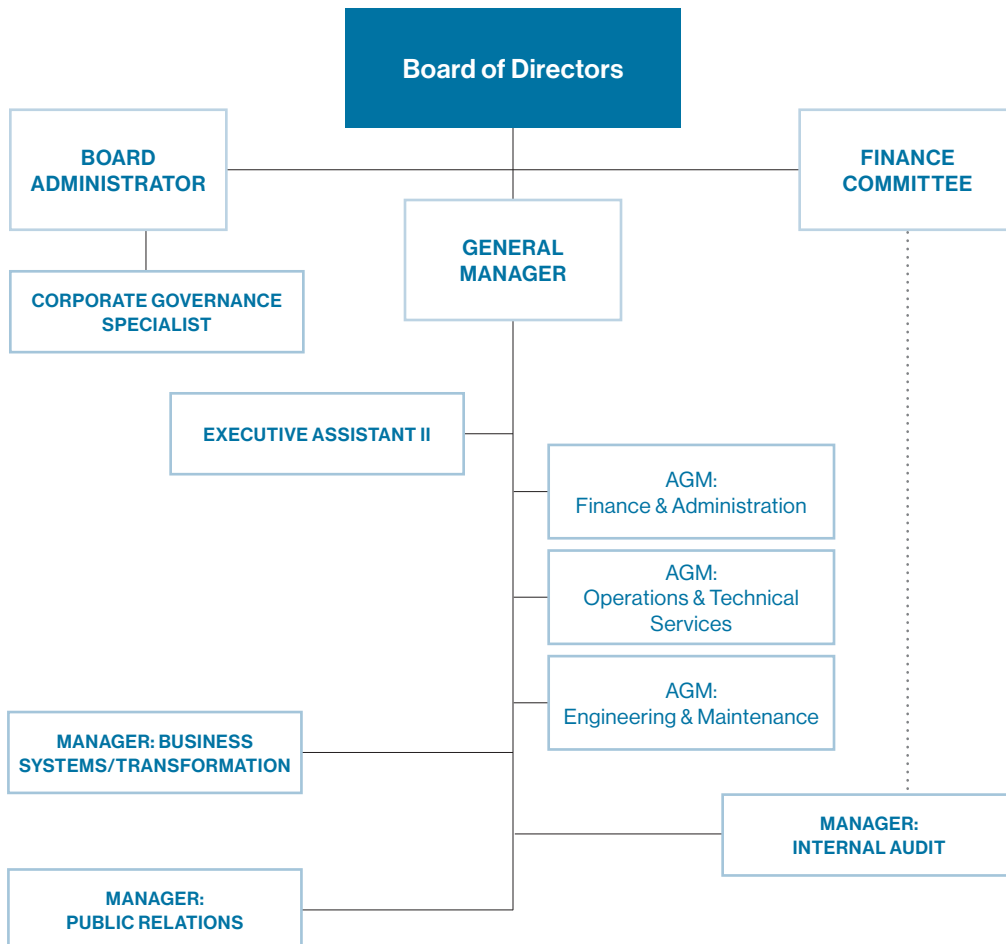
OVERVIEW OF DEPARTMENTS

DEPARTMENT SUMMARY | OPERATION BUDGET DEPARTMENTAL ALLOCATIONS |
PERSONNEL SUMMARY BY DEPARTMENT | GOALS & OBJECTIVES METHODOLOGY | EXECUTIVE DEPARTMENT |
BOARD OF DIRECTORS | COMPANY WIDE DEPARTMENT | BUSINESS SYSTEMS & OPERATIONS | INTERNAL AUDIT |
PUBLIC COMMUNICATIONS | CUSTOMER SUPPORT SERVICES | CALL CENTER | HUMAN RESOURCES |
WELLNESS & HEALTH MANAGEMENT | WATER WATCHERS | INFORMATION TECHNOLOGY | ACCOUNTING |
PURCHASING | ENVIRONMENTAL LAB | WATER TREATMENT | SECURITY | WATER RESOURCES | SCADA |
INDUSTRIAL & COMMERCIAL ACCOUNTS | ELECTRICAL & MECHANICAL | SYSTEM DEVELOPMENT |
DISTRIBUTION | ENGINEERING | MAPPING & RECORDS | WATER ACCOUNTABILITY

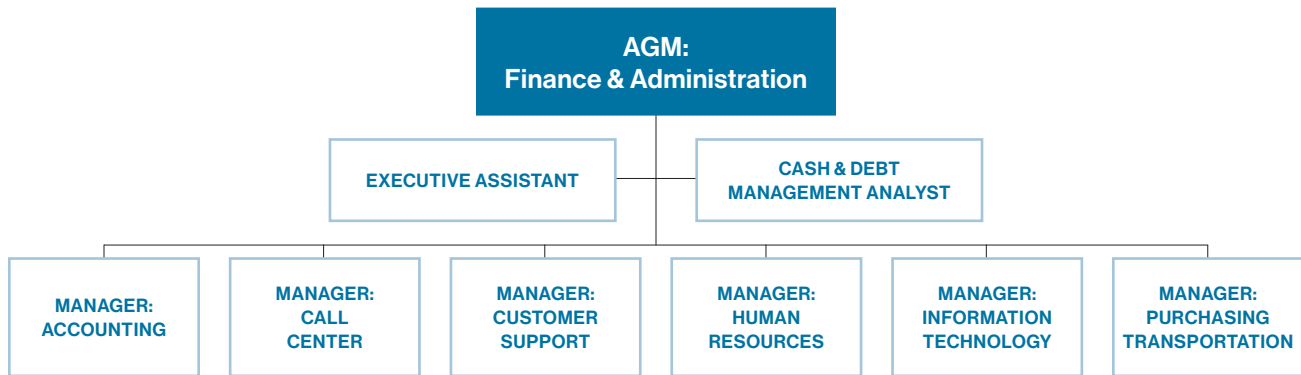
DEPARTMENT SUMMARY

The BWWB is organized into 22 functional departments, with each department having its own budget for fiscal control. The departments are organized within divisions as follows: Executive, Finance & Administration, Operations & Technical Services and Engineering & Maintenance. Each Department Manager reports to one of three Assistant General Managers (AGMs) who report to the General Manager (GM).

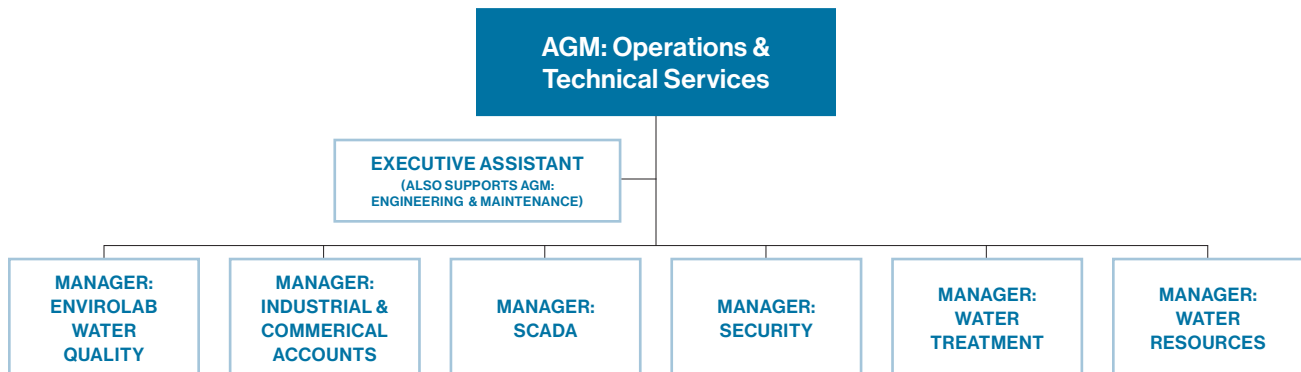
EXECUTIVE MANAGEMENT



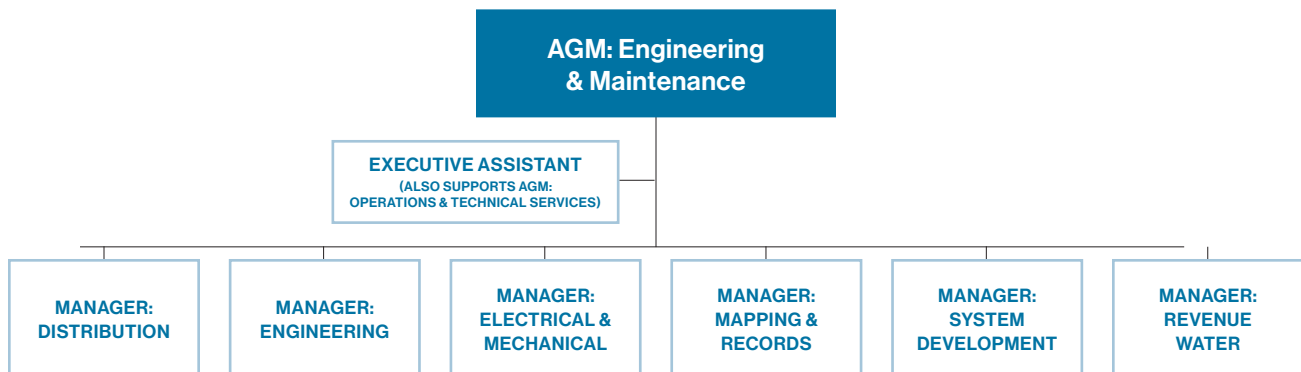
FINANCE & ADMINISTRATION DIVISION



OPERATIONS & TECHNICAL SERVICES DIVISION

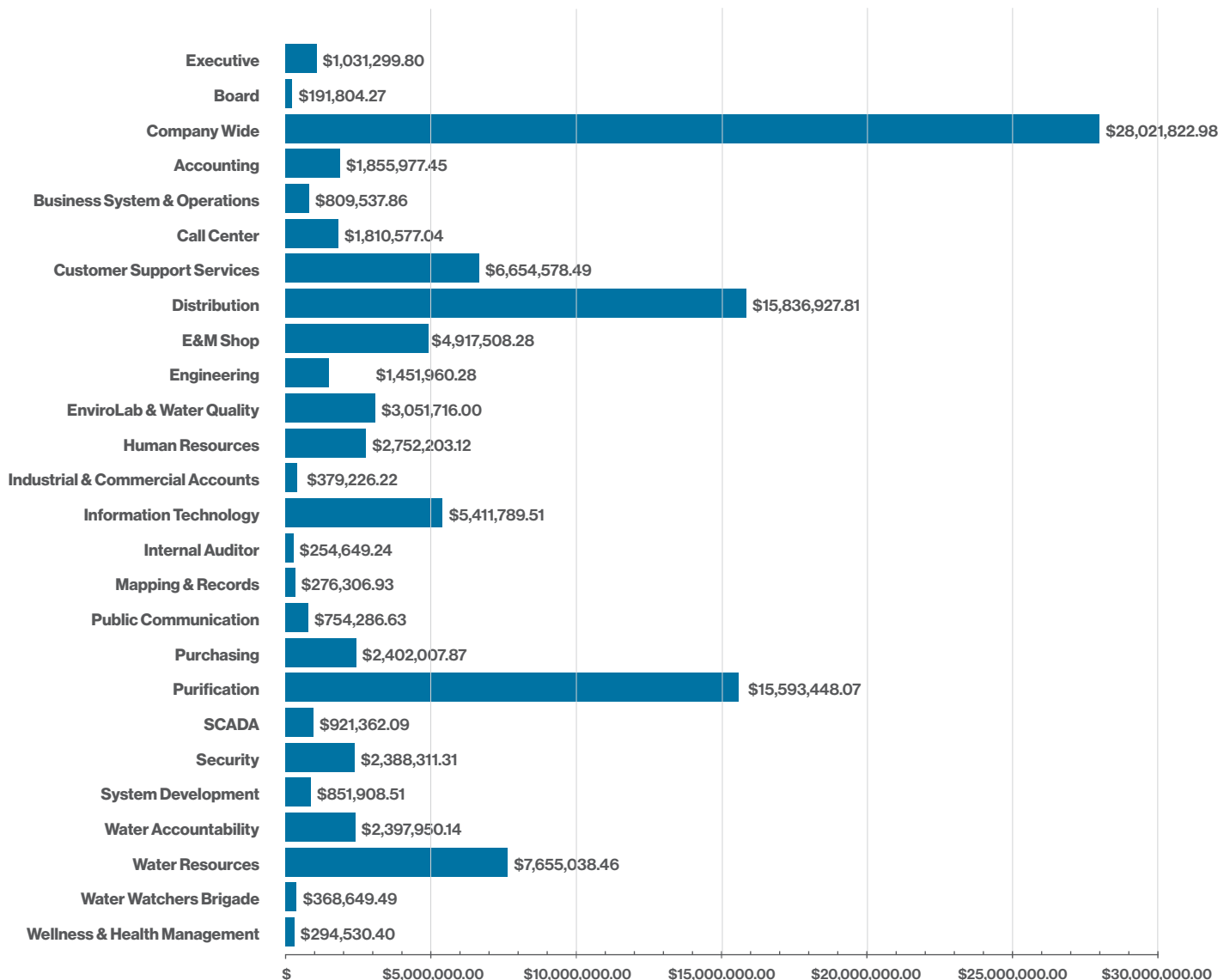


ENGINEERING & MAINTENANCE DIVISION



OPERATION & MAINTENANCE BUDGET – DEPARTMENT ALLOCATIONS

The total Operation & Maintenance Budget is \$108,335,378 and allocated as shown below.



PERSONNEL SUMMARY BY DEPARTMENT

The schedule below is a summary of total budgeted personnel for fiscal years 2017 through 2021. The 2021 O&M Budget includes funding for 691.86 FTE, an increase of 6 FTE.

O&M Summary by Division and Department						
DIVISION	DEPARTMENT	2017	2018	2019	2020	2021
EXECUTIVE	Executive	9.00	9.00	10.00	10.00	10.00
	Business Systems & Transformation	5.00	7.00	6.00	6.00	6.00
	Internal Audit	3.00	3.00	3.00	3.00	3.00
	Public Communications	1.00	1.00	1.00	3.00	3.00
	Total	18.00	20.00	20.00	22.00	22.00
FINANCE & ADMINISTRATION	Call Center	36.73	36.23	36.23	36.23	36.23
	Customer Support Services	85.00	95.00	95.00	95.00	98.00
	Human Resources	14.00	14.00	14.00	14.00	14.00
	Information Technology	21.00	20.00	19.00	18.00	19.00
	Accounting	12.00	12.00	27.45	27.45	27.00
	Treasury	16.60	16.60	–	–	–
	Purchasing	18.75	18.75	18.75	18.75	18.75
	Total	204.08	212.58	210.43	209.43	212.98
OPERATIONS & TECHNICAL SERVICES	EnviroLab	24.00	24.00	25.00	25.00	25.00
	Water Treatment	73.18	73.90	72.90	72.90	72.90
	Water Resources	33.00	33.00	33.00	33.00	33.00
	SCADA	10.00	10.00	9.00	9.00	9.00
	Security	10.80	10.80	10.73	10.73	10.73
	Industrial & Commercial Accts	2.00	2.00	2.00	2.00	3.00
	Total	152.98	153.70	152.63	152.63	153.63
ENGINEERING & MAINTENANCE	Electrical & Mechanical	39.00	40.00	40.00	40.00	40.00
	System Development	15.00	16.00	16.00	17.00	23.00
	Distribution	148.40	154.80	151.80	151.80	145.80
	Engineering	33.00	33.00	32.00	32.00	31.00
	Revenue Water	50.00	51.73	50.00	50.00	50.00
	Mapping & Records	12.00	12.00	12.00	12.00	13.00
	Total	297.40	307.53	301.80	302.80	302.80
	Grand Total	672.45	693.8	684.86	686.86	691.41

Numbers above reflect regular Full Time and Part Time Employees. Does not include co-ops, summer employees, temp employees, etc.

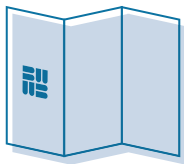
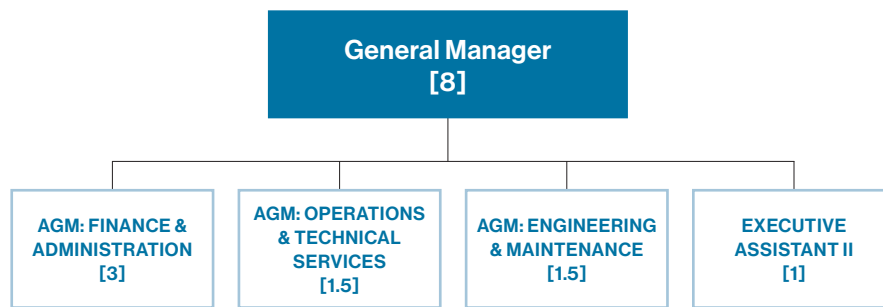
GOALS & OBJECTIVES METHODOLOGY

Below are established goals and objectives for each department developed based on the Effective Utility Management Framework.



EXECUTIVE DEPARTMENT

The Executive Department includes the General Manager, Assistant General Managers, the Board Administrator, Corporate Governance Specialist, and three Administrative Assistants. The Board of Directors is responsible for setting the Mission and Vision for the Birmingham Water Works Board (BWVB) and providing direction and leadership to meet the goals. The General Manager (GM) is responsible for the administration and the implementation of the Board policies and federal and state laws. The GM organizes the staff, assigns responsibilities, and is responsible for carrying out the policies and directives of the BWVB Directors.



EXECUTIVE DEPARTMENT MISSION

The mission of the Executive Department is to efficiently and effectively manage all aspects of the BWVB business plans, provide the leadership and direction to meet the Mission and Vision of the Board and achieve its organizational goals.

SUMMARY OF ACTIVITIES

- Provide the Board with timely information and support
- Ensure that all water facilities and programs are operating in compliance with all applicable standards
- Develop, implement and maintain effective long-term financial, operational and environmental protection plans
- Implement sound fiscal policies, budgets, and controls
- Maintain and improve effective coordination, cooperation, and communication with local, state, and federal governmental entities
- Continue innovation and creativity in providing services in a more effective, cost-efficient and sustainable manner
- Support training and development of all employees in order to improve BWWB's services
- Motivate employees and encourage teamwork throughout the organization
- Promote BWWB to the community

Executive Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$1,110,613.24	\$97,671.54	(\$133,941.70)	(12.06%)
Mileage Reimbursement	1,291.80	1,291.80	–	–
Uniforms – Non-Stock	200.00	200.00	–	–
Supplies & Expenses	20,176.80	20,176.80	–	–
Exp General Office Employee	2,355.90	2,355.90	–	–
Expenses Office and Executive	78.53	78.53	–	–
Misc Gen Exp Membership Dues	4,306.00	4,306.00	–	–
Travel Misc Other	26,219.23	26,219.23	–	–
Total Operation & Maintenance	\$1,165,241.50	\$1,028,467.80	(\$133,941.70)	(11.49%)

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$133,942 or 11.49% from the 2020 Approved Budget.

The major reason for the variance is:

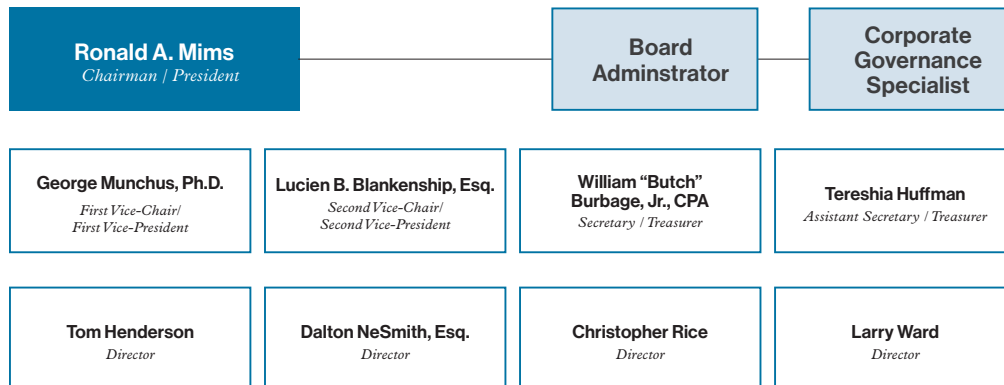
- Salaries for staff replacements are less than incumbent salary

Executive Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – General	1.00	1.00	1.00	1.00	1.00
Manager – Assistant General	3.00	3.00	3.00	3.00	3.00
Executive Assistant to the Board	1.00	1.00	1.00	–	–
Board Administrator	–	–	–	1.00	1.00
Corporate Governance Specialist	–	–	–	1.00	1.00
Executive Assistant II	1.00	1.00	1.00	1.00	1.00
Executive Assistant	3.00	3.00	3.00	2.00	2.00
Administrative Assistant II	–	–	–	–	–
Cash & Debt Management Analyst	–	–	1.00	1.00	1.00
Total Department Personnel	9.00	9.00	10.00	10.00	10.00

KEY PERFORMANCE MEASURES

1. Continue to provide quality water service despite the impact of COVID-19 protocols on available workforce
2. Continue to deliver quality customer service as measured by canvassing the environment for positive or negative customer and stakeholder feedback
3. Complete the Effective Utility Management (EUM) Assessment no later than the 2nd quarter of FY2021
4. Complete the BWWB's Strategic Plan no later than the 3rd quarter of FY2021
5. Complete the BWWB Organization assessment no later than the 4th quarter of FY2021
6. Increase performance of the Historically Underutilized Business (HUB) program by reaching a spending target of 30% or higher
7. Develop and implement a plan to onboard the newly assembled Board of Directors who assumed their positions effective January 1, 2021
8. Implement recommendations compiled from the EUM Assessment
9. Implement recommendations compiled from the Strategic Plan
10. Take advantage of opportunities to engage with customers and stakeholders through various communication platforms
11. Ensure operations of the Department are conducted in accordance with all applicable rules and regulations

BOARD OF DIRECTORS



Board Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$ 99,403.95	\$ 99,403.95	–	–
Mileage Reimbursement	1,722.40	1,722.40	–	–
Supplies & Expenses	13,451.20	13,451.20	–	–
Board Meeting Expenses	36,816.00	36,816.00	–	–
Travel Misc Other	38,754.00	38,754.00	–	–
Misc Gen Board Exp	1,656.72	1,656.72	–	–
Total Operation & Maintenance	\$ 191,804.27	\$ 191,804.27	–	–

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget is the same as the 2020 Approved Budget.

COMPANY WIDE DEPARTMENT

The Company Wide Department is used to account for employee benefits and other administrative costs not directly related to a particular department. Expenditures budgeted in this department are listed below.

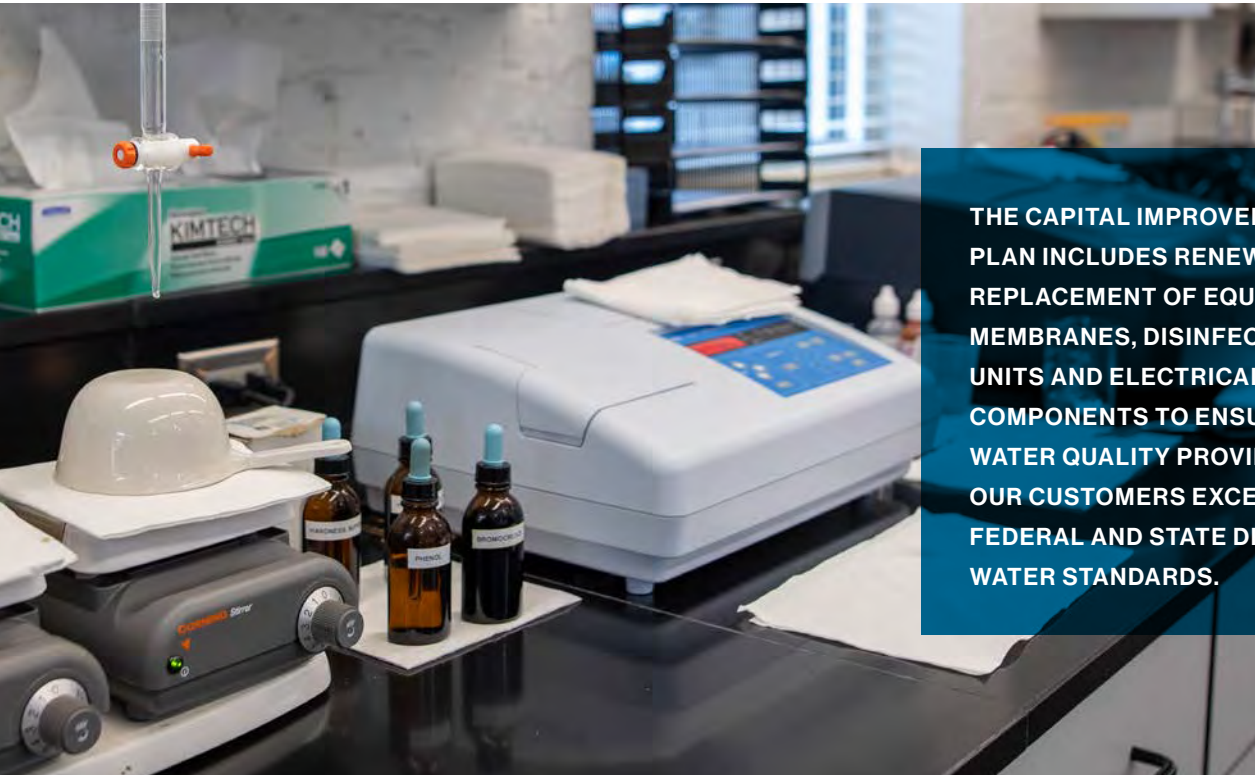
Company Wide Expenses O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Employee Expenses Competition Program	\$50,000.00	\$50,000.00	–	–
State Unemployment Insurance	19,715.00	19,715.00	–	–
Federal Insurance Contributions Act Tax	2,461,811.05	2,461,811.05	–	–
Other Post Employment Benefits	655,362.87	1,075,062.66	419,699.79	64.04%
Employer Pension	4,903,617.27	5,099,761.94	196,144.67	4.00%
Healthcare Claims Employees	5,129,994.44	4,837,542.11	(292,452.33)	(5.70%)
Group Insurance Life and Disability	188,150.67	188,150.67	–	–
Service Line	13,000.00	13,000.00	–	–
Inventory Expense	200.00	200.00	–	–
Gen Inventory Consumption Account	2,000.00	2,000.00	–	–
Meter Madness Water Competition Supplies	5,000.00	5,000.00	–	–
Tapping Team Water Competition Supplies	34,000.00	34,000.00	–	–
License Fees	4,380,000.00	4,380,000.00	–	–
Legal	1,081,470.00	1,063,982.40	(17,487.60)	(1.62%)
Best Tasting Water Competition Supplies	1,050.00	1,050.00	–	–
Top Operators Competition Supplies	1,000.00	1,000.00	–	–
Insurance - Contract	1,373,607.97	1,983,295.17	609,687.20	44.39%
Uniforms - Non-Stock	1,015.00	1,015.00	–	–
Bad Debt Expenses	3,136,895.00	4,436,895.00	1,300,000.00	41.44%
Supplies & Expenses	8,407.00	8,407.00	–	–
Contributions	100,000.00	100,000.00	–	–
Misc Gen Exp Membership Dues	107,650.00	107,650.00	–	–
Consultants	1,774,509.33	2,152,284.78	377,775.45	21.29%
Public Relations	9,204.00	–	(9,204.00)	(100.00%)
Total Operation & Maintenance	\$25,428,455.60	\$28,021,822.98	\$2,584,163.38	10.16%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$2,584,163.38 or 10.16% from the 2020 Approved Budget.

The major reasons for the variance are:

- OPEB actuarially determined contributions projected to increase based on actuarial assumptions
- Pension actuarially determined contributions projected to increase based on the funding policy
- Consulting expenses projected to increase for organization assessment, Historically Underutilized Businesses (HUB) Program and Business Sustainability & Capacity Building Program (BSCB)
- Bad debt reserves increased due to the negative financial impact of COVID-19
- Property insurance premium increased significantly mainly due to the value of property and an upswing in the market cycle caused by increases in frequency and/or severity of losses relating to hurricanes, fires, COVID-19 and social litigation



THE CAPITAL IMPROVEMENT PLAN INCLUDES RENEWAL AND REPLACEMENT OF EQUIPMENT, MEMBRANES, DISINFECTION UNITS AND ELECTRICAL/CONTROL COMPONENTS TO ENSURE THE WATER QUALITY PROVIDED TO OUR CUSTOMERS EXCEEDS FEDERAL AND STATE DRINKING WATER STANDARDS.

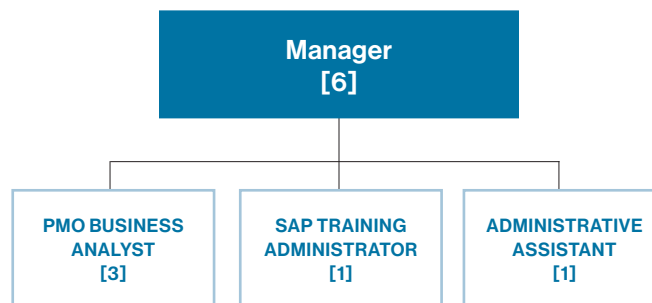
BUSINESS SYSTEMS & TRANSFORMATION

The Project Management Office (PMO) Business Systems department is responsible for championing the implementation and maintenance of the Systems, Applications and Products (SAP) system for the organization. This effort aids in improved workflow processes, real time reporting, financial reporting and customer updates. In addition, this tool provides reduction in loss of productivity due to research of issues and building of reporting to support business requests needed internally and in response to the Executive team and the Board of Directors.

The PMO team is responsible for tracking trends of the end-users and reporting items that differ from the prescribed purpose for the intention of the program. As trends are identified, they are responsible to train, coach and provide help desk support to the end users with the goal to increase the user's productivity and their ability to navigate the systems.

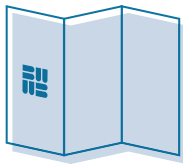
The PMO Business Analysts work with SAP consultants as they continue to support current system development and future implementations. This support includes the building and documentation of functional changes and the writing of processes for accurate data in customer and financial reporting.

This group is expected to be leaders in change management as they facilitate the leaders in the organization on new features and benefits of the system. They are responsible for leading periodic meetings meant to create a learning and sharing environment for feedback and best practices in the use of the system.



BUSINESS SYSTEMS & TRANSFORMATION

As a market leader in enterprise application software, SAP helps companies of all types and sizes run better. From the back office to the boardroom, warehouse to storefront, desktop to mobile device – SAP empowers people and organizations to work together more efficiently and use business insight more effectively to stay ahead of the competition. SAP people, applications, and services enable approximately 300,000 customers to operate profitably, adapt continuously, and grow sustainably.



BUSINESS SYSTEMS & TRANSFORMATION MISSION

Helping our internal and external customers perform at their best by delivering excellent technical support and training.

SUMMARY OF ACTIVITIES

- Serves as project manager for implementation of all SAP Enterprise Resource Planning (ERP) Systems
- Manages project team with a focus on developing, establishing and improving procedures, processes and computer operations to ensure efficient operations within departments and across multiple departments as well as companywide
- Ensures integrity of information systems, internal controls and data, including recommendations as required
- Recommends modifications to program policies and procedures to minimize risk to the company
- Mentors, coaches and manages the total competencies of multiple organizational units, including working with multiple managers, supervisors and supervisory level employees to improve operational efficiencies
- Leads a transition from old to new programs at the department and division levels and participates in the development and implementation of goals and objectives, recommendations and status to Executive Management and the Board of Directors
- Analyzes moderately complex situations to establish/recommend solutions and alternatives and alerts leadership to the impact on the company
- Leads periodic informational and planning meetings with internal departmental units as well as Executive Management
- Coordinates periodic meetings with external agencies to strategically update project implementation impacts

Business Systems & Transformation Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	FY2021	FY2020	INCREASE (DECREASE)	PERCENT CHANGE
Labor	\$519,329.99	\$525,532.00	\$6,202.01	1.19%
Supplies & Expenses	\$10,508.75	\$8,827.35	(1,681.40)	(16.00%)
Travel Misc Other	\$8,240.61	\$9,473.20	1,232.59	14.96%
Consulting	\$284,859.99	\$263,487.50	(21,372.49)	(7.50%)
Other Operation & Maintenance Expenses	\$1,076.50	\$2,217.59	1,141.09	106.00%
Total Operation & Maintenance	\$824,015.84	\$809,537.64	(\$14,478.20)	(1.76%)

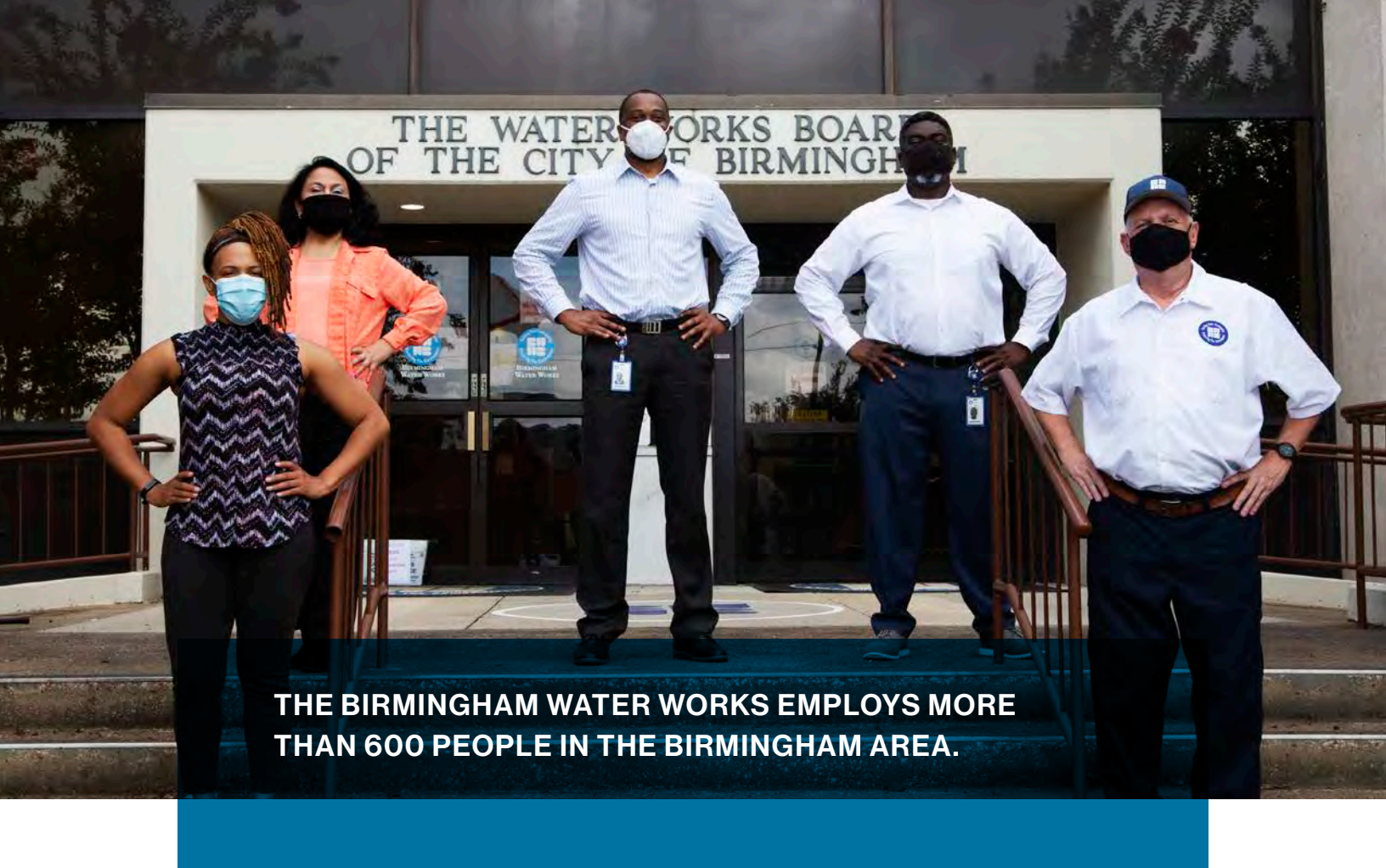
HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$14,478 or 1.76% from the 2020 Approved Budget.

The major reason for the variance is:

- Consulting expense projected to decrease based on historical trends

Business Systems & Transformation Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Business Systems Manager	1.00	1.00	1.00	1.00	1.00
SAP Business Analyst	2.00	2.00	1.00	1.00	–
SAP Business Analyst Senior	–	2.00	2.00	2.00	3.00
SAP / Business System Training Admin.	1.00	1.00	1.00	1.00	1.00
Administrative Assistant II	1.00	1.00	1.00	1.00	1.00
Total Department Personnel	5.00	7.00	6.00	6.00	6.00



KEY PERFORMANCE MEASURES

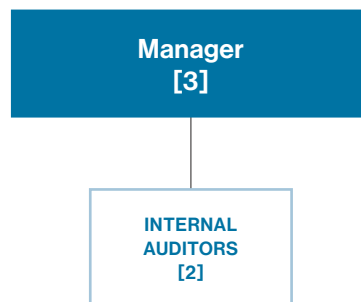
1. Complete approved projects on time (based on agreed upon schedule) and within budget
2. Conduct at least 3 SAP navigation classes new hires promotions during the year
3. Conduct at least 4 SAP content courses for approximately 60 employees during the year
4. Distribute exit surveys to stakeholders at the end of each project
5. Coordinate and monitor the Dashboard Reporting initiative to ensure its completion no later than end of third quarter

INTERNAL AUDIT

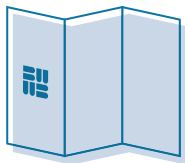
The internal audit function was established by the Finance Committee (the Committee) of the Board of Directors in the Internal Audit Charter in September 2004. The Committee defines the internal audit responsibilities as part of their oversight role. The Internal Auditing Department reports functionally to the Committee and administratively to the General Manager.

The Internal Auditing Department is the BWWB's independent internal function that performs financial, compliance, operational, information and technology, as well as internal controls audits and special investigations that are designed to:

- Provide assurance of BWWB's strategic financial and operational controls
- Identify and manage BWWB's risks and achieve BWWB's strategic objectives in an efficient, effective and ethical manner
- Add value to BWWB's operations
- Help BWWB achieve its strategic objectives by bringing a systematic and disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes



INTERNAL AUDIT MISSION



To enhance and protect organizational value by providing risk-based and objective assurance, recommendation and insight so that management can make the best possible future-focused decisions, identify areas of concern, present them to management in a balanced manner and provide the information they will need to make informed decisions on how to correct deficiencies moving forward.

SUMMARY OF ACTIVITIES

- Evaluate controls and advise management at all levels in the improvement of controls
- Evaluate management of risks assuring that adequate controls are in place to mitigate risks
- Analyze operations, confirm information, verify the existence of assets and recommend proper safeguards for their protection
- Assess compliance with policies and procedures and sound business practices
- Ensure compliance with state and local laws and regulations
- Review operations to ascertain whether results are consistent with established objectives and whether the operations are being carried out as planned
- Inspect reported occurrences of anomaly, embezzlement, theft, waste, etc.
- Publish and issue written reports following the conclusion of each internal audit engagement making recommendations for correcting problems
- Perform follow-up reviews of audit recommendations
- Publish an internal audit plan at least annually that includes risk assessment criteria and audits for the next 3 calendar years for the Committee review and approval

Internal Auditing Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$246,666.22	\$ 249,192.72	\$ 2,526.50	1.02%
Mileage Reimbursement	237.76	123.80	(113.96)	(47.93%)
Supplies & Expenses	944.95	452.30	(492.65)	(52.14%)
Misc Gen Exp Membership Dues	2,381.22	2,381.22	–	–
Travel Misc Other	1,649.20	1,649.20	–	–
Consultants	–	850.00	850.00	100.00%
Total Operation & Maintenance	\$251,879.35	\$ 254,649.24	\$2,769.89	1.10%

HIGHLIGHTS OF INTERNAL AUDITING BUDGET CHANGES

The 2021 Approved Budget increased by \$2,770 or 1.10% from the 2020 Approved Budget.

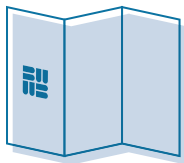
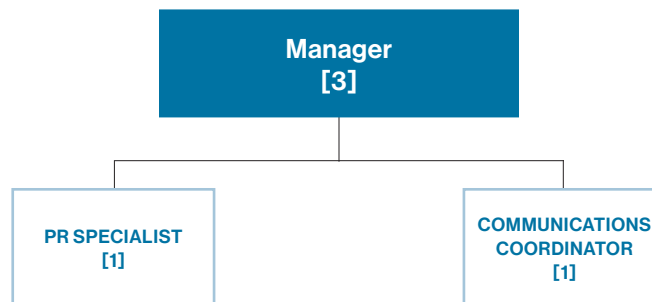
Internal Auditing Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Internal Audit	1.00	1.00	1.00	1.00	1.00
Internal Audit Trainee	1.00	1.00	1.00	1.00	1.00
Associate Auditor III	1.00	1.00	1.00	1.00	1.00
Total Department Personnel	3.00	3.00	3.00	3.00	3.00

KEY PERFORMANCE MEASURES

1. Number of audits completed is greater than 90% of the total annual audits from Audit Plan
2. Number of audits conducted per time interval, quarterly and yearly depending upon scope of audits
3. Number of special request audits is completed at 100%. Audit recommendations are accepted and implemented at 100%
4. Track the number of significant audit findings, audit issues and repeat findings at 100%
5. Assess minimizing financial loss monthly using ALESSA continuous monitoring software
6. Evaluate percentage of employees who receive ethics compliance training and number of calls to fraud/ethics hotline with resolution, semi-annually
7. Require 32 hours of training and professional development for employees, including 8 hours of accounting and auditing, 10 hours of fraud and 2 hours of ethics
8. Publish an internal audit plan annually, including audits for the next three (3) calendar years for the Finance Committee review and approval
9. Meet annually with the Finance Committee of the Board of Directors

PUBLIC COMMUNICATIONS

The BWWB Public Communications Department is responsible for setting a message calendar to detail primary monthly topics for customer-facing news and information, educational efforts, and PR initiatives throughout the year. Along with being the point of contact for the media, the Public Communications Department also works closely with the BWWB's public relations agency.



PUBLIC COMMUNICATIONS MISSION

The mission of the Public Communications Department is to consistently enhance and illustrate the image, mission and values of the BWWB by educating the public and media about the utility's ongoing initiatives and commitment to providing customers the best water at the lowest possible price.

SUMMARY OF ACTIVITIES

- Develops and implements communication strategies for the organization
- Represents BWWB to the media and public by acting as corporate spokesperson
- Fields and directs responses to all media-related inquiries and events
- Plans and implements the organization's public relations strategies, policies and procedures
- Provides feedback and oversight on media, creative and strategic plans developed by the public communications consultant
- Develops contacts and relationships with media representatives to create opportunities for BWWB products and services to maintain a positive image in the public's view
- Maintains public relations database and contacts
- Applies journalistic writing, grammar, editing, proofreading, and interviewing principles
- Advises on the preparation and presentation of product or service information at displays and exhibits
- Develops ideas and opportunities for feature articles, interviews, presentations, and other public relations activities that promote awareness of the organization and the services that BWWB provides
- Prepares and gives speeches on various subjects relating to water supply and conservation as needed
- Assists and coaches BWWB staff with public speaking engagements, presentations, and preparation of articles for publication
- Advises management on community relations projects and activities
- Works closely with the Communications Committee and the Board's public relations consultant on various tasks and projects
- Meets with staff to review issues to maintain awareness of developments and the status of capital improvement programs
- Develops, implements and manages social media systems such as Twitter, Facebook and other similar platforms; understands the social media ecosystem and uses this knowledge to leverage each channel's capabilities to achieve and reach engagement objectives
- Plans and executes campaigns to grow the reach of the BWWB social media channels; curates external, third party content sources
- Develops and writes public service announcements for media outlets and ensure PSAs are broadcast or published

Public Relations Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$238,454.33	\$241,476.63	\$3,022.30	1.27%
Mileage Reimbursement	500.00	1,000.00	500.00	100.00%
Transportation Expense	1,000.00	500.00	(500.00)	(50.00%)
Supplies & Expenses	40,000.00	40,000.00	–	–
Fuel	1,500.00	1,500.00	–	–
Misc Gen Exp Membership Dues	1,000.00	1,000.00	–	–
Travel Misc Other	7,000.00	11,200.00	4,200.00	60.00%
Public Relations	220,400.00	205,400.00	(15,000.00)	(6.81%)
Consultants	252,210.00	252,210.00	–	–
Total Operation & Maintenance	\$762,064.33	\$754,286.63	(\$7,777.70)	(1.02%)

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$7,778 or 1.02% from the 2020 Approved Budget.

The major reason for the variance is:

- Public Relations expense decreased by \$15,000 due to internal hires

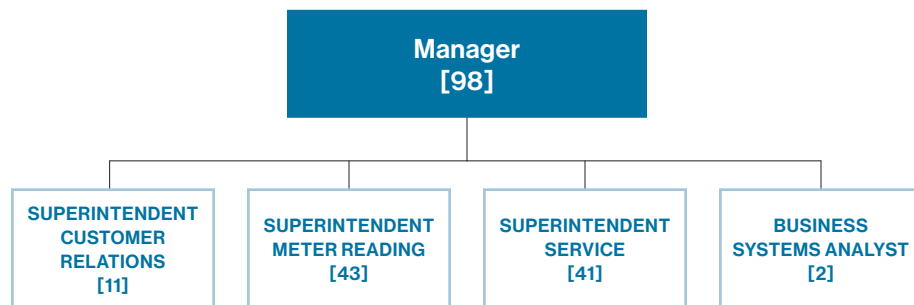
Public Communications Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Public Communications Specialist	1.00	1.00	1.00	–	–
Public Relations Manager	–	–	–	1.00	1.00
Public Relations Specialist	–	–	–	1.00	1.00
Communications Coordinator	–	–	–	1.00	1.00
Total Department Personnel	1.00	1.00	1.00	3.00	3.00

KEY PERFORMANCE MEASURES

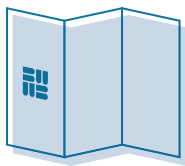
1. Monitor and manage all public relations and communication initiatives for the utility on a daily basis
2. Maintain updated social media platforms hourly to ensure a clear two-way communication channel for customers while building our audience reach
3. Review local, state, and national media outlets daily for stories that pertain to or may impact the image of BWVB
4. Sustain and build on internal working relationships with all departments and the executive team in order to effectively communicate to the public on a weekly basis
5. Meet with local elected and appointed officials and neighborhood groups monthly to discuss issues that impact them as it relates to BWVB

CUSTOMER SUPPORT SERVICES

The Customer Support Services Department is responsible for maintaining and ensuring operational standards of excellence and directing supervisors and team leaders to ensure professional quality service is provided to customers in the areas of Meter Reading, Field Services and Customer Relations.



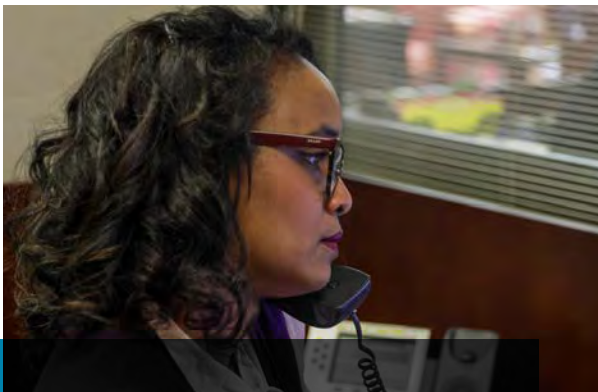
CUSTOMER SUPPORT MISSION



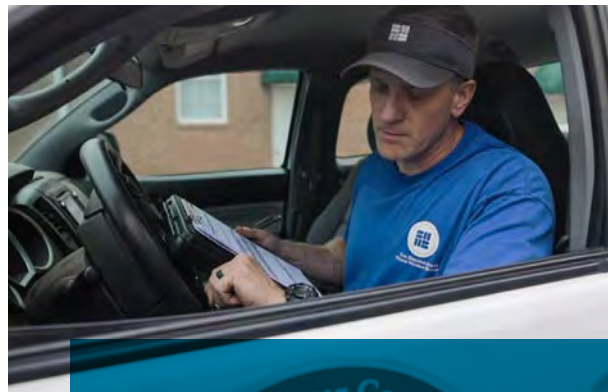
Customer Support Services is committed to providing accurate meter reading, quality professional field services and making timely billing adjustments to resolve customers' concerns in the 5 leading municipalities. Our goal is to improve the public perception of BWWB as a leader in the water industry.

SUMMARY OF ACTIVITIES

- Read residential, commercial and small industrial water meters on handheld devices
- Ensure the loading and unloading of handheld devices are performed daily
- Maintain the GeoCode Route Smart system using ArcView, ArcGIS, Arcinfo, and ArcMap
- Code system with new roads, streets and alleys to ArcGIS map
- Create sequencing and travel paths for efficiency in meter reading for geocoded locations
- Review, edit and release implausible meter readings
- Identify and investigate account issues such as high bills and provide explanations regarding customers' bills/service
- Disconnect water service for delinquent accounts
- Install new meters at customers' premises when necessary
- Shut water off for plumbing defects or irregularities as requested
- Inspect water services for correct installation or any other irregularities
- Make repairs, advise customer of needed repairs or discontinue service if unauthorized connection is discovered
- Utilize the BPEM cases to process, investigate and make corrections for billing errors, misread meters and leak adjustments
- Provide customer account information to third party collection agency to support collection efforts on charged off accounts
- Inspect private meters and measure pools for sewer billing adjustment



RESEARCH SHOWS THAT NEARLY 75% OF CUSTOMERS FALL IN LOVE WITH A BRAND OR PRODUCT BECAUSE OF FRIENDLY CUSTOMER SERVICE REPRESENTATIVES.



MAINTENANCE AND IMPROVEMENTS TO OUR EXCEPTIONAL TREATMENT FACILITIES ENSURES WE ARE ABLE TO PRODUCE WATER QUALITY THAT EXCEEDS DRINKING WATER STANDARDS.

Customer Support Services Department
O&M Expenditures Budget Summary

COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$ 5,666,538.41	\$ 5,671,442.17	4,903.76	0.09%
Cafeteria Expense	22,000.00	22,042.00	42.00	0.19%
Transportation Expenses	220,000.00	220,000.00	–	–
Uniforms	8,200.00	8,100.00	(100.00)	(1.22%)
Meters	10,000.00	10,000.00	–	–
Gen Inventory Consumption Account	28,000.00	28,000.00	–	–
Facilities Other	4,500.00	4,500.00	–	–
Utilities - Electric	116,060.00	120,000.00	3,940.00	3.39%
Uniforms - Non-Stock	24,000.00	28,950.00	4,950.00	20.63%
Bad Debt Collection Expenses	230,000.00	180,000.00	(50,000.00)	(21.74%)
Utilities – Gas/Water	30,000.00	45,000.00	15,000.00	50.00%
Supplies & Expenses	40,460.80	36,938.70	(3,522.10)	(8.70%)
Fuel	225,355.00	225,355.00	–	–
Materials Collecting	8,299.96	7,300.00	(999.96)	(12.05%)
Materials Meter Reading	25,944.80	25,944.80	–	–
Travel Misc Other	6,200.64	3,444.80	(2,755.84)	(44.44%)
Other O&M Expenses	15,966.43	17,561.02	1,594.59	9.99%
Total Operation & Maintenance	\$ 6,681,526.04	\$ 6,654,578.49	(\$26,947.55)	(0.40%)

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$26,948 or 0.40% from the 2020 Approved Budget.

The major reasons for the variance are:

- Bad Debt Collection Expense decreased due to an increase in internal collections.
- Utilities -Gas & Water increased based on historical trends.

Customer Support Services Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Customer Support Services	1.00	1.00	1.00	1.00	1.00
Superintendent – Industrial & Commercial Accounts	–	–	–	–	–
Superintendent – Services	1.00	1.00	1.00	1.00	1.00
Superintendent – Customer Relations	1.00	1.00	1.00	1.00	1.00
Superintendent – Meter Readers	1.00	1.00	1.00	1.00	1.00
Business Systems Analyst	2.00	2.00	2.00	2.00	2.00
Collections Specialist – Senior	1.00	1.00	–	–	–
Customer Relations – Team Leader	–	–	–	1.00	1.00
Collections Specialist II	–	6.00	7.00	8.00	8.00
Customer Support Specialist – Team Leader	1.00	2.00	2.00	2.00	2.00
Customer Support Specialist III	10.00	12.00	12.00	10.00	10.00
Field Service Technician – Team Lead	5.00	5.00	5.00	5.00	5.00
Field Service Technician	29.00	29.00	29.00	29.00	29.00
Meter Reader – Team Leader	4.00	4.00	4.00	4.00	4.00
Meter Reader – Senior	7.00	6.00	7.00	6.00	6.00
Meter Reader II	11.00	8.00	8.00	7.00	7.00
Meter Reader Trainee	10.00	15.00	14.00	16.00	19.00
GIS Technician	1.00	1.00	1.00	1.00	1.00
Total Department Personnel	85.00	95.00	95.00	95.00	98.00

KEY PERFORMANCE MEASURES

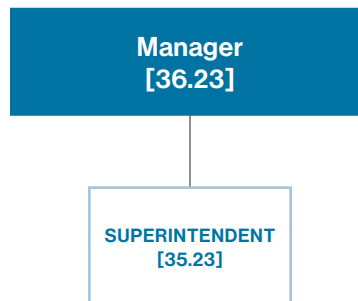
1. Maintain meter reading performance of 95% to ensure accurate customer billing and consumption information
2. Collect on delinquent accounts in-house within 45 days of shutoff and prior to the accounts being written off and turned over to a collection agency
3. Manage all debt collection to ensure 95% compliance with BWWB rules and standards
4. Investigate and respond to 100% of customer and employees' issues/concerns as they relate to meter reading, billing issues, meter service and repairs within 72 hours of receipt
5. Perform preventive and predictive maintenance on essential equipment to maintain equipment readiness of 100%



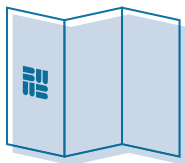
WATER LINE REPLACEMENT PROJECT: BWWB WILL CONTINUE REPLACEMENT OF THE SYSTEM'S OLDER DISTRIBUTION MAINS, PARTICULARLY GALVANIZED STEEL, DUE TO EXCESSIVE REPAIRS, WATER QUALITY, LOW FIRE FLOW, ETC.

CALL CENTER

The Call Center is responsible for ensuring that operational standards of excellence for the Call Center Department are met for all water and sewer customers in the service territory, while following through on customer inquiries related to new connections, disconnections, transfer service requests, refunds, account adjustments and invoice-related issues.



CALL CENTER MISSION



The Customer Service-Call Center Team is committed to upholding the highest standards of customer service outlined in the vision and goals of the BWWB. We are determined to provide the highest quality of service to our customers and stakeholders while understanding the critical need to make our customers' experience as unique and satisfactory as possible.

SUMMARY OF ACTIVITIES

- Answer incoming calls concerning customer service records and services
- Assist walk-in customers in the Payment Center Lobby and promptly provide customers with information and explanations regarding their bills as needed in English, Spanish and/or Sign Language for the hearing impaired
- Take applications for new services, discontinue service and update customers records
- Provide detailed information and/or instructions to requesting parties concerning BWVB services and billing information, i.e. deposit requirements, rates, meter reading, disconnect dates, inquiries related to refunds, account adjustments and invoicing issues
- Initiate work orders for service or repairs
- Initiate calls to delinquent account holders regarding the Collections Department operating procedures after review of customer's account history
- Maintain and improve customer satisfaction by resolving customer issues
- Review, investigate and respond to the State Attorney General's office regarding customer complaints
- Research, investigate and resolve Better Business Bureau (BBB) complaints from residential and commercial customers

Call Center Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$ 1,806,519.76	\$ 1,789,387.21	(\$17,132.55)	-0.95%
Uniforms	120.00	120.00	—	—
Uniforms - Non-Stock	200.00	400.00	200.00	100.00%
Utilities-Telephone	420.35	420.35	—	—
Supplies & Expenses	15,132.60	10,929.10	(4,203.50)	(27.78%)
Misc Gen Exp Membership Dues	1,119.56	1,136.78	17.22	1.54%
Materials Customer Accounting	14,000.00	5,600.00	(8,400.00)	(60.00%)
Travel Misc Other	5,597.80	2,583.60	(3,014.20)	(53.85%)
Total Operation & Maintenance	\$ 1,843,110.07	\$ 1,810,577.04	(\$32,533.03)	(1.77%)

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$32,533 or 1.77% from the 2020 Approved Budget.

The major reasons for the variance are:

- Labor decreased due to a reduction in overtime
- Material Customer Accounting decreased based on historical trends

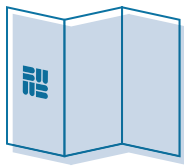
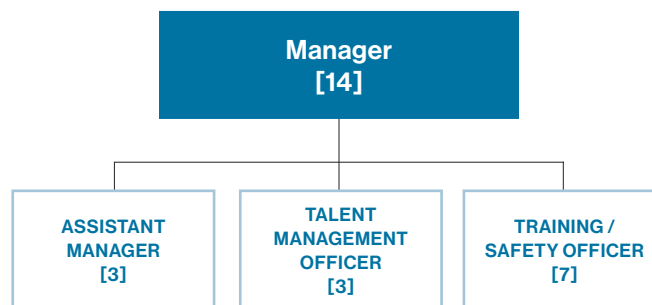
Call Center Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Call Center	1.00	1.00	1.00	1.00	1.00
Call Center Superintendent	1.00	1.00	1.00	1.00	1.00
Call Center Team Leader	2.00	2.00	2.00	2.00	2.00
Call Center Rep III	8.00	8.00	8.00	8.00	8.00
Call Center Rep II	4.00	4.00	7.00	7.00	7.00
Call Center Rep I	18.00	18.00	15.00	15.00	15.00
Operator – Telephone	2.73	2.23	2.23	2.23	2.23
Total Department Personnel	36.73	36.23	36.23	36.23	36.23

KEY PERFORMANCE MEASURES

1. Sustain an average talk time of within 3 minutes annually
2. Maintain an average wait time of under 3 minutes annually
3. Maintain an average abandonment call rate of less than 10% annually
4. Answer and handle (investigate and resolve) over 95% of customer calls annually
5. Maintain a monthly quality score of 85% on 6 random customer calls
6. Initiate 100% of field service work orders from customers

HUMAN RESOURCES

The Human Resources Department oversees the development and implementation of human resources policies, programs and services including talent acquisition, onboarding, retention, employee benefits administration and compensation, employee relations, career development and succession planning, employment practices and procedures, performance management, legal compliance, employee engagement, and safety and risk management areas and programs.



HUMAN RESOURCES MISSION

To recruit, develop, reward and retain a high performing and innovative workforce committed to achieving BWWB's vision and mission.

SUMMARY OF ACTIVITIES

- Plan, develop, organize, implement, direct and evaluate the organization's human capital management function and performance
- Act as a strategic business partner and advisor to the General Manager, Executive Staff, Management and all levels of employees throughout the organization
- Provide leadership in the critical area of talent acquisition by developing the most creative and cost-effective ways of generating high-quality candidates in the marketplace for BWWB
- Responsible for advising management to ensure complete compliance with all federal, state and local laws related to employment, benefits, compensation and training
- Oversee employee benefit programs including medical, dental, life, and disability insurance, pension plan, 457 plan, paid time off plans, worker's compensation, etc.
- Ensure Organizational Learning & Development programs are aligned with business strategy and support career development and succession planning goals
- Develop a highly effective new hire orientation program that emphasizes the critical importance and value of welcoming and integrating new employees into the corporate culture
- Administer an effective wage and salary administration program to support business goals
- Oversee personnel record keeping related to new hires, employee reviews, promotions, transfers, separations and exit interviews
- Oversee job analyses process to establish the specific requirements of individual jobs within each department for the creation and oversight of job descriptions
- Oversee safety and risk management programs in compliance with regulatory standards and business needs

AWARDS

BWWB's Human Resource Training and Organizational Development received the Training Magazine's Top 125 Award in each of the last eight years. This award is given by a worldwide leader in the learning industry to organizations that have demonstrated success in conducting organizational development programs.

THE BOARD PLACED:



2020



2019



2018



2017



2016



2015



2014



2013



**BWWB RECEIVED THE 2020 TRAINING MAGAZINE'S TOP 125 AWARD
ON FEBRUARY 24, 2020.**

L to R: General Manager Michael Johnson, Training Coordinator Meredith Hollins, Training Organizational Development & Safety/Risk Management Officer Rhonda Lewis, Human Resources Manager Paul Lloyd, and Public Relations Manager Rick Jackson

Human Resources Department
O&M Expenditures Budget Summary

COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$ 1,194,903.91	\$ 1,143,043.62	\$ (51,860.29)	(4.34%)
Training – HR	156,000.00	156,000.00	–	–
Employee Retirement / Anniversary	39,000.00	39,000.00	–	–
Flexible Benefit	27,400.00	28,200.00	800.00	2.92%
Health Club	73,202.00	73,202.00	–	–
Employee Assistance Program	34,000.00	44,000.00	10,000.00	29.41%
Employee Recruiting	44,782.40	38,754.00	(6,028.40)	(13.46%)
Tuition Reimbursement	67,173.60	67,173.60	–	–
Workers Comp Expense	538,250.00	516,720.00	(21,530.00)	(4.00%)
Facilities Other	10,088.40	8,407.00	(1,681.40)	(16.67%)
Insurance	430,000.00	400,000.00	(30,000.00)	(6.98%)
Supplies & Expenses	46,238.50	48,760.60	2,522.10	5.45%
Structural Expenses	29,424.50	29,424.50	–	–
Travel Misc Other	33,586.80	33,586.80	–	–
Consultants	87,500.00	89,000.00	1,500.00	1.71%
Other O&M Expenses	44,309.88	36,931.00	(7,378.88)	(16.65%)
Total Operation & Maintenance	\$ 2,855,859.99	\$ 2,752,203.12	(\$103,656.87)	(3.63%)

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$103,657 or 3.63% from the 2020 Approved Budget.

The major reasons for the variance are:

- Labor decreased due to a reduction in the number of student Co-op positions
- Worker's Compensation projected to decrease based on current year spending trends
- Insurance projected to decrease based on current year spending trends

Human Resources Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Human Resources	1.00	1.00	1.00	1.00	1.00
Assistant Human Resources Manager	1.00	1.00	1.00	1.00	1.00
Talent Management Officer	1.00	1.00	1.00	1.00	1.00
Training / OD & Safety Officer	1.00	1.00	1.00	1.00	1.00
Human Resources Business Partner II	1.00	1.00	1.00	1.00	1.00
Human Resources Business Partner	1.00	1.00	1.00	1.00	1.00
Comp / Benefits / HRIS Administrator	1.00	1.00	1.00	1.00	1.00
Human Resources Assistant	1.00	1.00	1.00	1.00	1.00
Training & OD Specialist	1.00	1.00	1.00	1.00	1.00
Training Specialist	1.00	1.00	1.00	1.00	1.00
Training Coordinator	1.00	1.00	1.00	1.00	1.00
Safety / Risk Management Supervisor	1.00	1.00	1.00	1.00	1.00
Safety / Risk Management Specialist	1.00	1.00	1.00	1.00	1.00
Safety Specialist	–	–	–	–	–
Risk Management Specialist	–	–	–	–	–
Safety / Risk Management Coordinator	1.00	1.00	1.00	1.00	1.00
Total Department Personnel	14.00	14.00	14.00	14.00	14.00

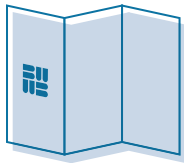
**Numbers above reflect regular Full Time and Part Time Employees. Does not include co-ops, summer employees, temp employees, etc.*

KEY PERFORMANCE MEASURES

1. Monitor and evaluate the employee benefit program's compliance, structure and cost annually against industry trends to determine appropriate resolutions for reducing cost while maintaining quality and value
2. Update HR policies and procedures annually to certify 100% compliance with all federal, state and local employment laws and requirements
3. Investigate and resolve 100% of HR complaints in accordance with BWWB employee relations ratings
4. Maintain an average time-to-fill metric in line with Gartner's benchmark time-to-fill average
5. Lead and support an organization-wide employee engagement strategy that reinforces an engagement score consistent or above the global benchmark of like-sized organizations
6. Manage and distribute quarterly reports on HR metrics approved by senior management
7. Report annual worker's compensation, personal injury and property claim costs and manage the budget
8. Generate annual external training revenue of \$5,500 by delivering new and unique training programs and courses
9. Develop and administer annual organizational programs and training solutions which impact behavioral change (Kirkpatrick Model Level 3) and business results (Kirkpatrick Model Level 4)
10. Implement annual preventive safety plans aimed at reducing vehicle accidents and personal injury costs

WELLNESS & HEALTH MANAGEMENT

The Wellness & Health Management programs are provided to employees and spouses covered under the BWWB health insurance plan to increase employee productivity and well being.



WELLNESS & HEALTH MANAGEMENT MISSION

To help control and decrease future health insurance costs by preventing or managing certain medical conditions.

SUMMARY OF ACTIVITIES

- **Humana Go365 Rewards Program:**
Encourage participants to be healthier and more productive, reduce health claims cost, reduce unscheduled absences, reduce lifestyle risk factors for chronic conditions and fewer emergency room visits
- **Abacus Diabetes Rewards Program:**
Assist participants with pre-diabetes or diabetes with improved adherence to care standards, provide lifestyle and behavioral support and increase medication adherence
- **Freshbenies Program:**
Provides advocacy, telehealth, and potential medical savings services. With telehealth services: 24/7 access to a doctor by phone or video to get a diagnosis, treatment options and a prescription. Employees save time and money by avoiding crowded waiting rooms in the doctor's office, urgent care clinic or the ER. The program provides unlimited visits with no per-visit fee

Wellness & Health Management Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
BWWB Wellness Expense	\$294,530.40	\$294,530.40	\$0.00	–
Total Operation & Maintenance	\$294,530.40	\$294,530.40	\$0.00	–

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget is the same as the 2020 Approved Budget.

PERSONNEL SUMMARY

There is no personnel in this cost center.



In a continuing effort to educate our community, the BWWB extends the Young Water Ambassador Program to high school students within our water service area with the primary objective of effectively increasing the awareness of water quality, conservation and pollution throughout our communities.



To promote understanding, appreciation, enjoyment and stewardship of our water resources, as well as provide the Young Water Ambassadors with basic life skills and knowledge to assist them in becoming well rounded community citizens.

SUMMARY OF ACTIVITIES

Young Water Ambassadors are exposed to the following:

- Visit the EnviroLab and learn the functions and responsibilities of the teams
- Visit the Call Center and listen to customer calls
- Visit Water Treatment Plants and learn about the water treatment process
- Observe Distribution Training which includes the simulation of a water main break
- Learn the dynamics of Public Speaking
- Learn skills such as making water taps, operating fire hydrants and assembling and installing water meters
- Visit Birmingham Southern College's Southern Environmental Center and learn the importance of protecting our environment
- Visit Turkey Creek Nature Preserve to learn about various endangered species of fish within our water sources
- Visit the Cahaba River on a guided tour to learn about water resource protection, conservation and restoration
- Participate in team building activities facilitated by the staff of Red Mountain Park to impart students with knowledge regarding various personality types and how best to work together to accomplish common goals
- Attend programs facilitated by Junior Achievement relative to the importance of saving and maintaining finances
- Attend a day program facilitated by Leslie Brown, Safe Kids Coordinator at Children's of Alabama, to take place at Trussville Play Station to learn the importance of not driving while distracted or under the influence
- Tour Junior Colleges (Jefferson State, Lawson State and Shelton State) to gain information about various trades (i.e. welding, plumbing, brick mason, HVAC, etc.)
- Tour 4-year college campuses at UAB, Birmingham Southern and Samford University
- Participate in numerous community service projects, such as cleaning up trash in community parks and around local schools; participate in functions spearheaded by the Public Relations department, such as Hydrate the City (sharing information with our citizens about the importance of staying hydrated)
- Assist with our Clean, Paint, and Repair Program (CPR) whereby they perform some tasks such as painting, etc., which our regular full-time staff has been unable to complete
- Ensure the cleanliness of the grounds as well as inside the MLK Recreation Center, which was our reporting location this past year

Water Watchers Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$ 284,311.98	\$ 278,799.49	\$ (5,512.49)	(1.94%)
Transportation Expense	62,000.00	71,300.00	9,300.00	15.00%
Gen Inventory Consumption Account	1,000.00	550.00	(450.00)	(45.00%)
Rent / Storage Facilities	1,500.00	1,000.00	(500.00)	(33.33%)
Uniforms - Non-Stock	4,500.00	3,000.00	(1,500.00)	(33.33%)
Supplies & Expenses	9,000.00	10,000.00	1,000.00	11.11%
Fuel	5,000.00	4,000.00	(1,000.00)	(20.00%)
Total Operation & Maintenance	\$ 367,311.98	\$ 368,649.49	\$ 1,337.51	0.36%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$1,338 or 0.36% from the 2020 Approved Budget.

The major reasons for the variance are:

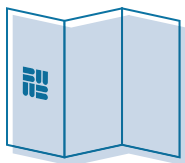
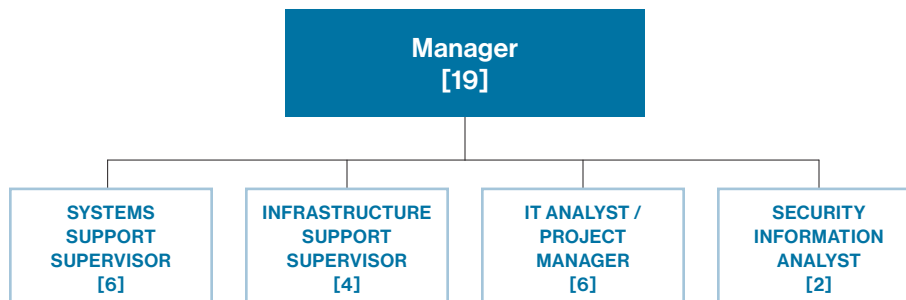
- Labor decreased due to the elimination of one position
- Transportation expenses are projected to increase based on historical spending trends

PERSONNEL SUMMARY

The BWWB hires 100 Water Watchers, 11 Teachers and 10 Ambassadors In Training (AITs) annually during the summer.

INFORMATION TECHNOLOGY

The Information Technology (IT) Department focuses on the overall computing needs of BWWB. The IT Team is responsible for the fulfilment of data processing performed within BWWB, including equipment selection, systems analysis, programming, operations and control. This includes hardware, software, telecommunications and generally anything involved in the transmittal of information or the systems that facilitate communication. The scope of responsibility includes several types of physical equipment, virtual systems, management of automation tools, operating systems and application software used to perform essential business functions. Key responsibilities also include technology architectures, methodologies and regulations governing the use and storage of data. The IT Team focuses on understanding technology issues, patterns and trends to aid BWWB in strategic decision-making and overall service delivery.



INFORMATION TECHNOLOGY MISSION

To provide technology solutions and service delivery excellence in alignment with BWWB strategic goals and objectives. Seek to anticipate and respond effectively with useful, reliable and secure technological services and solutions for BWWB.

SUMMARY OF ACTIVITIES

- Supports company-wide use of digital telephone systems which includes testing, installation, configuration, monitoring and maintenance
- Supports application software utilized by various BWWB departments which includes testing, installation, configuration, monitoring and maintenance
- Manages configuration management process which involves identifying, controlling, maintaining and verifying the versions of all configuration items in the BWWB technical environment
- Provides Help Desk support to the entire BWWB employee base with regard to requests for service, including problems, technical modifications and request for IT services
- Manages the desktop hardware/software, mobile device hardware/software and endpoint-based application software for BWWB which includes software maintenance, upgrades and the creation of new images
- Provides support to BWWB end users for laptops, desktops, mobile devices and applications
- Responsible for end user computing operating systems which includes change control, break-fix diagnosis, patch management, anti-virus management and end user acclimation
- Responsible for BWWB's server systems, data storage platforms and network connectivity components which includes design, installation, configuration, monitoring and maintenance
- Responsible for the availability, integrity and confidentiality of BWWB IT systems to ensure their maintenance is compliant with defined organizational service levels
- Maintains specific utility-wide services related to electronic mail, internet connectivity, web platforms and network connectivity (data, voice)
- Installs, configures and supports the local area network (LAN), wide area network (WAN), wireless and related network segments to ensure operability and availability
- Maintains company data backup/restoral systems and processes
- Maintains company business data replication systems and processes
- Maintains infrastructure for company firewall and other security-related systems
- Maintains a persistent focus on detecting and preventing cyber threats to the organization's computing environment
- Identify risks and deficiencies within the organization's computing infrastructure (software, hardware, networks) and determines steps for remediation
- Plans, implements, and maintains security measures for the protection of computer networks and information
- Provides internal technical leadership for responding to computer security breaches/viruses
- Performs vulnerability testing, risk analyses and cyber security-related assessments
- Collaborates with appropriate BWWB areas to train employees on cyber security awareness and operational procedures
- Enhances the current cyber security and IT security tools to provide continuous protection of organization technology infrastructure and data
- Evaluates end-user business needs to recommend, develop, implement and support solutions to meet those needs
- Analyzes user requirements, procedures and problems to automate or improve existing systems/applications, and design and develop new solutions
- Plans project stages and assesses operational implications throughout the project management life cycle

- Handles programming and/or configuration for vendor-developed software
- Provides custom programming solutions and applications
- Provides support for cloud-based applications supported by the IT Team
- Responsible for the BWWB's intranet and internet websites which includes content management and administration
- Performs exploratory analysis of internal and external data sets in order to draw conclusions about the information
- Focuses on streamlining the life cycle of information with electronic document management and automated workflows (capture, manage, store, preserve, deliver)
- Leads and manages major technology projects to achieve business strategy and vision
- Oversees process improvement projects/ initiatives which are integrated with the technical processing environment
- Develops, publishes and enforces policies and processes governing corporate data, including but not limited to data collection, warehousing, data validation, integrity, timeliness, protection, relationships and ownership
- Champions and oversees the key business process for change control, incident (outages) management and problem (post-incident review) management
- Handles risk management within the information technology segment associated with the ownership, involvement, operation, influence, adoption and use of technology across BWWB
- Performs analytical, process management and administrative duties in support of IT key processes and operational business goals

Information Technology Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$1,512,296.38	\$1,565,699.50	\$53,403.12	3.53%
Mileage Reimbursement	861.20	887.04	25.84	3.00%
Permits	1,100,000.00	1,100,000.00	—	—
Uniforms - Non-Stock	750.00	500.00	(250.00)	(33.33%)
Utilities-Telephone	300,000.00	310,000.00	10,000.00	3.33%
Supplies & Expenses	8,044.20	5,858.38	(2,185.82)	(27.17%)
Software Maintenance Support	1,175,000.00	1,190,000.00	15,000.00	1.28%
NonCapital Software Replacement	850,000.00	930,000.00	80,000.00	9.41%
Equipment Maintenance /Support	120,000.00	125,000.00	5,000.00	4.17%
NonCapital Equipment Replacement	80,000.00	80,500.00	500.00	0.63%
Misc Gen Exp Membership Dues	3,444.80	2,153.00	(1,291.80)	(37.50%)
Travel Misc Other	43,060.00	33,935.59	(9,124.41)	(21.19%)
Consultants	67,256.00	67,256.00	—	—
Total Operation & Maintenance	\$5,260,712.58	\$5,411,789.51	\$151,076.93	2.87%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$151,077 or 2.87% from the 2020 Approved Budget.

The major reasons for the variance are:

- One position was added
- Telephone expenses are projected to increase based on current year spending trends
- Maintenance expenses are projected to increase for infrastructure and systems software based upon software added in 2020 and planned for 2021
- Support for cloud-related computing services are projected to increase based on current year spending trends and expanded usage in 2021

Information Technology Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Information Technology	1.00	1.00	1.00	1.00	1.00
Business Analyst / Project Manager	4.00	4.00	4.00	4.00	4.00
Business Systems Architect	–	–	–	–	–
Senior Tech Analyst – Infrastructure Supervisor	1.00	1.00	1.00	1.00	1.00
IT Systems Support Supervisor	1.00	1.00	1.00	1.00	1.00
Business Systems Analyst	3.00	2.00	2.00	2.00	2.00
IT Web Information Security Analyst	1.00	1.00	1.00	1.00	1.00
Cyber Security Analyst	–	–	–	–	1.00
Routing / Switching Analyst	1.00	1.00	1.00	–	–
SAP Technical Analyst	1.00	1.00	1.00	–	–
Technical Analyst III	1.00	1.00	1.00	2.00	2.00
Technical Support Analyst II	1.00	1.00	1.00	1.00	1.00
Technical Support Analyst I	3.00	3.00	3.00	3.00	3.00
Computer Operator I	1.00	–	–	–	–
Computer Operator II	1.00	2.00	1.00	–	–
Help Desk Specialist	1.00	1.00	1.00	2.00	2.00
Total Department Personnel	21.00	20.00	19.00	18.00	19.00

APPROVED NEW POSITION:

Cyber Security Analyst

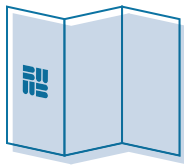
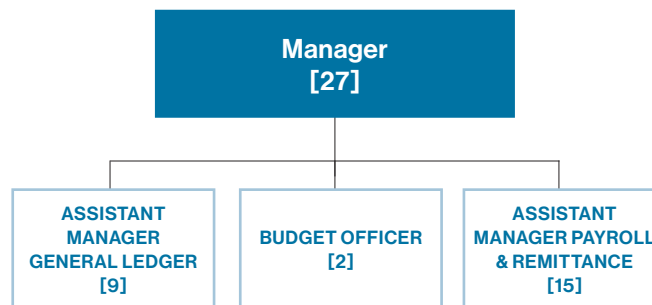
- Designs, implements, and enforces security policies that protect systems and data from access by unauthorized users
- Investigates security violations and modifies procedures to prevent future incursions
- Creates procedures for data access, protection, and backup
- Reviews changes to information systems to ensure compliance with security standards

KEY PERFORMANCE MEASURES

1. Implement and manage Information Technology infrastructure changes with little to no impact on business processing while maintaining no less than a 99% quarterly change success rate
2. Maintain no less than 99% business applications availability for all critical production systems
3. Resolve Help Desk tickets with an average first response time of 45 minutes
4. Maintain a monthly average Help Desk ticket work time of one hour
5. Resolve direct and indirect customer service disruptions within 60 minutes and determine the root cause within three business days

ACCOUNTING

The Accounting Department administers the organization's accounting principles, procedures, initiatives and internal controls through financial reporting and analysis, budgeting, payment processing, payroll, capital assets and depreciation, long-term debt, investments, accounts payable, accounts receivable, inventory, unclaimed property processing and reporting. The department provides accounting support for cost of service studies, actuarial reviews, audits and system implementations.



ACCOUNTING MISSION

To provide accurate and timely financial information for decision making and to provide outstanding customer service and support to internal and external customers.

SUMMARY OF ACTIVITIES

- Provide the Board of Directors, Executive Management, Department Managers and Supervisors with accurate and timely financial information and support
- Establish and maintain a strong system of internal controls
- Analyze Operation & Maintenance budget variances
- Process accurate and timely biweekly, monthly and supplemental payrolls
- Process customer payments remitted electronically and via mail
- Provide outstanding customer service while processing walk-in and drive-through customer payments
- Process all vendor invoices on a timely basis while taking advantage of eligible discounts
- Maintain the general ledger and related subsidiary ledgers
- Analyze capital purchases and developer contributions for proper recording and depreciation
- Reconcile all balance sheet accounts monthly
- Conduct annual physical inventory counts
- Process and report unclaimed property
- Provide management of the annual audits
- Provide support for system implementations
- Provide pension benefit estimates
- Provide data and support for cost of service studies, actuarial analysis, benchmarking surveys and other initiatives
- Analyze costs for system development projects

Accounting Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$1,731,048.62	\$1,697,551.98	(\$33,496.64)	(1.94%)
Cafeteria Expense	2,153.00	1,722.40	(430.60)	(20.00%)
Mileage Reimbursement	1,119.56	701.88	(417.68)	(37.31%)
Permits	2,310.00	–	(2,310.00)	(100.00%)
Misc Non-Operation Expenses	62,000.00	55,000.00	(7,000.00)	(11.29%)
Supplies & Expenses	45,851.03	44,947.27	(903.76)	(1.97%)
Misc Gen Exp Membership Dues	6,339.29	7,680.19	1,340.90	21.15%
Materials Collecting	15,500.00	15,000.00	(500.00)	(3.23%)
Travel Misc Other	36,262.85	27,717.73	(8,545.12)	(23.56%)
Other O&M Expenses	6,306.00	5,656.00	(650.00)	(10.31%)
Total Operation & Maintenance	\$1,908,890.35	\$1,855,977.45	(\$52,912.90)	(2.77%)

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$52,913 or 2.77% from the 2020 Approved Budget.

The major reasons for the variance are:

- Labor decreased due to the elimination of a part-time position
- Misc. Non-Operation Expense decreased due to a projected decline in bank fees

Accounting Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Accounting	1.00	1.00	1.00	1.00	1.00
Assistant Accounting Manager	1.00	1.00	2.00	2.00	2.00
General Ledger Supervisor	–	–	–	1.00	1.00
Accountant III	4.00	4.00	3.00	2.00	2.00
Accountant II	1.00	2.00	3.00	3.00	3.00
Accountant I	1.00	–	1.00	2.00	2.00
Accounts Payable Clerk II	2.00	2.00	2.00	1.00	1.00
Officer – Budget	1.00	1.00	1.00	1.00	1.00
Budget Accountant II	1.00	1.00	1.00	1.00	1.00
Superintendent – Payment Center	–	–	1.00	1.00	1.00
Supervisor – Cashiers	–	–	1.00	1.00	1.00
Cashier Team Leader	–	–	2.00	2.00	2.00
Cashier III	–	–	1.00	–	–
Cashier II	–	–	2.00	2.00	2.00
Cashier I	–	–	4.45	5.45	5.00
Remittance Processing Specialist III	–	–	2.00	2.00	2.00
Total Department Personnel	12.00	12.00	27.45	27.45	27.00

KEY PERFORMANCE MEASURES

1. Administer the accounting principles, procedures and programs to certify 100% compliance with the utility industry and generally accepted accounting reporting requirements
2. Manage the annual budgeting process for the organization by analyzing statistical data to increase financial productivity
3. Process payroll production biweekly to maintain 100% organizational and statutory compliance
4. Review payroll production processes and procedures annually to ensure corporate governance and financial security
5. Review and pay all requisitions to ensure 100% compliance with BWWB accounting policies and procedures
6. Monitor all trusteed accounts activity to maintain 100% compliance with bond agreements
7. Reconcile all general ledger accounts monthly
8. Review and pay all sewer authorities through Automated Clearing House (ACH) according to each schedule and contractual agreements
9. Process customer payments daily from the post office, night deposit, electronic payments and collection agencies with 100% accuracy and balance the totals to the Accounts Receivable (A/R) system
10. Collect and process walk-in, drive-up and online payments from internal and external customers, with a goal of 100% accuracy and efficiency
11. Conduct daily, weekly and monthly cash audits within Payment Center to ensure proper cash handling and efficiency
12. Perform daily reconciliation of checks and currency received before processing deposits to the bank

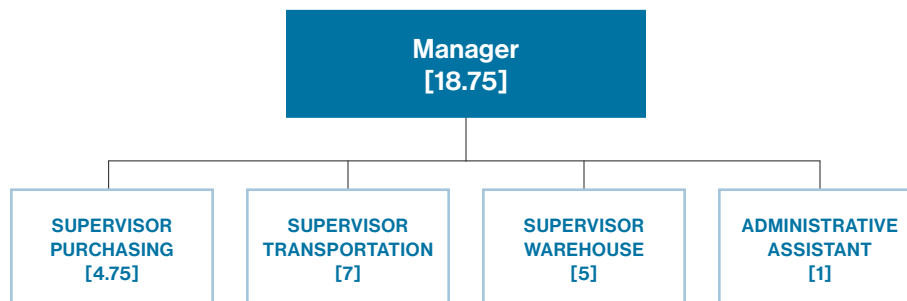
PURCHASING

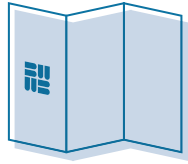
The Purchasing Department is responsible for purchasing all material utilized by the BWWB. Purchasing has several groups that perform duties such as the oversight of building cleaning and maintenance, inventory control (warehouse), fleet maintenance (transportation) and management of main campus utilities.

The Warehouse group is responsible for ordering, storing and issuing materials, tools, safety supplies, uniformed t-shirts, hats and various miscellaneous items needed to install and repair water mains and services and to equip the personnel performing those services. The Warehouse staff also receives, directs and delivers shipments for all areas of the organization, as needed.

The Transportation group maintains the BWWB's current fleet of vehicles (approximately 345 vehicles). The BWWB spends approximately \$2 million annually for vehicle purchases and maintenance. Transportation staff runs diagnostics on large vehicles and diesel engines to perform repairs. Major repairs, which includes large equipment, are outsourced.

The department has other responsibilities that include the BWWB's Historically Underutilized Businesses (HUB) program, which is designed to encourage the participation of historically underutilized businesses. Its goal is to exercise positive financial control over purchases and to meet the needs of internal customers and all BWWB departments by acquiring the most appropriate products and services at the lowest possible prices.





PURCHASING MISSION

To provide excellent service and meet the needs of internal customers by acquiring the most appropriate products and services at the lowest possible prices, operate an efficient warehouse, and provide reliable and well-maintained vehicles.

It is the intent of the BWWB to foster competition among contractors, suppliers and vendors that will result in better quality and more economical services through the BWWB's Historically Underutilized Business (HUB) program.

SUMMARY OF ACTIVITIES

- Responsible for the purchase of supplies, materials, equipment and services necessary for the operation of BWWB's system in compliance with bid laws and other regulations
- Develop the organization's procurement policies and procedures, teach procurement classes and Alabama State Bid Law to help potential suppliers to qualify for future consideration
- Direct the development of formal and informal bids, including requests for bids, requests for quotes/qualifications, requests for information and requests for proposal. Bid goods and services to meet Alabama State Bid Law and ensure all applicable legal and contractual provisions are met
- Work with the Board of Directors to establish and execute a strategy that will increase minority and HUB participation, which involves attending conferences and seminars, meeting with vendors, preparing reports and monitoring the budget
- Review purchase order claims and contracts for compliance with company policy
- Order, store and issue materials needed to install and repair water mains and services
- Review and investigate material count discrepancies related to receipts and issues in the warehouse
- Responsible for the purchase of all company vehicles and equipment
- Responsible for the proper maintenance of the entire fleet of vehicles
- Inspect and perform minor repair and maintenance on material handling equipment
- Review, evaluate and approve specifications for issuing and awarding bids to suppliers through the bid process

Purchasing Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$1,172,106.64	\$1,195,520.61	\$23,413.97	2.00%
Cafeteria Expense	19,693.92	21,530.00	1,836.08	9.32%
Transportation Expense	167,449.00	158,200.00	(9,249.00)	(5.52%)
Facilities Other	21,000.00	22,000.00	1,000.00	4.76%
Distributions Mains	15,000.00	15,000.00	--	--
Janitorial Services	104,312.50	208,625.00	104,312.50	100.00%
HVAC	54,242.50	58,415.00	4,172.50	7.69%
Utilities - Electric	298,058.00	306,706.00	8,648.00	2.90%
Utilities - Gas/Water	94,398.00	93,065.00	(1,333.00)	(1.41%)
Supplies & Expenses	41,896.99	41,444.35	(452.64)	(1.08%)
Fuel	26,900.00	28,900.00	2,000.00	7.43%
Miscellaneous Property	13,185.10	12,517.50	(667.60)	(5.06%)
Structural Expenses	129,347.50	130,182.00	834.50	0.65%
Misc Gen Exp Membership Dues	11,398.84	9,718.64	(1,680.20)	(14.74%)
Material Collecting	50,000.00	60,000.00	10,000.00	20.00%
Travel Misc Other	10,591.90	9,344.02	(1,247.88)	(11.78%)
Other O&M Expenses	18,730.63	30,839.75	12,109.12	64.65%
Total Operation & Maintenance	\$2,248,311.52	\$2,402,007.87	\$153,696.35	6.84%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$153,696 or 6.84% from the 2020 Approved Budget.

The major reasons for the variance are:

- Utilities are projected to increase based on current year spending trends
- Janitorial Services increased due to the impact of COVID-19
- Materials Collecting increased for postage based on current year spending trends

Purchasing Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Purchasing	1.00	1.00	1.00	1.00	1.00
Supervisor – Purchasing	1.00	1.00	1.00	1.00	1.00
Coordinator – Purchasing	1.00	1.00	1.00	1.00	1.00
Buyer	1.00	1.00	1.00	1.00	1.00
Administrative Assistant III	1.00	1.00	1.00	1.00	1.00
Attendant – Building / Messenger II	1.00	1.00	1.00	1.00	1.00
Attendant – Building / Maintenance	0.75	0.75	0.75	0.75	0.75
Supervisor – Warehouse	1.00	1.00	1.00	1.00	1.00
Senior Materials Handler – Team Leader	1.00	1.00	1.00	1.00	1.00
Materials Handler	3.00	3.00	3.00	3.00	3.00
Supervisor - Transportation	1.00	1.00	1.00	1.00	1.00
Senior Automotive Technician	1.00	1.00	1.00	1.00	1.00
Junior Automotive Technician	–	–	1.00	1.00	1.00
Automotive Technician II	1.00	1.00	–	–	–
Automotive Technician	3.00	3.00	3.00	3.00	3.00
Clerical Assistant	1.00	1.00	1.00	1.00	1.00
Total Department Personnel	18.75	18.75	18.75	18.75	18.75

KEY PERFORMANCE MEASURES

1. Monitor and evaluate price and cost control for the organization by reducing cost for all supplies, materials and contracts
2. Regulate all BWWB bids to ensure 100% compliance with Alabama Competitive Bid Laws and BWWB Purchasing Requirements and Guidelines
3. Review and approve all purchase orders and requisitions to ensure 100% compliance with BWWB company policies and procedures
4. Manage performance and preventive maintenance on vehicles and equipment to ensure 100% compliance with BWWB and manufacturer's specifications
5. Maintain the BWWB's fleet to improve asset life and reduce unplanned maintenance activities or breakdowns by 5%
6. Track and manage fleet to sustain downtime by 10% and availability by at least 90% annually
7. Track and manage warehouse inventory to maintain no more than 10% lost or damaged materials and supplies annually

ENVIROLAB

The EnviroLab is one of the largest utility-owned certified laboratories in the state of Alabama among drinking water systems. In 1993, the EnviroLab had six employees. Due to the growth of the system, regulatory demands, customer complaints and inquiries as well as source water monitoring and plant optimization, the department has grown to include the Water Quality Operations and the Regulatory Compliance groups. The BWWB EnviroLab is a state-of-the-art, on-site, testing laboratory that provides immediate access to analytical data and quality control information to help optimize the filter plants' daily operations and ensure the safety of the drinking water supply. EnviroLab tests over 100,000 different parameters and more than 60,000 samples each year while also performing as a testing lab for six consecutive systems and as a secondary lab for two contract labs.

The Laboratory is currently certified to analyze the following drinking water parameters:

- Primary Metals and Minerals
- Secondary Inorganics
- Volatile Organic Compounds (VOCs)
- Pesticides and Herbicides
- Synthetic Organic Compounds
- Trihalomethanes (THMs)
- Haloacetic Acids (HAAs)
- Total Organic Carbon, Nutrients – Chlorite, Bromide
- Total Coliform & E. coli – Bacteriological

The Water Quality Operations group is the first line of defense and is committed to maintaining quality control in the distribution system; from the outer gates of the water treatment (filter) plants to the customer's tap. This part of our operations monitors and performs corrosion control, particulate removal, sediment removal, taste-and-odor control and discolored water control. Water Quality also makes residual improvements for low chlorine, controls bacteriological growths, responds to customer complaints and system emergencies, collects customer-requested samples, makes water mains rehabilitation recommendations, and installs water quality control devices.

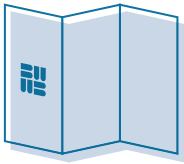
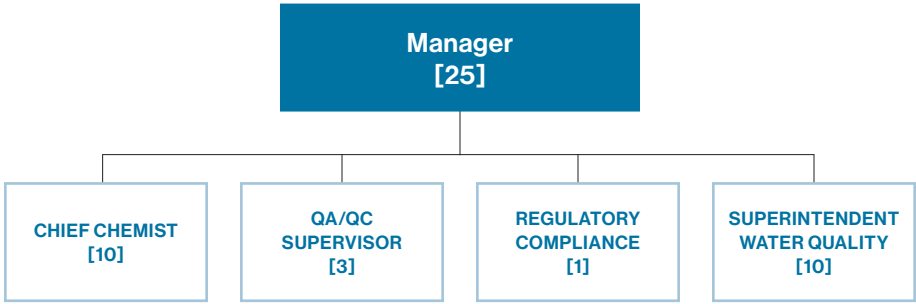
To facilitate these operations along with conventional and unidirectional flushing, we utilize the following:

- 38 5/8-inch Meter Box Sample Stations
- 60 – 5 1/4-inch Fire Hydrants Flush points, utilized because of its strategic location
- 113 Mueller HG2 Hydro-Guard Automatic Programmable Flushing Devices
- 4 – 2-inch Safety Guard Sample Stations at the request of the Shades Mountain Treatment Plant
- 112 – 2-inch Safety Guard Sample Stations around the Distribution System
- 8 Maxi-Me Flush Hydrants, 6-inch pipe and above with dual (2) 2 1/2 NST thread connections
- 98 Mini-Me Flush Hydrants (1) 2-inch NST connection
- 16 Mueller Pressure Monitoring Systems
- 20 – 2-inch Air Release Valves
- 2 Mueller's S.M.A.R.T. Intelligent Automatic Programmable Flushing Systems Devices
- Kupferle's Intelligent Turbine Controlled Automatic Programmable Flushing Systems Device





MAINTENANCE AND IMPROVEMENTS TO OUR EXCEPTIONAL TREATMENT FACILITIES ENSURES WE ARE ABLE TO PRODUCE QUALITY WATER THAT EXCEEDS DRINKING WATER STANDARDS.



ENVIROLAB MISSION

To maintain the highest quality of water for the BWWB distribution system through routine monitoring, legally defensible data, flushing (both conventional and unidirectional) while keeping our customers educated about water concerns and maintaining quality service, integrity, productivity, reliability and safety.

SUMMARY OF ACTIVITIES

- Approve testing data and submit to ADEM
- Maintain the Laboratory Information Management System (LIMS)
- Perform internal audits of the EnviroLab
- Perform routine flushing to rid the system of unpleasant water quality issues
- Collect samples that are analyzed for microbiology parameters and wet chemistry parameters
- Maintain all water quality control equipment throughout the distribution system
- Perform compliance testing for consecutive systems
- Schedule inside residence plumbing verifications to support the lead and copper project
- Perform lead and copper testing
- Prepare the annual Consumer Confidence Report
- Install quality control flushing devices, sample stations, flush hydrants and intelligent automatic programmable flushing system devices
- Maintain flushing operations throughout all pumping gradients in the BWVB distribution system while responding 24/7 as needed during system emergencies
- Collect customer requested samples, investigate complaints and address customer concerns after a main break or a customer technical service complaint

EnviroLab Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$1,914,678.66	\$1,941,226.32	\$26,547.66	1.39%
Cafeteria Expense	8,722.40	7,361.20	(1,361.20)	(15.61%)
Transportation Expenses	23,000.00	22,500.00	(500.00)	(2.17%)
Contractor Charges	50,000.00	50,000.00	–	–
Facilities Other	95,000.00	100,000.00	5,000.00	5.26%
CCR/Lead Copper Expenses	98,607.40	135,639.00	37,031.60	37.55%
Supplies Purification	325,000.00	310,000.00	(15,000.00)	(4.62%)
Material Equipment Purification	150,000.00	150,000.00	–	–
Sampling	40,000.00	40,000.00	–	–
Utilities - Electric	117,638.62	127,200.00	9,561.38	8.13%
Utilities - Gas Water	57,750.00	55,000.00	(2,750.00)	(4.76%)
Fuel	47,500.00	47,000.00	(500.00)	(1.05%)
Miscellaneous Property	16,500.00	15,500.00	(1,000.00)	(6.06%)
Travel Misc Other	25,836.00	25,836.00	–	–
Other O&M Expenses	32,695.28	24,453.48	(8,241.80)	(25.21%)
Total Operation & Maintenance	\$3,002,928.36	\$3,051,716.00	\$ 48,787.64	1.62%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$48,788 or 1.62% from the 2020 Approved Budget.

The major reasons for the variance are:

- CCR/Lead Copper Expense increase due to regulatory requirements
- Supplies expenses projected to decrease based on current year spending trends
- Utilities projected to increase based on current year spending trends

EnviroLab Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – EnviroLab	1.00	1.00	1.00	1.00	1.00
Assistant Manager - Chief Chemist	1.00	1.00	1.00	1.00	1.00
Quality Control Assurance Officer	1.00	1.00	1.00	1.00	1.00
Quality Control Specialist	2.00	2.00	2.00	2.00	2.00
Lab Data Coordinator	1.00	1.00	1.00	1.00	1.00
Chemist II	1.00	1.00	1.00	1.00	1.00
Chemist I	2.00	2.00	2.00	3.00	3.00
Lab Technician III	2.00	2.00	2.00	1.00	1.00
Lab Technician II	1.00	2.00	2.00	2.00	2.00
Lab Technician I	2.00	1.00	1.00	1.00	1.00
Regulatory Compliance Specialist	1.00	1.00	1.00	1.00	1.00
Superintendent – Water Quality Operations	1.00	1.00	1.00	1.00	1.00
Technical Service Coordinator I	1.00	1.00	1.00	1.00	1.00
Water Quality Technician – Team Leader	1.00	1.00	1.00	1.00	1.00
Water Quality Technician II	4.00	4.00	4.00	7.00	7.00
Water Quality Technician I	2.00	2.00	2.00	–	–
Utility Worker I (Light Duty)	–	–	1.00	–	–
Total Department Personnel	24.00	24.00	25.00	25.00	25.00

KEY PERFORMANCE MEASURES

1. Collect and perform bacteriological testing on 210 – 240 samples monthly for the water treatment plants, raw water sources and distribution to maintain 100% compliance with Alabama Department of Environmental Management (ADEM)
2. Collect and perform disinfection byproducts testing on 26 samples monthly and quarterly at distribution, consecutive systems master meters and water treatment plants (entry point) to maintain 100% compliance with ADEM regulations
3. Collect and perform Distribution System Evaluation (DSE) testing on 12 samples bi-monthly (every 60 days) to maintain 100% compliance with ADEM regulations
4. Collect and perform inorganic/organic chemicals (primary, synthetic and volatile) testing monthly and quarterly at all water treatment plants to maintain 100% compliance with ADEM regulations
5. Collect and perform secondary inorganic drinking water contaminants testing every first and third quarter at all water treatment plants to maintain 100% compliance with ADEM regulations
6. Collect and perform unregulated volatile and synthetic organic chemicals testing every first and third quarter at all water treatment plants to maintain 100% compliance with ADEM regulations
7. Perform and analyze lead and copper testing on 50 samples at predetermined customer tap locations every three years to maintain 100% compliance with ADEM
8. Perform and analyze lead and copper corrosivity testing semi-annually from a representative entry point to the water distribution system per water treatment plant to maintain 100% compliance with ADEM regulations
9. Perform and analyze radiological contaminants testing annually at all water treatment plants to maintain 100% compliance with ADEM regulations

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10. Collect and perform Long-Term 2 (LT2) testing for Giardia, Cryptosporidium, E. coli and Turbidity bi-monthly at all water treatment plants to maintain 100% compliance with ADEM regulations
11. Collect and monitor additional raw water and source water testing as needed to maintain 100% compliance with ADEM regulations
12. Perform and document monthly facility, property and equipment maintenance to certify 100% compliance with the Clean, Paint, and Repair (CPR) program
13. Analyze and record testing samples for consecutive systems to maintain 100% compliance with ADEM regulations
14. Maintain lab certification by passing the annual audit for organic, bacteriological and inorganic analysis according to the Environmental Protection Agency (EPA) certification regulations and guidelines
15. Retain 100% of the required 14-day testing turnaround time (TAT) for all samples
16. Sustain the Minimum Detection Limits (MDL) and Reporting Limits (RL) to certify 100% compliance with the Environmental Protection Agency (EPA) methods
17. Perform and document monthly preventive and predictive maintenance on essential testing and flushing equipment to maintain equipment readiness of at least 90%
18. Investigate and respond to at least 95% of customer water quality complaints within 2 hours to remove sediment, eliminate low chlorine residual and/or to resolve taste, color and air concerns
19. Operate and record over 250 flushing points monthly through conventional flushing to minimize the loss of chlorine residual in the distribution system
20. Operate and record over 5 flushing points biannually through unidirectional flushing to remove impurities in the distribution system

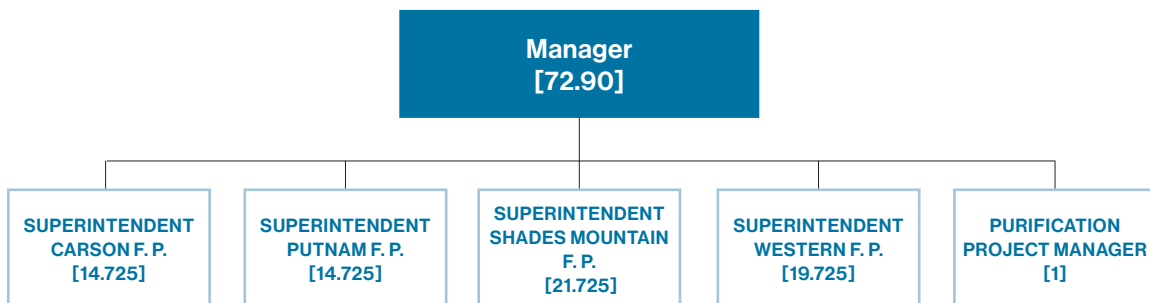
WATER TREATMENT

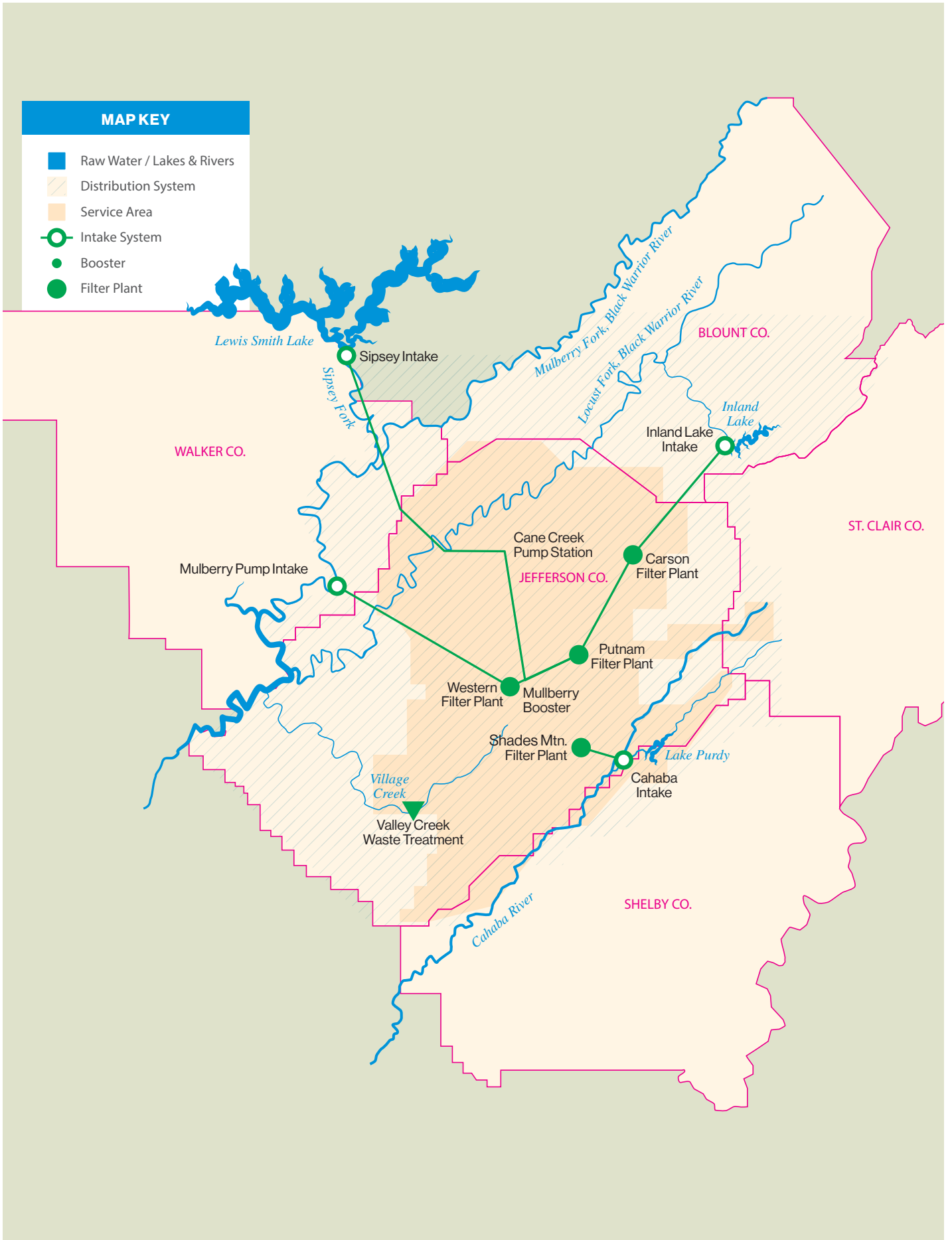
The BWWB Water Treatment Department produces potable water to serve approximately 655,000 people via direct retail service in Jefferson County and four surrounding counties. Additionally, approximately 115,000 people are served via wholesale sales to consecutive systems. Four water filtration plants process and treat the raw water as follows:

Jefferson County		
FILTRATION PLANT	RATED CAPACITY	SOURCE OF SUPPLY
Shades Mountain	80 MGD	Cahaba River – Lake Purdy
Putnam	24 MGD	Mulberry Fork, Smith Lake or Inland Lake
Western	60 MGD	Mulberry Fork or Smith Lake
Carson	25 MGD	Inland Lake, Smith Lake or Mulberry Fork

Alabama Department of Environmental Management (ADEM) requires Grade IV Certified Operators at each filtration plant to ensure water quality and quantity meets or exceeds state and federal regulations. Each filtration plant is recognized annually for meeting and/or exceeding standards.

The department's goal is to ensure that local and federal drinking water regulations are implemented and enforced to be recognized at the national level for safe and clean water.





SHADES MOUNTAIN FILTER PLANT



PUTNAM FILTER PLANT



WESTERN FILTER PLANT

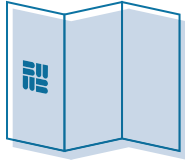


CARSON FILTER PLANT





**WATER IS COMPOSED OF TWO ELEMENTS,
HYDROGEN AND OXYGEN.**



WATER TREATMENT MISSION

To provide our customers with the highest quality water possible at the most affordable rate.

To provide efficient, effective and reliable water services in a manner that preserves and conserves our precious water resources and the natural environment to ensure adequate water quality and supply for future generations.

SUMMARY OF ACTIVITIES

- Produce a high quality and quantity of water to the Birmingham area and systems that purchase water
- Perform water quality tests to ensure water quality
- Dose and maintain chemical feed points
- Fill and maintain storage tanks for drinking water and fire protection
- Backwash filters
- Make adjustments to basin and clear well levels
- Coordinate with E&M staff to schedule maintenance of equipment
- Run lab test to monitor required water characteristics and maintain highest quality of water
- Test and maintain all backflow devices and backflow prevention program



AS PART OF OUR OVERALL FILTER REHABILITATION PROGRAM, BWB HAS CHOSEN TO UPGRADE THE FILTERS AT EACH PLANT TO PROVIDE THE FLEXIBILITY FOR INSTALLATION OF GRANULAR ACTIVATED CARBON (GAC) IN THE FILTERS.

AWARDS

CARSON

AWPCA Best Operated Plant Award 20.1 – 30.0 MGD

EPA and AWWA Partnership for Safe Drinking Water President's Award (3 Years)

Water Quality Fluoridation Award from the CDC

PUTNAM

AWPCA Award of Excellence for Surface Water plant Category 20.1 to 30 MGD

Water Quality Fluoridation Award from the CDC

ADEM AWOP 7 Year Optimized Plant Award

EPA and AWWA Partnership for Safe Drinking Water President's Award (2 Years)

AWWA Alabama/Mississippi Section Operator of the Year Award: Bill Shikle (2-time Recipient)

EPA and AWWA Partnership for Safe Drinking Water Directors Award (15 Years)

WESTERN

Water Quality Fluoridation Award from the CDC

EPA and AWWA Partnership Award of Excellence (5 Years)

EPA and AWWA Partnership Directors Award (10 Years)

SHADES MOUNTAIN

ADEM AWOP 7-year Optimized Plant Award

AWPCA Award of Excellence for Surface Water Greater than 60 MGD

Water Quality Fluoridation Award from the CDC



OUR VISION IS TO BE RECOGNIZED LOCALLY AND NATIONALLY FOR PROVIDING THE HIGHEST QUALITY WATER TO OUR CUSTOMERS BY FOCUSING ON CUSTOMER SERVICE, INNOVATION, FISCAL RESPONSIBILITY, AND SUSTAINABLE GROWTH.

Water Treatment / Purification Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$4,621,149.03	\$4,590,706.77	(\$30,442.26)	(0.66%)
Cafeteria Expense	5,094.96	5,697.80	602.84	11.83%
Power	2,970,799.00	3,103,391.00	132,592.00	4.46%
Transportation Expense	47,000.00	47,000.00	–	–
General Inventory Consumption	13,850.00	14,550.00	700.00	5.05%
Chemicals	4,992,407.17	6,099,999.98	1,107,592.81	22.19%
Materials Structure Purification	183,500.00	285,000.00	101,500.00	55.31%
Supplies Expense Purification	332,500.00	391,000.00	58,500.00	17.59%
Sludge Handling Purification	13,800.00	23,400.00	9,600.00	69.57%
Materials Equipment Purification	349,000.00	425,100.00	76,100.00	21.81%
Materials Other P&P Maintenance	50,000.00	75,000.00	25,000.00	50.00%
Materials Electrical P&P Maintenance	33,500.00	43,500.00	10,000.00	29.85%
Uniforms - Non-Stock	92,950.00	89,950.00	(3,000.00)	(3.23%)
Utilities - Telephone	18,900.00	7,700.00	(11,200.00)	(59.26%)
Utilities - Gas/Water	94,500.00	79,800.00	(14,700.00)	(15.56%)
Pump Expense Electrical P&P	66,000.00	57,000.00	(9,000.00)	(13.64%)
Fuel	75,525.00	77,525.00	2,000.00	2.65%
Miscellaneous Property	54,242.50	100,974.50	46,732.00	86.15%
Misc Gen Exp Membership Dues	13,822.26	8,698.12	(5,124.14)	(37.07%)
Travel Misc Other	18,731.10	26,481.90	7,750.80	41.38%
Other O&M Expenses	39,964.76	40,973.00	1,008.24	2.52%
Total Operation & Maintenance	\$14,087,235.78	\$15,593,448.07	\$1,506,212.29	10.69%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$1,506,212 or 10.69% from the 2020 Approved Budget.

The major reasons for the variance are:

- Power expenses projected to increase based on Alabama Power projections
- Chemical expenses projected to increase based on historical trends
- Material Structure, Material Equipment and Supplies projected to increase based on historical trends
- Miscellaneous Property increased due to need for more frequent maintenance of grounds at the filter plants

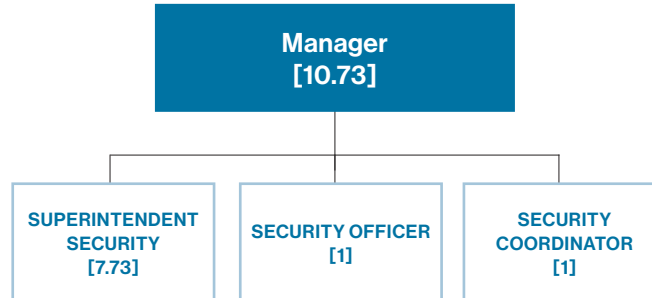
Water Treatment / Purification Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Water Treatment	1.00	1.00	1.00	1.00	1.00
Superintendent – Filter Plant - Senior	1.00	1.00	1.00	1.00	1.00
Superintendent – Filter Plant	3.00	3.00	3.00	3.00	3.00
Operator – Filter – Chief	1.00	1.00	1.00	1.00	1.00
Operator – Filter – Senior	3.00	3.00	3.00	3.00	3.00
Operator IV	4.00	4.00	4.00	4.00	4.00
Operator III	12.00	12.00	12.00	12.00	12.00
Operator II	7.00	8.00	9.00	10.00	10.00
Operator I	1.00	1.00	–	–	–
Operator Trainee	5.00	4.00	4.00	4.00	4.00
Operator Intern	2.18	2.90	2.90	2.90	2.90
Worker – Maintenance – Purification	12.00	15.00	12.00	10.00	10.00
PMW Trainee	4.00	1.00	3.00	5.00	5.00
Supervisor – Filter Plant – Maintenance	3.00	3.00	3.00	3.00	3.00
Maintenance Crew Leader	4.00	4.00	4.00	4.00	4.00
Purification Special Projects Coordinator	1.00	1.00	1.00	1.00	1.00
Residual Plant Operator II	2.00	2.00	2.00	4.00	4.00
Residual Plant Operator I	5.00	5.00	5.00	4.00	4.00
Solids Handler I	2.00	2.00	2.00	–	–
Total Department Personnel	73.18	73.90	72.90	72.90	72.90

KEY PERFORMANCE MEASURES

1. Treat the water to maintain 100% compliance with all BWWB, state and federal regulations
2. Perform plant and facility maintenance to certify 100% compliance with the Clean, Paint, and Repair (CPR) program
3. Collect daily water samples and perform required ADEM process testing and treatment for microbial contaminants and bacteria on site
4. Adhere to all monthly ADEM requirements for water treatment control, monitoring and operations reporting
5. Perform preventative and predictive equipment maintenance to maintain equipment readiness of 95%
6. Develop, maintain and record maintenance schedules for all equipment located at the water treatment plants on a daily, weekly and monthly timetable
7. Process 10–15 million pounds of sludge (dry solids) annually through dewatering operations and deliver to BWWB landfills

SECURITY

The Security Department is responsible for all matters related to the security of BWWB's critical facilities and personnel. The team develops and enforces security policies to ensure a safe environment for employees and visitors, along with ensuring the safety and security of all water operations. Console Operators monitor an integrated security system 24/7 from a central command center, an integrated security system that protects our 11 manned sites (4 treatment plants, 4 intake pumping stations, 2 dams, and our main campus) and over 50 unmanned pump stations and tanks.



SECURITY MISSION



To strive for excellence by continuing its standing as one of the top security departments in the country by protecting BWWB's employees, customers, assets and reputation through leadership, exceptional staff, technology and innovation while maintaining an environment that fosters teamwork and enables our employees to grow.

SUMMARY OF ACTIVITIES

- Manage the development and implementation of global security policies, standards, guidelines and procedures to ensure ongoing maintenance of security
- Work with the Executive Management team to prioritize security initiatives and spending based on appropriate risk management and/or financial methodology
- Oversee the development, implementation, and maintenance of the company's policies, standards, guidelines, processes, procedures and plans that will serve to govern and manage physical security for BWVB
- Establish security policy to remain compliant with critical infrastructure standards and other relevant security standards
- Lead operational security-related activities to enhance the value of the organization's brand
- Review the organization's vulnerability assessment and update the emergency response plan
- Develop relationships with the Department of Homeland Security (DHS) and the local police
- Develop security outreach programs for all employees
- Develop and conduct workplace violence prevention/situational awareness training
- Oversee maintenance of all security equipment
- Work with consultants to design security improvements
- Develop a loss prevention program
- Develop and conduct ongoing training for security personnel
- Develop relationship with the local Emergency Management Agency (EMA)
- Conduct tabletop exercises with local and federal agencies
- Conduct threat assessments for assets not deemed "critical" per the vulnerability assessment

Security Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$ 739,658.99	\$ 715,465.31	(\$24,193.68)	(3.27%)
Cafeteria Expense	3,000.00	2,000.00	(1,000.00)	(33.33%)
Mileage Reimbursement	1,600.00	1,600.00	–	–
Service Line	50.00	50.00	–	–
Transportation Expense	1,500.00	1,500.00	–	–
Inventory Expense	160.00	160.00	–	–
Uniforms	750.00	750.00	–	–
Gen Inventory Consumption Account	1,000.00	1,000.00	–	–
Security Guards Expenses	1,262,507.86	1,375,000.00	112,492.14	8.91%
Uniforms - Non-Stock	3,000.00	3,000.00	–	–
Utilities-Telephone	750.00	750.00	–	–
Supplies & Expenses	27,500.00	20,000.00	(7,500.00)	(27.27%)
Fuel	4,176.00	4,176.00	–	–
Software Maintenance Support	9,000.00	9,000.00	–	–
Equipment Maintenance/Support	40,000.00	40,000.00	–	–
NonCap Equipment Replacement	135,000.00	195,000.00	60,000.00	44.44%
Miscellaneous Property	60.00	60.00	–	–
Misc Gen Exp Membership Dues	10,000.00	10,000.00	–	–
Travel Misc Other	8,800.00	8,800.00	–	–
Total Operation & Maintenance	\$2,248,512.85	\$2,388,311.31	\$139,798.46	6.22%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$139,798 or 6.22% from the 2020 Approved Budget.

The major reasons for the variance are:

- Security Guards pay projected to increase
- Non-Capital Equipment Replacement transferred from the E&M Department

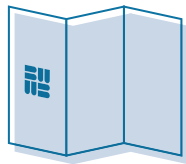
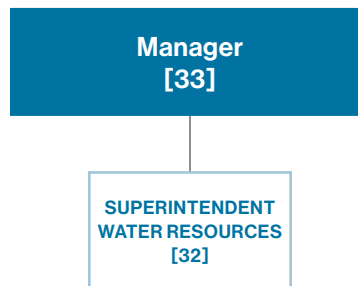
Security Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Security Manager	1.00	1.00	1.00	1.00	1.00
Security Superintendent	1.00	1.00	1.00	1.00	1.00
Security Coordinator	1.00	1.00	1.00	1.00	1.00
Senior Security Console Operator	1.00	1.00	1.00	1.00	1.00
Security Console Operator	4.00	4.00	4.00	4.00	4.00
Security Officer	1.00	1.00	1.00	1.00	1.00
Part Time Security Officer	0.80	0.80	0.73	0.73	0.73
Security Maintenance Technician	1.00	1.00	1.00	1.00	1.00
Total Department Personnel	10.80	10.80	10.73	10.73	10.73

KEY PERFORMANCE MEASURES

1. Maintain National Incident Management System (NIMS) compliance through the annual tabletop training exercise and demonstrate lessons learned to enhance the BWWB's emergency readiness
2. Perform and record quarterly security and facility testing to certify the Physical Integrated Security System is performing at no less than 98% accuracy
3. Monitor and notify Security Management team of 100% of security emergencies, threats and issues within 10 minutes
4. Conduct and record annual security audits and risk assessments for all BWWB facilities and assets
5. Perform and record monthly testing of all panic and hold up alarms to maintain equipment readiness

WATER RESOURCES

The Water Resources Department is responsible for ensuring the reliable and efficient operation of 4 intake stations, 4 industrial water pumping stations and 6 groundwater well sites. This is accomplished by supervising and maintaining operations of stations, tank sites, a 115kv substation, reservoirs, dams and other related sites.



WATER RESOURCES MISSION

To provide an adequate supply of high quality raw water to BWWB filter plants and commercial/ industrial customers and to efficiently operate and maintain all facilities. Develop and implement the best management practices for watershed protection policy.

SUMMARY OF ACTIVITIES

- Repair malfunctioning equipment and arrange maintenance schedules for motors, cone valves, pumps and other associated appurtenances
- Record and monitor all pump stations and reservoir data (multilins, vibration levels, river/lake levels, packing, cooling water, chemical feeds)
- Maintain reservoir levels (tanks and basins) within the desired ranges with the least amount of starts and stops on motors and pumps
- Perform and record preventative and predictive equipment maintenance to maintain equipment readiness
- Perform and document monthly structural and ground maintenance in accordance with the Clean, Paint, and Repair (CPR) program
- Collect 150 water samples monthly from intakes and source water throughout the service area for required ADEM testing and treatment of microbial contaminants and bacteria
- Pre-treat raw water as directed by Water Treatment to maintain compliance with all regulatory requirements
- Consult with SCADA, Security, Filter Plants and Emergency Response Units as it relates to emergency, security and raw water supply concerns, issues and incidents
- Host training seminars, social events and conduct guided tours at the Historic Cahaba Museum



**FOR 2021, BIRMINGHAM
WATER WORKS HAS BUDGETED
\$81,484,428 FOR ITS CAPITAL
IMPROVEMENT PROGRAM.**

Water Resources Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$ 2,245,619.31	\$ 2,236,733.47	(\$8,885.84)	(0.40%)
Cafeteria Expense	7,002.71	5,918.46	(1,084.25)	(15.48%)
Power	4,644,974.00	4,754,556.00	109,582.00	2.36%
Mileage Reimbursement	20,660.44	18,162.96	(2,497.48)	(12.09%)
Transportation Expense	15,200.00	13,300.00	(1,900.00)	(12.50%)
Supplies Expense Purification	30,900.00	23,700.00	(7,200.00)	(23.30%)
Material Electrical Maintenance	35,200.00	35,200.00	–	–
Utilities - Electric	50,400.00	52,912.00	2,512.00	4.98%
Uniforms - Non-Stock	40,199.00	20,700.00	(19,499.00)	(48.51%)
Utilities-Telephone	13,020.00	12,780.00	(240.00)	(1.84%)
Pump Expense Electrical	10,600.00	10,600.00	–	–
Material Electrical Maintenance	62,500.00	62,500.00	–	–
Other Structural Material	16,999.00	17,000.00	1.00	0.01%
Intake Material Maintenance	28,000.00	23,000.00	(5,000.00)	(17.86%)
Reservoir Material	31,499.00	51,500.00	20,001.00	63.50%
Fuel	26,337.50	25,715.00	(622.50)	(2.36%)
Miscellaneous Property	23,609.35	40,382.80	16,773.45	71.05%
Structural Expenses	90,000.00	90,000.00	–	–
Supplies Expense	96,000.00	85,500.00	(10,500.00)	(10.94%)
Consultants	–	46,800.00	46,800.00	100.00%
Other O&M Expenses	46,143.70	28,077.77	(18,065.93)	(39.15%)
Total Operation & Maintenance	\$7,534,864.01	\$7,655,038.46	\$120,174.45	1.59%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$120,174 or 1.59% from the 2020 Approved Budget.

The major reasons for the variance are:

- Power expenses projected to increase based on Alabama Power projections
- Consultants transferred from Engineering Department

Water Resources Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Water Resources	1.00	1.00	1.00	1.00	1.00
Superintendent – Water Resources	1.00	1.00	1.00	1.00	1.00
Supervisor / Inland Dam & Reservoir	1.00	1.00	1.00	1.00	1.00
Supervisor – Cahaba Pump Station	1.00	1.00	1.00	1.00	1.00
Supervisor – Pump Station	3.00	3.00	3.00	3.00	3.00
Supervisor – Inland Pump Station	1.00	1.00	1.00	1.00	1.00
Caretaker – Lake Purdy	1.00	1.00	1.00	1.00	1.00
Pump Station Operator	14.00	15.00	14.00	12.00	12.00
Museum Coordinator	1.00	1.00	1.00	1.00	1.00
Station Operator Trainee	3.00	2.00	3.00	5.00	5.00
Worker – Maintenance – Purification	6.00	6.00	6.00	6.00	6.00
Total Department Personnel	33.00	33.00	33.00	33.00	33.00

KEY PERFORMANCE MEASURES

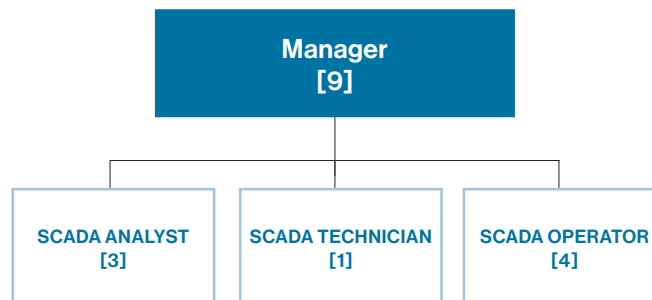
1. Record and monitor all pump stations and reservoir data (multilins, vibration levels, river/lake levels, packing, cooling water, chemical feeds) with a 95% accuracy rate
2. Maintain reservoir levels (tanks and basins) daily within the desired ranges with the least amount of starts and stops on motors and pumps
3. Perform and record preventative and predictive equipment maintenance to maintain equipment readiness of at least 90%
4. Perform and document monthly structural and ground maintenance to certify 100% compliance with the Clean, Paint, and Repair (CPR) program
5. Collect 150 water samples monthly from intakes and source water throughout our service area for required ADEM testing and treatment of microbial contaminants and bacteria
6. Pre-treat raw water as directed by Water Treatment for Shades Mountain Filter Plant to maintain 100% compliance with all regulatory requirements
7. Consult with the SCADA, Security and Water Treatment departments and emergency response units as it relates to emergency, security and raw water supply concerns, issues and incidents

SUPERVISORY CONTROL & DATA ACQUISITION (SCADA)

Supervisory Control & Data Acquisition (SCADA) is the use of technology to monitor and control processes locally and remotely. SCADA systems usually have “analog” information (e.g. numbers indicating the water level in a tank) and digital or status information.

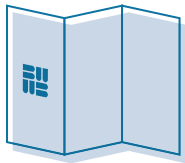
They can send a status value (e.g. start a pump) and receive it (e.g. the pump has started). The computer can be used to summarize and display the data it is processing. Trends (graphs) of analog values over time are very common. Collecting the data and summarizing it into reports for operators and management are normal features of a SCADA system.

The BWWB’s SCADA system consists of Distributive Control System (DCS) equipment at all of the treatment plants and raw water pump stations and remote telemetry systems that connect the respective plant to tank sites, pump stations and pressure reducing stations that are miles away. The Central Operations Room and Emergency (CORE) recovery command center is connected to all of the major operational facilities of the BWWB. The CORE maintains programs and data that are necessary to support the entire SCADA system. During adverse weather conditions and operational challenges, the CORE becomes the heartbeat of the water system, and the most critical operational decisions are made based on the data provided.





**EXCELLENT CUSTOMER SERVICE INVOLVES MEETING
AND SURPASSING EXPECTATIONS.**



SCADA MISSION

To maximize the functions of the SCADA System to assure that BWWB provides the highest quality water to its customers. To accomplish this with sincere effort, intelligent direction and skillful execution by providing superior controls, accurate data and great service.

SUMMARY OF ACTIVITIES

- Program and configure the control system at all major BWWB water treatment plants and raw water pump stations to allow these facilities to operate with automatic controls
- Provide graphical user interface at each plant for operators' use
- Acquire data on plant and distribution system operations
- Perform the duties of the Emergency Switchboard Operator after normal work hours, weekends and holidays
- Assist and coordinate BWWB personnel in after-hours emergencies to help limit the impact on customers
- Monitor and maintain operations for all communication equipment
- Provide data to management for analysis and decision making

SCADA Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$ 278,374.33	\$ 281,160.96	\$ 2,786.63	1.00%
Mileage Reimbursement	1,291.80	1,291.80	–	–
Transportation Expense	1,500.00	1,500.00	–	–
Uniforms	100.00	100.00	–	–
General Inventory Consumption Acct	150.00	3,000.00	2,850.00	1,900.00%
Facilities Other	7,000.00	5,000.00	(2,000.00)	(28.57%)
Other Office Materials	1,132.40	1,132.40	–	–
Supplies Materials	251.70	251.70	–	–
Materials Equipment Purchase	2,500.00	2,500.00	–	–
Uniforms – Non-Stock	800.00	500.00	(300.00)	(37.50%)
Utilities – Telephone	600.00	600.00	–	–
SCADA Operations	0.00	89,352.28	89,352.28	100.00%
Fuel	2,000.00	2,000.00	–	–
Communication Equipment Maintenance	325,455.00	325,455.00	–	–
Software Maintenance Support	32,179.00	15,000.00	(17,179.00)	(53.39%)
Equipment Maintenance/Support	172,864.00	177,487.00	4,623.00	2.67%
Miscellaneous Property	1,251.75	1,251.75	–	–
Misc General Exp Membership Dues	1,291.80	861.20	(430.60)	(33.33%)
Travel Misc Other	8,612.00	12,918.00	4,306.00	50.00%
Total Operation & Maintenance	\$837,353.78	\$921,362.09	\$ 84,008.31	10.03%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$84,008 or 10.03% from the 2020 Approved Budget.

The major reason for the variance is:

- SCADA Electrical and Maintenance expenses transferred from the E&M Department

SCADA Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – SCADA System	1.00	1.00	1.00	1.00	1.00
SCADA System Analyst	2.00	2.00	2.00	2.00	2.00
SCADA System Analyst Trainee	1.00	1.00	1.00	1.00	1.00
SCADA System Operator II	1.00	–	1.00	–	–
SCADA System Operator	3.00	4.00	3.00	4.00	4.00
Wireless Communication Technician	2.00	2.00	1.00	1.00	1.00
Total Department Personnel	10.00	10.00	9.00	9.00	9.00

KEY PERFORMANCE MEASURES

1. Conduct and record monthly maintenance of the SCADA system to confirm the system and servers will be operational 100% of the time
2. Investigate and respond within four hours of notification and resolve problems within 24 hours
3. Monitor SCADA operations of raw and finished water systems 24/7 to maintain 100% compliance with all BWWB, state and federal regulations
4. Operate Raw Water Pump Stations to maintain a supply of water through operation of pumps and valves 100% of the time
5. Perform preventative and predictive radio communication hardware equipment maintenance to sustain equipment readiness of at least 98%
6. Implement an annual strategy to reduce electricity usage cost
7. Perform and verify the SCADA control system backup quarterly to confirm authenticity

INDUSTRIAL & COMMERCIAL ACCOUNTS

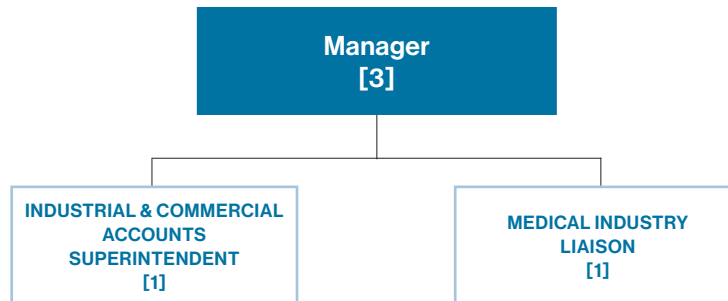
The growth of our customer base translates to greater water usage. This growth assists BWWB in having dependable sources of revenue to maintain and expand our quality services. We currently sell potable water to residential, commercial (non-residential), and wholesale customers. In addition, we also sell non-potable raw water to industrial clients.

Alabama Department of Environmental Management (ADEM) defines a consecutive system as “A public water system that receives some or all of its finished water from one or more wholesale systems. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.” (*ADEM Admin. Code r. 335-7-1-.01*). BWWB has:

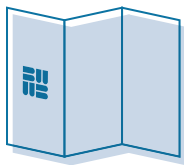
- Four sole source consecutive systems (Graysville Water Works, Mulga Water Department, West Jefferson Water System and Brookside Water System)
- Two “take or pay” consecutive systems which are required to take a minimum consumption (Pine Bluff Water Authority and Reamlap-Pine Mountain Water)
- Two compliance systems (Alabama Power and University of Alabama – Birmingham)
- Five emergency connections (Shelby County Water, Irondale Water, Trussville Water, Blount County Water and Bessemer Water)

The consecutive systems’ distribution systems have been optimized to reduce disinfection byproducts. They have also been designed and/or upgraded to mimic BWWB’s system (compliance, standard operating procedures, etc.). Each consecutive system is able to maintain water services for at least 24 hours (non-emergency) as needed for BWWB system repair. BWWB conducts water quality testing for its consecutive systems and has assisted with leak surveys in the past. Approximately 115,000 residents are served via BWWB consecutive systems.

The largest non-potable water customer is US Steel. In the 1980s, their water consumption averaged 35-40 MGD; however, consumption reduced significantly due to unfavorable market conditions that led to the closure of the Fairfield blast furnace. US Steel recently announced the restart of construction for an electric arc furnace. This project is estimated to be completed in 2021 with a projected water consumption of 8-10 MGD.



INDUSTRIAL AND COMMERCIAL MISSION



The Industrial and Commercial Department is committed to providing the highest quality of water to meet the needs and expectations of our customers and stakeholders. Our services enhance the economic, social and environmental well-being of the communities we serve.

SUMMARY OF ACTIVITIES

- Manage company initiatives to ensure resolution of compliance issues, annual rate notification, technical/regulatory notifications and service calls
- Coordinate with internal departments to ensure all filings are complete and ready for the annual consumer confidence report for public consumption
- Act as a proactive liaison between BWWB and industrial/commercial/wholesale customers, helping with water issues. Communicates with individuals and groups face-to-face and hosts one-on-one meetings by telephone or in person
- Meet compliance issues per ADEM with our consecutive partners. Provide reporting to the Office of Water Resources
- Manage secured customer website containing real-time SCADA data to ensure integrity for customers reporting dashboards are accurately reflected
- Coordinate the planning requirements and execution for the annual raw water conference. This includes internal departments, customers and industry agencies
- Proactively monitors customer reporting data to design strategies that will support compliance and consistency according to the ADEM requirements
- Works with customers to develop action plans based on findings from ADEM system audits
- Create and maintain emergency contracts for customers and consecutive systems to support any deviation in normal production of raw water
- Meet and communicate orally and in writing with customers, other city departments, and service providers to discuss water operation issues
- Provide resolution to service calls, Mayor issues, and raw water updates to our customers
- Provide onsite training and water system presentations
- Provide oversight in the administration of contracts relating to industrial, wholesale and commercial water customers

- Conduct annual rate review and test calculation on rate schedule and billing. Send notification of rate change to our customers and respond to any billing questions.
- Demonstrate ongoing efforts to improve operations, decrease turnaround times, streamline work processes and work cooperatively and jointly to provide quality, seamless customer service
- Review reports and research discrepancies relating to unaccounted for water and account contracts
- Provide executive reports/briefing on the activity of customers and impact on revenue
- Track and report on non-revenue water and volume and status of collections

Industrial & Commercial Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$244,606.94	\$336,654.18	\$92,047.24	37.63%
Cafeteria Expense	1,100.00	1,100.00	–	–
Mileage Reimbursement	430.60	645.90	215.30	50.00%
Transportation Expense	2,500.00	1,500.00	(1,000.00)	(40.00%)
Uniforms	1,000.00	750.00	(250.00)	(25.00%)
General Inventory Consumption	2,000.00	1,000.00	(1,000.00)	(50.00%)
Facilities Other	2,500.00	1,500.00	(1,000.00)	(40.00%)
Utilities - Electric	3,000.00	0.00	(3,000.00)	(100.00%)
Uniforms - Non-Stock	1,500.00	1,500.00	–	–
Utilities-Telephone	1,000.00	0.00	(1,000.00)	(100.00%)
Utilities - Gas/Water	750.00	0.00	(750.00)	(100.00%)
Supplies & Expenses	9,247.70	13,451.20	4,203.50	45.45%
Fuel	5,000.00	8,250.00	3,250.00	65.00%
Misc Gen Exp Membership Dues	1,722.40	1,679.34	(43.06)	(2.50%)
Travel Misc Other	11,195.60	11,195.60	–	–
Total Operation & Maintenance	\$287,553.24	\$379,226.22	\$91,672.98	31.88%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$91,673 or 31.88% from the 2020 Approved Budget.

The major reason for the variance is:

- One position was added

Industrial & Commercial Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Industrial & Commercial Accounts	1.00	1.00	1.00	1.00	1.00
Superintendent – Indust. & Comm. Accounts	1.00	1.00	1.00	1.00	1.00
Medical Industry Liaison	–	–	–	–	1.00
Total Department Personnel	2.00	2.00	2.00	2.00	3.00

APPROVED NEW POSITION

Medical Industry Liaison

- Communicate and coordinate with hospitals and health care facilities to establish specific water quality goals and build resilience by identifying risks and planning for emergencies
- Provide critical customer and stakeholder development
- Develop relationships through direct communication and sharing of information
- Assist with water pressure goals
- Continue the growing relationship with our beverage and milk industry
- Establish a relationship with the growing brewery companies in the Birmingham metro area

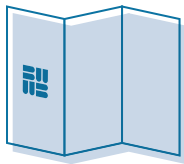
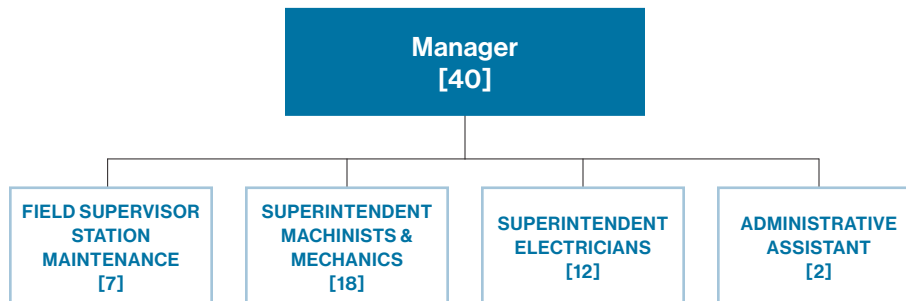
KEY PERFORMANCE MEASURES

1. Manage all industrial and commercial accounts to ensure 100% compliance with all local, state and BWWB regulations and requirements
2. Review monthly SAP reporting to make sure that 100% of accounts are read and billed per their contract requirements
3. Review Consumer Confidence Report (CCR) information with ADEM at all consecutive locations to ensure 100% reliability
4. Complete SCADA and meter upgrades at all entry points and provide updated web pages to our consecutive system partners at 100%
5. Investigate and respond to 100% of consecutive and raw water issues/concerns as it relates to meter reading, billing issues, meter service and repair within 72 hours of receipt

ELECTRICAL & MECHANICAL

The Electrical & Mechanical Maintenance Department (E&M Shop) supports the maintenance of electrical and mechanical equipment throughout the entire BWWB system. The E&M Shop is on call 24/7 to repair and maintain the system's assets for the operation of machines, pumps and mechanical equipment, including fabrication.

The E&M Shop is responsible for the preventive and predictive program that increases the longevity of BWWB's assets.



ELECTRICAL AND MECHANICAL MISSION

To provide high-quality electrical and mechanical support to ensure BWWB's infrastructure is operable at full capacity with limited interruptions in service.

SUMMARY OF ACTIVITIES

- Maintain plants and all assets on a continuous improvement path for quality and efficiency
- Coordinate maintenance activities including facilities and production equipment
- Develop and implement a predictive and preventive maintenance program
- Track and control maintenance inventory
- Maintain close coordination with production departments to resolve equipment breakdowns and other production related opportunities
- Perform root cause analysis for any abnormal conditions and failures which may result in corrective actions to prevent recurrences

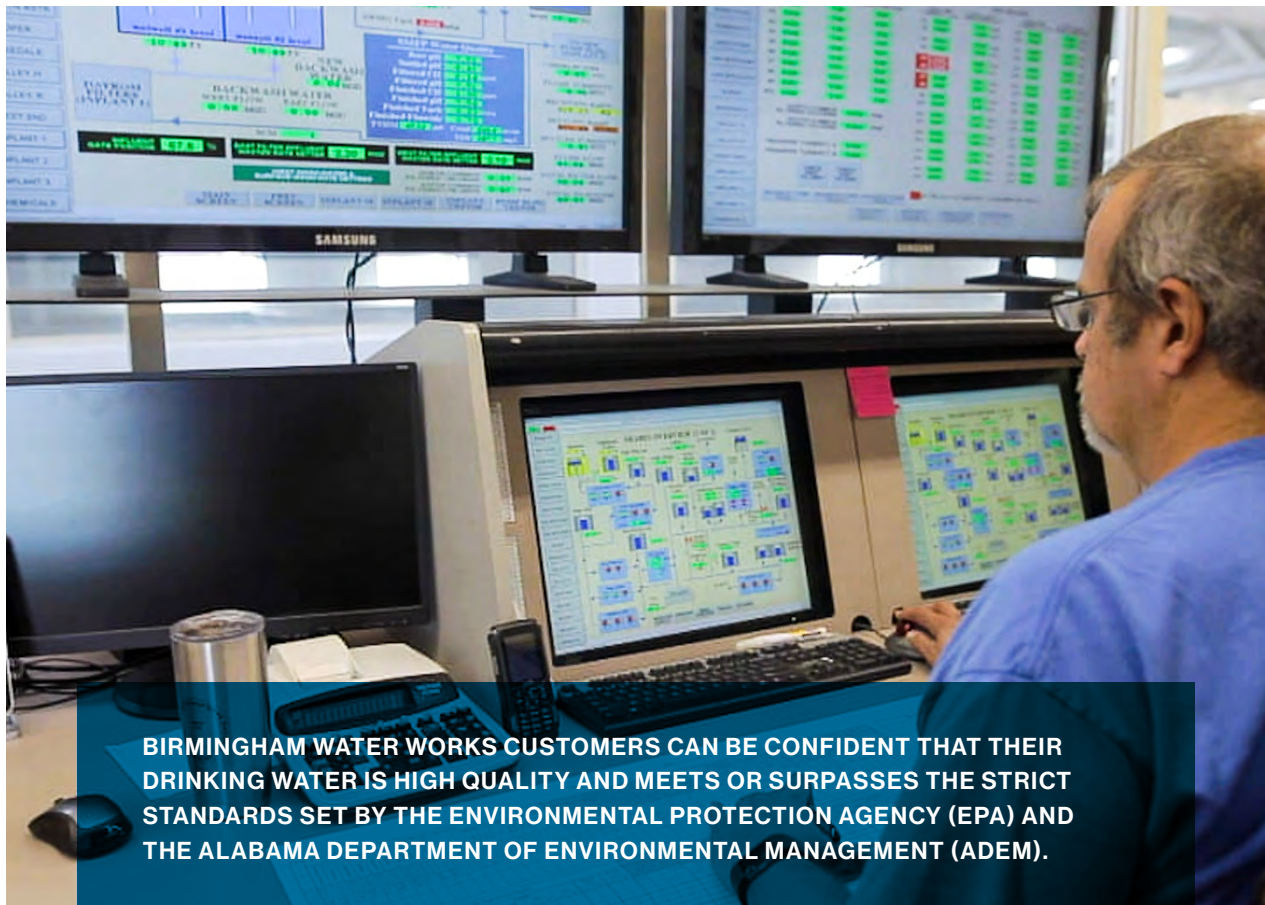
Electrical & Mechanical Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$2,357,521.99	\$2,356,472.85	(\$1,049.14)	(0.04%)
Cafeteria Expense	3,295.96	1,722.40	(1,573.56)	(47.74%)
Power	1,658,696.70	1,708,457.91	49,761.21	3.00%
Transportation Expense	119,973.42	98,871.47	(21,101.95)	(17.59%)
General Inventory Consumption	10,172.56	8,968.06	(1,204.50)	(11.84%)
Material Structures/Tanks	15,000.00	10,000.00	(5,000.00)	(33.33%)
Facilities Other	67,104.40	37,863.60	(29,240.80)	(43.58%)
SCADA Tanks & Standpipes	14,154.48	–	(14,154.48)	(100.00%)
SCADA Pump Station	8,256.72	–	(8,256.72)	(100.00%)
SCADA Plant Control	20,590.80	–	(20,590.80)	(100.00%)
Rent / Storage Facilities	60,000.00	45,000.00	(15,000.00)	(25.00%)
Material Electrical Pump Equipment	312,132.64	312,132.58	(0.06)	–
Uniforms - Non-Stock	49,632.96	45,955.19	(3,677.77)	(7.41%)
Utilities-Telephone	11,318.54	9,000.00	(2,318.54)	(20.48%)
Utilities - Gas/Water	16,799.50	20,000.00	3,200.50	19.05%
Material Electrical Structures	39,260.20	30,500.00	(8,760.20)	(22.31%)
SCADA Flow Metering Stations	16,360.40	–	(16,360.40)	(100.00%)
Fuel	165,780.88	136,435.15	(29,345.73)	(17.70%)
NonCapital Equipment Replacement	59,544.26	–	(59,544.26)	(100.00%)
Miscellaneous Property	21,827.41	20,445.25	(1,382.16)	(6.33%)
Supplies	34,902.40	35,433.76	531.36	1.52%
Travel Misc Other	26,658.71	16,298.29	(10,360.42)	(38.86%)
Other O&M Expenses	68,760.42	23,951.77	(44,808.65)	(65.17%)
Total Operation & Maintenance	\$5,157,745.35	\$4,917,508.28	(\$240,237.07)	(4.66%)

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$240,237 or 4.66% from the 2020 Approved Budget.

The major reasons for the variance are:

- Transportation expenses decreased based on current year spending trends
- Facilities Other for small tools decreased based on current year spending trends
- SCADA's Electrical and Maintenance expenses transferred to the SCADA Department
- Fuel expenses decreased based on historical trends
- Non-Capital Equipment Replacement expenses transferred to the Security Department



BIRMINGHAM WATER WORKS CUSTOMERS CAN BE CONFIDENT THAT THEIR DRINKING WATER IS HIGH QUALITY AND MEETS OR SURPASSES THE STRICT STANDARDS SET BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM).

Electrical & Mechanical Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Electrical & Machine Maintenance	1.00	1.00	1.00	1.00	1.00
Superintendent – Electrical	1.00	1.00	1.00	1.00	1.00
Superintendent – Mechanical	1.00	1.00	1.00	1.00	1.00
Industrial Control Master Electrician	5.00	6.00	6.00	7.00	7.00
Industrial Control Electrician – Journey	2.00	2.00	2.00	1.00	1.00
Building Maintenance Electrician Journeyman	1.00	1.00	1.00	1.00	1.00
Instrumentation Technician	0.00	1.00	1.00	1.00	1.00
Field Supervisor	1.00	1.00	1.00	1.00	1.00
Mechanic – Senior	1.00	1.00	1.00	1.00	1.00
Maintenance Mechanic II	10.00	9.00	9.00	9.00	9.00
Maintenance Mechanic I	6.00	6.00	6.00	6.00	6.00
Machinists	1.00	1.00	1.00	1.00	1.00
Project Coordinator	1.00	1.00	1.00	1.00	1.00
Station Maintenance Worker III	1.00	1.00	1.00	1.00	1.00
Station Maintenance Worker II	2.00	2.00	2.00	2.00	2.00
Station Maintenance Worker I	3.00	3.00	3.00	3.00	3.00
Administrative Assistant II	1.00	1.00	1.00	1.00	1.00
Administrative Assistant I	1.00	1.00	1.00	1.00	1.00
Total Department Personnel	39.00	40.00	40.00	40.00	40.00

KEY PERFORMANCE MEASURES

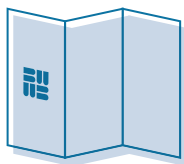
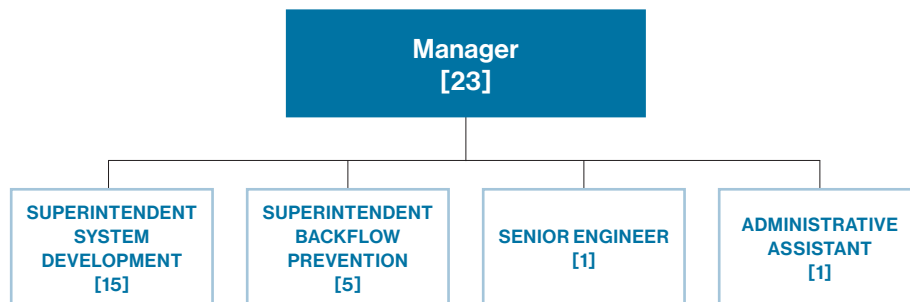
1. Perform preventive and predictive maintenance on essential equipment to maintain equipment readiness of at least 80% at all remote pump stations
2. Inspect, evaluate and repair 50 pressure reducing valves quarterly to confirm consistent operation
3. Collect water samples monthly from all remote portable water tank sites throughout our service area in coordination with the EnviroLab
4. Assess, coordinate and complete grounds maintenance monthly for all remote pump stations and tank sites
5. Assign and distribute all SAP plant maintenance requests within 24 – 48 hours of receipt
6. Resolve at least 80% of work orders received annually

SYSTEM DEVELOPMENT

System Development determines the Distribution System's capacity to provide water service for individual customers and residential/commercial developments throughout the BWWB's service area.

The department prioritizes, designs and manages main replacements, relocation and reinforcement projects for the Buried Infrastructure Program funded by the BWWB's Capital Budget. The department prepares and implements contractual agreements relative to plans and specifications in conjunction with developers, governing bodies and the BWWB's capital improvements for the installation, replacement, reinforcement and relocation of water mains and related appurtenances in the Distribution System.

The department administers the BWWB's Backflow Prevention and Cross Connection Control Policy through field inspections, customer correspondence and compliance recordkeeping.



SYSTEM DEVELOPMENT MISSION

To administer the development of the BWWB's Distribution System to ensure that superior water quality is delivered to customers at a minimal cost.

SUMMARY OF ACTIVITIES

- Review and prepare water availability correspondence for individual customers and commercial/residential developers
- Determine the Distribution System's capacity to provide water to individual customers and residential/commercial developers
- Review, approve and issue all new water service connections (domestic, fire and irrigation) to the BWWB's distribution mains
- Prepare contractual agreements for the installation of water mains and related appurtenances, 4-inch and larger domestic and fire service connections and fire hydrants
- Prioritize water main replacement projects based upon criteria consisting of excessive maintenance, water quality and/or fire protection due to aging infrastructure
- Design water main relocation projects based upon conflicts with state and local governing bodies performing roadway improvements
- Review and approve construction drawings and develop specifications for new main installations (residential and commercial developments), reinforcement and relocation projects
- Prepare bid packages, hold pre-bid conferences, evaluate bids and recommend bid award to the lowest responsive and responsible bidder
- Approve and coordinate the installation of all new fire hydrants
- Maintain records on all public fire hydrants and fire service connections
- Complete estimates of cost for installations and adjust contractual agreements upon completion of installations
- Coordinate all water main installations with other departments and obtain approval from governing bodies
- Administer the Backflow Prevention and Cross Connection Control Policy requirements by performing field inspections on commercial and residential connections and maintaining compliance records and reports
- Inspect the installation of new water mains, valves and fire hydrants on bid reinforcement projects and new development installation projects

System Development Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$655,829.60	\$740,800.94	\$84,971.34	12.96%
Mileage Reimbursement	172.24	172.24	–	–
Service Line	–	750.00	750.00	100.00%
Transportation Expenses	8,100.00	23,300.00	15,200.00	187.65%
Inventory Expense	485.00	400.00	(85.00)	(17.53%)
Uniforms	1,050.00	1,820.00	770.00	73.33%
Meters	–	1,500.00	1,500.00	100.00%
Valves	–	700.00	700.00	100.00%
General Inventory Consumption Account	600.00	6,180.00	5,580.00	930.00%
Supervision Materials T&D Maintenance	250.00	250.00	–	–
Facilities Other	1,950.00	5,350.00	3,400.00	174.36%
Other Office Materials	396.34	1,075.78	679.44	171.43%
Maps and Records Materials	207.87	207.87	–	–
Supervision Materials Ops	75.51	75.51	–	–
Uniforms - Non-Stock	1,600.00	3,600.00	2,000.00	125.00%
Utilities-Telephone	1,300.00	1,300.00	–	–
Supplies & Expenses	13,352.12	11,418.51	(1,933.61)	(14.48%)
Fuel	8,000.00	32,200.00	24,200.00	302.50%
Miscellaneous Property	83.45	1,043.12	959.67	1149.99%
Misc Gen Exp Membership Dues	2,906.55	3,272.56	366.01	12.59%
Travel Misc Other	9,287.99	16,491.98	7,203.99	77.56%
Total Operation & Maintenance	\$705,646.67	\$851,908.51	\$146,261.84	20.73%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$146,262 or 20.73% from the 2020 Approved Budget.

The major reasons for the variance are:

- Construction Inspector positions transferred from the Distribution Department
- Transportation Expense increased due to the impact of transferred positions
- Fuel expenses increased due to the impact of transferred positions

System Development Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – System Development	1.00	1.00	1.00	1.00	1.00
Superintendent – Backflow Enforcement	1.00	1.00	1.00	1.00	1.00
Superintendent – Project Coordinators	1.00	1.00	1.00	1.00	1.00
Engineer II	1.00	1.00	–	1.00	1.00
Senior Engineer	–	–	1.00	1.00	1.00
Senior Project Coordinator	2.00	1.00	1.00	1.00	1.00
Project Coordinator	2.00	3.00	3.00	3.00	3.00
Field Investigator	2.00	2.00	2.00	2.00	2.00
Backflow Inspector	3.00	2.00	2.00	2.00	2.00
Backflow Specialist	–	1.00	1.00	1.00	1.00
Administrative Assistant II	1.00	1.00	1.00	1.00	1.00
System Development Specialist III	1.00	1.00	1.00	1.00	1.00
System Development Specialist II	–	1.00	1.00	1.00	1.00
Construction Inspectors	–	–	–	0.00	6.00
Total Department Personnel	15.00	16.00	16.00	17.00	23.00

KEY PERFORMANCE MEASURES

1. Collaborate with the Distribution Department to successfully complete at least 64% of the yearly main, service line and valve replacements capital projects on budget and within the designated project timeline
2. Prepare and distribute 100% of the Backflow Program Notification letters annually to BWWB customers to maintain certified backflow testing documentation for 100% compliance with state laws and regulations
3. Distribute information to formalize acceptance of the assessment/project/service order and perform project closure within 60 business days of actual completion of the work
4. Receive and respond to customer complaints within three business days with no more than 10% of complaints escalated to management
5. Implement at least 80% of System Development's projects in accordance with the capital budget requested and authorized by the Board of Directors
6. Complete at least 90% of the construction worksheets for any updates or changes to the distribution system and submit to the Mapping and Records Department within 30 business days

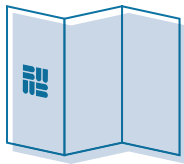
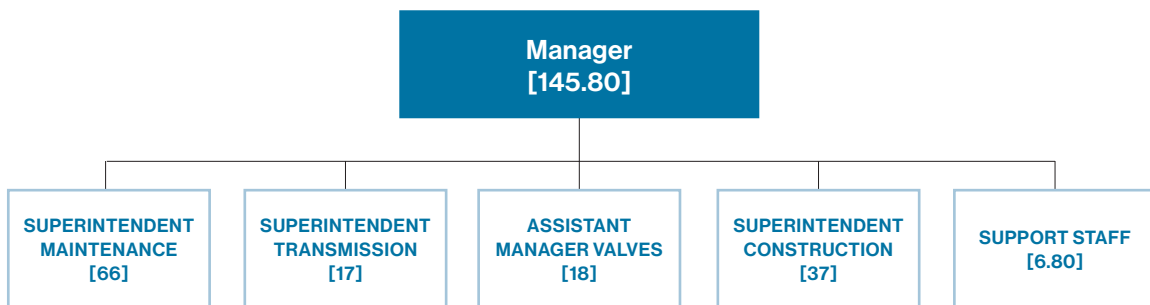


AS PART OF EPA'S RULES, WE PRODUCE AN ANNUAL WATER QUALITY REPORT, WHICH IS ALSO KNOWN AS A CONSUMER CONFIDENCE REPORT. OUR REPORT DETAILS AND OUTLINES THE TESTING WE DO FOR DRINKING WATER CONTAMINANTS AND THEIR LEVELS IN BIRMINGHAM WATER WORKS' DRINKING WATER.

DISTRIBUTION

The Distribution Department is responsible for overseeing the maintenance and construction of BWWB's infrastructure to include scheduling the repair and replacement of pipelines, fire hydrants, valves, and other BWWB distribution assets. The department ensures that regulatory requirements and standards are consistent with operational improvements.

The Distribution Department assists with and oversees the construction for implementation of the Capital Improvement Plan (CIP).



DISTRIBUTION MISSION

To ensure our customers receive the highest quality water possible by effectively and efficiently replacing, installing and repairing the system's pipes, valves and hydrants while minimizing downtime.

SUMMARY OF ACTIVITIES

- Install new water lines and replace older infrastructure
- Make large taps (4 to 36 inches)
- Install fire, domestic, and irrigation vaults with meter settings
- Install reinforcement projects that include water mains, services lines, meter settings, fire hydrants and valves
- Collect water samples for EnviroLab testing as a prerequisite for turning on new water mains
- Complete drawings of the new installation of reinforcement jobs
- Repair and replace fire hydrants
- Install loops in the water mains when there is a conflict with other utility lines
- Maintain transmission lines
- Maintain the right-of-way easements
- Build and maintain roads and access points
- Repair water main leak sizes up to 60 inches



WATER IS TRANSPORTED TO HOUSES AND BUSINESSES. THE BIRMINGHAM WATER WORKS DELIVERS, ON AVERAGE, 100 MILLION GALLONS OF WATER PER DAY.

Distribution Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$7,225,891.38	\$7,402,276.64	\$ 176,385.26	2.44%
Cafeteria Expenses	14,579.20	14,579.20	–	–
Service Line	255,350.00	252,100.00	(3,250.00)	(1.27%)
Transportation Expenses	1,213,400.00	1,104,500.00	(108,900.00)	(8.97%)
Uniforms	33,920.00	14,870.00	(19,050.00)	(56.16%)
Transmission Mains	14,300.00	3,000.00	(11,300.00)	(79.02%)
Meters	103,500.00	102,200.00	(1,300.00)	(1.26%)
Valves	29,100.00	13,100.00	(16,000.00)	(54.98%)
General Inventory Consumption	910,700.00	735,800.00	(174,900.00)	(19.21%)
Materials Distribution Mains TD	285,000.00	235,000.00	(50,000.00)	(17.54%)
Materials Transmission MainsTD	133,600.00	36,000.00	(97,600.00)	(73.05%)
Transmission Right of Way TD	11,000.00	0.00	(11,000.00)	(100.00%)
Contractor Charges Distribution Mains	1,097,900.00	1,084,500.00	(13,400.00)	(1.22%)
Contractor Charges Transmission Mains	47,800.00	6,000.00	(41,800.00)	(87.45%)
Contractor Charges Services	1,220,200.00	2,434,000.00	1,213,800.00	99.48%
Paving Meter Installation	10,000.00	10,000.00	–	–
Paving Distribution Mains	2,004,200.00	1,001,000.00	(1,003,200.00)	(50.05%)
Paving Transmission Mains	29,150.00	3,500.00	(25,650.00)	(87.99%)
Paving Services	454,050.00	403,000.00	(51,050.00)	(11.24%)
Contractor Charges Meter	18,000.00	17,000.00	(1,000.00)	(5.56%)
Facilities Other	233,600.00	162,000.00	(71,600.00)	(30.65%)
Distributions Mains	66,100.00	18,000.00	(48,100.00)	(72.77%)
Supplies Expenses Purification	20,200.00	8,700.00	(11,500.00)	(56.93%)
Utilities – Electric	70,000.00	75,000.00	5,000.00	7.14%
Uniforms – Non-Stock	66,200.00	77,100.00	10,900.00	16.47%
Utilities – Gas Water	46,700.00	52,400.00	5,700.00	12.21%
Fuel	493,000.00	438,800.00	(54,200.00)	(10.99%)
Miscellaneous Property	108,818.80	93,046.75	(15,772.05)	(14.49%)
Travel Misc Other	19,032.52	7,492.44	(11,540.08)	(60.63%)
Other O&M Expenses	65,458.34	31,962.78	(33,495.56)	(51.17%)
Total Operation & Maintenance	\$16,300,750.24	\$ 15,836,927.81	(\$463,822.43)	(2.85%)

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$463,822 or 2.85% from the 2020 Approved Budget.

The major reasons for the variance are:

- Labor increased due to internal equity
- Transportation expenses increased based on current year spending trends to maintain heavy equipment
- Contractor charges for line location increased based on vendor rate increase
- General Inventory Consumption decreased based on projected actual expenses
- Material Transmission and Distribution Mains decreased based on projected actual expenses
- Paving Distribution Mains decreased based on historical trends
- Facilities Other decreased based on historical trends
- Fuel expenses decreased based on historical trends and the transfer of positions to the System Development Department

Distribution Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager – Distribution	1.00	1.00	1.00	1.00	1.00
Assistant Manager	–	1.00	1.00	1.00	1.00
Superintendent of Construction	1.00	–	–	1.00	1.00
Superintendent of Maintenance	1.00	1.00	1.00	1.00	1.00
Superintendent of Transmission	1.00	1.00	1.00	1.00	1.00
Assistant Superintendent Maintenance	1.00	1.00	1.00	1.00	1.00
Assistant Superintendent Construction	1.00	1.00	–	–	–
Assistant Superintendent Raw Water	1.00	–	–	–	–
District Supervisor	13.00	13.00	14.00	13.00	13.00
Field Supervisor	6.00	8.00	7.00	6.00	6.00
Inspector – Construction	6.00	6.00	6.00	6.00	–
Leak Utility Worker I	23.00	23.00	22.00	22.00	22.00
Leak Utility Worker II	20.60	17.00	18.00	17.00	17.00
Raw Water Mechanic	1.00	1.00	1.00	1.00	1.00
Raw Water Technician	4.00	4.00	4.00	4.00	4.00
Senior Utility Worker II	1.00	1.00	1.00	1.00	1.00
Utility Worker I	18.00	22.00	21.00	21.00	21.00
Utility Worker II	7.00	9.00	9.00	10.00	10.00
Dump Truck Utility Worker I	5.00	6.00	6.00	6.00	6.00
Distribution Maintenance Worker II	12.00	11.00	10.00	10.00	10.00
Distribution Maintenance Worker	15.00	16.00	17.00	18.00	18.00
Distribution Maintenance Worker Trainee	4.00	6.00	5.00	5.00	5.00
Administrative Assistant III	1.00	1.00	1.00	1.00	1.00
Distribution Specialist Team Leader	–	–	1.00	1.00	1.00
Distribution Aide III	1.00	1.00	–	–	–
Distribution Specialist I	3.80	3.80	3.80	0.80	0.80
Distribution Specialist II	–	–	–	3.00	3.00
Total Department Personnel	148.40	154.80	151.80	151.80	145.80

KEY PERFORMANCE MEASURES

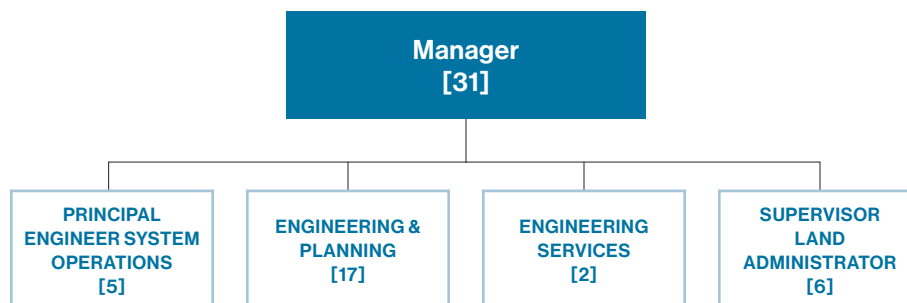
1. Inspect 15% of fire hydrants annually through maintenance, repair and replacement
2. Restore service to 100% of reported fire hydrants for maintenance within three days after notification
3. Evaluate and exercise 100 valves monthly to confirm consistent operations
4. Repair at least 95% of the reported water main breaks within 30 days
5. Assign and dispatch personnel within 48 hours to at least 90% of leak notifications and reported main breaks to evaluate and schedule repairs
6. Resolve 100% of Level 1 (main break or no water) leak orders within five business days
7. Resolve at least 80% of Level 2 (water leak, no property damage) leak orders within 14 business days and 100% within 30 business days from the initial complaint/report
8. Collaborate with System Development Project Coordinators to successfully complete at least 64% of the yearly capital projects on budget and within the designated project timeline
9. Complete at least 90% of the construction worksheets for any updates or changes to the distribution system and submit to the Mapping and Records Department within 30 business days
10. Maintain raw water transmission lines, pipelines, right of ways and underground facilities within 30 business days from initial complaint/report of leaks, irregularities or encroachments
11. Confirm the construction materials used for capital projects within 90 business days

ENGINEERING

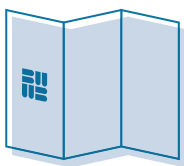
The Engineering Department designs and oversees new Capital Improvement Plan (CIP) infrastructure projects, manages and approves designs from external consultants and oversees the design and construction of our Capital Maintenance Repair and Replacement projects. The Engineering Department is responsible for addressing drinking water regulatory issues in the system to attain reliable, high quality and great tasting water.

The department is responsible for land administration and land surveying services which include monitoring all activities on BWWB property, developing, coordinating and surveying property maintenance projects, and acting as a liaison to the Board on all property issues.

The department is responsible for environmental services and watershed protection through source water monitoring, watershed construction activities, plant residuals disposal and excavated spoil management.



ENGINEERING MISSION



To provide professional engineering and management services in the planning, design, construction and maintenance of the BWWB infrastructure, water quality initiatives, environmental services and land administration necessary to provide safe, reliable, high quality and great tasting water to our customers.

SUMMARY OF ACTIVITIES

- Design, bid, and manage construction for maintenance, repair and replacement projects
- Manage the Capital Improvement Plan (CIP)
- Investigate and resolve water pressure complaints
- Research alternative water quality treatment options
- Oversee asset management and reliability planning
- Manage the BWWB Watershed Protection Policy
- Provide land administration surveying and management services for BWWB property
- Manage environmental services necessary for residuals and spoil handling
- Operate a Mobile Pilot Plant that tests water process treatment alternatives

Engineering Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$1,023,131.08	\$997,699.30	(\$25,431.78)	(2.49%)
Transportation Expenses	37,400.00	25,600.00	(11,800.00)	(31.55%)
Facilities Other	14,450.00	9,000.00	(5,450.00)	(37.72%)
Supplies Expenses Purification	50,000.00	40,000.00	(10,000.00)	(20.00%)
Material Equipment Purchase	60,000.00	50,000.00	(10,000.00)	(16.67%)
Landfill - Midfield	35,000.00	10,000.00	(25,000.00)	(71.43%)
Landfill - Sicard Hollow Road	52,500.00	10,000.00	(42,500.00)	(80.95%)
Spoil Stockpile – Putnam	–	20,000.00	20,000.00	100.00%
Spoil Stockpile – Sicard Hollow	–	15,000.00	15,000.00	100.00%
Fuel	27,850.00	23,300.00	(4,550.00)	(16.34%)
Supplies Expenses SoS Ops	76,250.00	61,000.00	(15,250.00)	(20.00%)
Travel Misc Other	25,632.04	47,882.08	22,250.04	86.81%
Consultants	46,800.00	110,000.00	63,200.00	135.04%
Other O&M Expenses	39,694.60	32,478.90	(7,215.70)	(18.18%)
Total Operation & Maintenance	\$1,488,707.72	\$1,451,960.28	(\$36,747.44)	(2.47%)

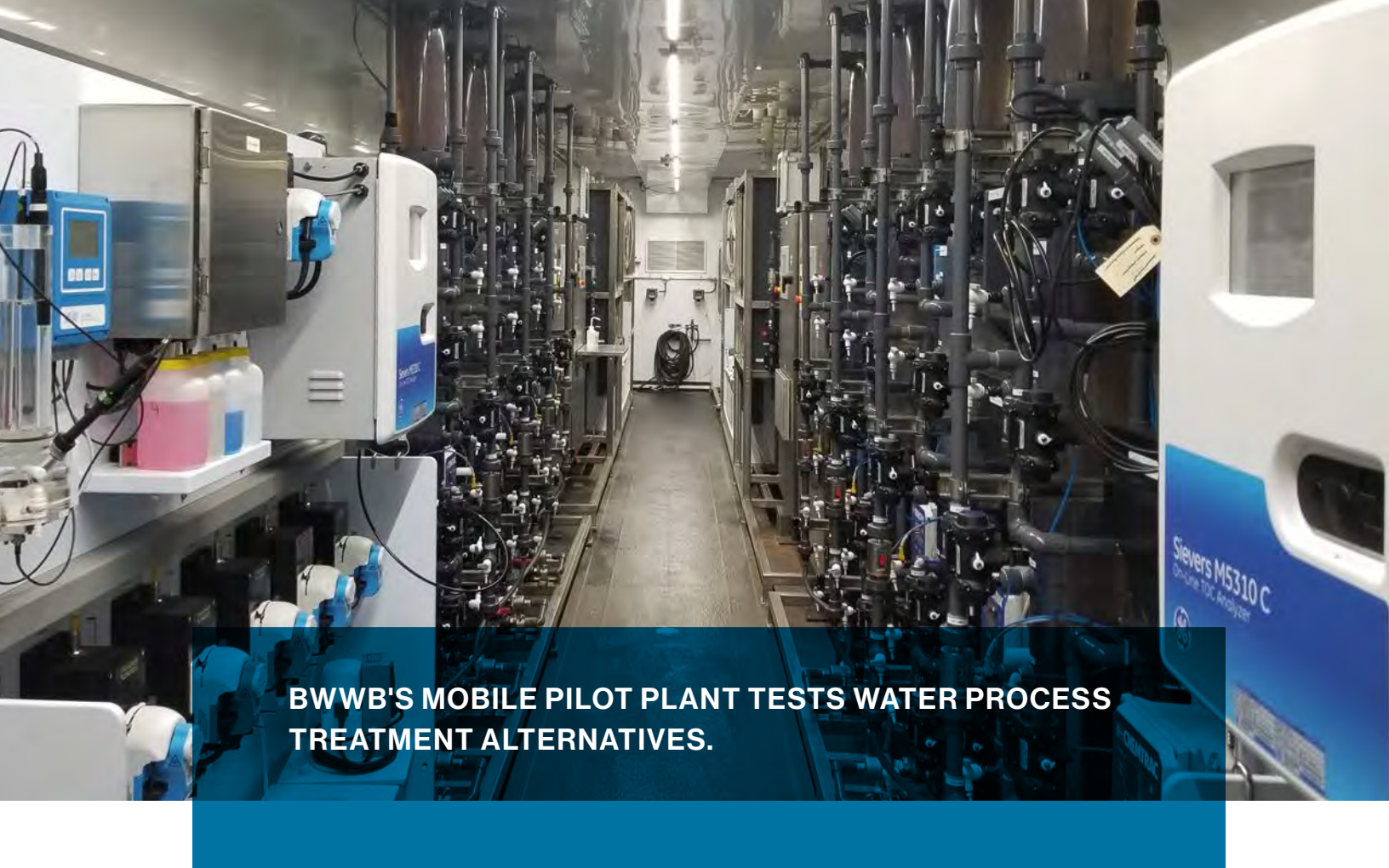
HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$36,747 or 2.47% from the 2020 Approved Budget.

The major reasons for the variance are:

- Labor expenses decreased due to one position transferred to the System Development Department
- Transportation expense decreased based on current year spending trends
- Landfill expenses decreased based on historical trends
- Spoil stockpile expenses added to comply with regulatory requirements
- Consulting expenses increased due to organic testing related to water treatment and technology recommendations for the filter plants

Engineering Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Chief Engineer	1.00	1.00	1.00	1.00	1.00
Engineer – Senior Reliability	1.00	–	–	–	–
Engineer – Principal	4.00	5.00	5.00	5.00	5.00
Engineer – Senior	6.00	5.00	5.00	5.00	4.00
Engineer II	2.00	1.00	1.00	1.00	1.00
Engineer	2.00	4.00	4.00	4.00	4.00
Engineering Technician	1.00	1.00	1.00	1.00	1.00
Land Surveyor	1.00	1.00	1.00	1.00	1.00
Land Surveyor Technician	2.00	2.00	2.00	2.00	2.00
Maintenance Planner	2.00	2.00	2.00	2.00	2.00
Nace Paint & Coating Inspector	1.00	1.00	1.00	1.00	1.00
Coordinator – Project – Senior	2.00	2.00	1.00	1.00	1.00
Project Coordinator	2.00	2.00	2.00	2.00	2.00
Property Maintenance Worker I	1.00	1.00	1.00	1.00	1.00
Property Maintenance Worker II	1.00	1.00	1.00	1.00	1.00
Supervisor – Land Administration	1.00	1.00	1.00	1.00	1.00
Watershed Protection Specialist	1.00	1.00	1.00	1.00	1.00
Administrative Assistant I	1.00	1.00	1.00	1.00	1.00
Administrative Assistant II	1.00	1.00	1.00	1.00	1.00
Total Department Personnel	33.00	33.00	32.00	32.00	31.00



BWWB'S MOBILE PILOT PLANT TESTS WATER PROCESS TREATMENT ALTERNATIVES.

KEY PERFORMANCE MEASURES

1. Collaborate with other departments to successfully complete at least 64% of the yearly capital projects on budget and within the designated project timeline
2. Finalize all the engineering planning and design for assigned projects within 60 to 90 business days, according to applicable industry specifications and standards
3. Contract, certify and manage 100% of all Engineering Department projects that are overseen by consulting engineers
4. Evaluate and implement specific analysis to efficiently upgrade our equipment and/or facilities throughout the organization
5. Conduct yearly water quality research and development throughout the utility system to ensure compliance with all national and state requirements
6. Identify and analyze all water pressure issues and complaints within 2 business days
7. Resolve at least 80% of water pressure issues and complaints within 5 to 7 business days
8. Survey and manage 100% of BWWB facilities, properties and contractual assets yearly to ensure 100% compliance with all local, state and federal requirements
9. Complete at least 90% of the construction worksheets for any updates or changes to the distribution system and submit to the Mapping and Records Department within 30 business days

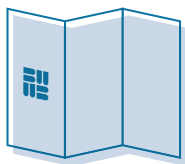
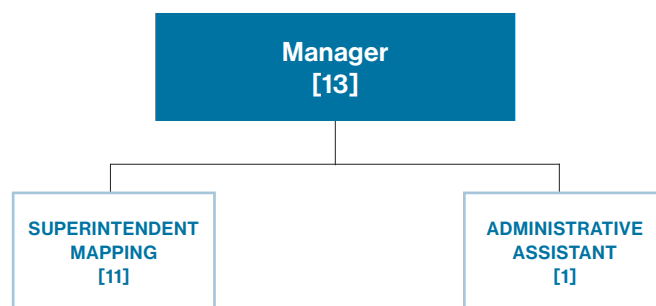
MAPPING & RECORDS

The Mapping & Records Department is responsible for providing accurate visuals that depict the components of the BWWB's system and meets internal and external customer needs as well as promotes excellent record-keeping standards. The department is comprised of the Drafting Team, the Geographic Information System (GIS) Team and the Records Retention Team.

The Drafting Team maintains and updates all BWWB's detail pages, valve maps, line maps, valve cards, worksheets, construction drawings, design drawings, graphic renderings, "as-built" drawings and other special projects.

The GIS Team updates and maintains the company's GIS database and produces various types of special project maps. The team is in the process of coordinating a companywide GPS collection project to capture all valves and fire hydrants.

The Records Retention Team assists each department with requests to purge files for record disposal in compliance with the State of Alabama Department of Archives and History (ADAH) rules and regulation.



MAPPING & RECORDS MISSION

To provide accurate visuals that depict the components of the BWWB system and meet internal and external customer needs.

SUMMARY OF ACTIVITIES

- Maintain and update worksheets, construction drawings, electrical and contract drawings
- Update and maintain GIS database
- Track water leak notifications and work orders
- Produce special project maps
- Assist departments with retention questions and provide recommendations for purging
- Fulfill printing needs for the company
- Update map corrections
- Maintain leak data
- Create and maintain permanent records storage
- Program, troubleshoot and download the GPS units
- Deploy a SAP/GIS web interface for the purpose of tracking water leak notifications and work orders

Mapping & Records Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$224,974.59	\$255,372.21	\$ 30,397.62	13.51%
Cafeteria Expense	516.72	688.96	172.24	33.33%
Mileage Reimbursement	258.36	258.36	–	–
Uniforms	500.00	250.00	(250.00)	(50.00%)
Maps and Records Materials	6,602.27	7,035.60	433.33	6.56%
Uniforms – Non-Stock	1,000.00	250.00	(750.00)	(75.00%)
Utilities-Telephone	1,200.00	600.00	(600.00)	(50.00%)
Supplies & Expenses	27,743.10	8,407.00	(19,336.10)	(69.70%)
Misc Gen Exp Membership Dues	1,722.40	1,722.40	–	–
Travel Misc Other	1,722.40	1,722.40	–	–
Total Operation & Maintenance	\$ 266,239.84	\$ 276,306.93	\$ 10,067.09	3.78%

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget increased by \$10,067 or 3.78% from the 2020 Approved Budget.

The major reasons for the variance are:

- One GIS Analyst position was added
- Supplies & Expenses decreased based on current year spending trends

Mapping & Records Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Manager of Mapping Records	1.00	1.00	1.00	1.00	1.00
Mapping & Records – Supervisor	1.00	0.00	0.00	0.00	0.00
Mapping & Records – Superintendent	0.00	1.00	1.00	1.00	1.00
Drafter – Senior	6.00	3.00	3.00	3.00	3.00
Drafter	0.00	3.00	3.00	3.00	3.00
Gis Tech II	1.00	1.00	1.00	1.00	1.00
Gis Analyst	0.00	0.00	0.00	0.00	1.00
Gis Tech I	2.00	2.00	2.00	2.00	2.00
Administrative Assistant II	1.00	1.00	1.00	1.00	1.00
Total Department Personnel	12.00	12.00	12.00	12.00	13.00

APPROVED NEW POSITION

GIS Analyst:

- Utilizes Geographic Information System techniques to provide a better understanding of certain variables in a given geographic location
- Extracts data from GIS software and uses varying analysis methods to arrive at results
- Recommends appropriate reactionary strategies in response to GIS analysis
- Provides maps and data sets to clients to supplement analysis
- Knowledgeable of GIS software and technology
- Works in conjunction with CAD drafters and technicians

KEY PERFORMANCE MEASURES

- Process 85% of certified worksheets and other work requests to draft, design and modify maps for internal and external customer needs within 90 business days of receipt
- Collect, organize and maintain 100% of all permanent records received in accordance with the State of Alabama Department of Archives and History rules and regulations



OUR WATERSHED PROTECTION POLICY LIMITS DEVELOPMENT IN AREAS CLOSE TO OUR WATER SOURCES, WHICH REDUCES POLLUTANTS. WATERSHEDS ARE AREAS OF LAND WHERE ALL THE WATER THAT DRAINS OFF RUNS INTO A RIVER, STREAM OR LAKE.

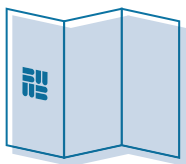
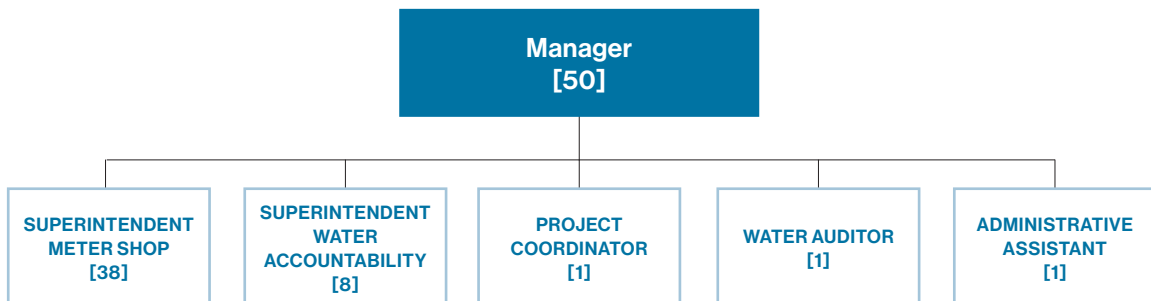
WATER ACCOUNTABILITY (REVENUE WATER)

The Water Accountability Department is comprised of the Meter Shop, the Leak Survey and the Revenue Water Administration teams.

The Meter Shop Team makes all new taps 2 inches and smaller, constructs all meter vaults 4 inches and larger, tests meters, maintains meter sets and meter boxes and replaces meters as part of the annual meter changeout program.

The Leak Survey Team surveys and detects leaks in water mains and service lines and assists the Distribution Department, as needed.

The Revenue Water Administration Team sets strategy and tactics to be used by the Meter Shop and the Leak Survey teams to help manage non-revenue water.



WATER ACCOUNTABILITY MISSION

To provide water service to our customers by responding in a timely manner to their needs, addressing potential problems in the system before they fail, and improving areas of operation that will benefit customers and help prepare BWWB for future growth.

SUMMARY OF ACTIVITIES

- Maintain, test and repair residential and commercial metering equipment and enclosures
- Perform annual leak survey of BWVB distribution system that includes handheld leak detection equipment, leak noise correlators and leak noise logging systems
- Define areas of concern for potential upgrades and replacement
- Create new service taps and connections
- Maintain meter box/vault enclosures for protection of BWVB assets and customer safety
- Bench and field test new and used customer meters for accuracy
- Repair/replace meter loops, meters, meter valves and other meter related piping as needed
- Assist the Distribution Department's Leak Repair Crew by locating leaks that are difficult to pinpoint
- Provide monthly reports of leaks detected, leak volumes and leak locations
- Provide overall guidance and strategy for the monitoring and reporting of non-revenue water
- Gather data and perform testing in compliance with an AWWA approved methodology for the annual water audit
- Provide reports and data on non-revenue water

Water Accountability Department O&M Expenditures Budget Summary				
COMMITMENT ITEM	2020 NET BUDGET	2021 NET BUDGET	\$ VARIANCE	% VARIANCE
Labor	\$2,162,615.74	\$1,844,736.64	(\$317,879.10)	(14.70%)
Service Line	28,000.00	–	(28,000.00)	(100.00%)
Transportation Expenses	85,200.00	78,000.00	(7,200.00)	(8.45%)
General Inventory Consumption	126,900.00	125,900.00	(1,000.00)	(0.79%)
Facilities Other	177,000.00	120,500.00	(56,500.00)	(31.92%)
Other Office Materials	11,689.88	1,665.00	(10,024.88)	(85.76%)
Utilities – Electric	13,900.00	12,400.00	(1,500.00)	(10.79%)
Uniforms – Non-Stock	21,700.00	20,200.00	(1,500.00)	(6.91%)
Fuel	156,000.00	156,000.00	–	–
Miscellaneous Property	10,000.00	4,750.00	(5,250.00)	(52.50%)
Travel Misc Other	39,000.00	22,000.00	(17,000.00)	(43.59%)
Other Operation & Maintenance Expenses	33,918.14	11,800.00	(22,118.14)	(65.21%)
Total Operation & Maintenance	\$2,865,923.76	\$2,397,951.64	(\$467,972.12)	(16.33%)

HIGHLIGHTS OF BUDGET CHANGES

The 2021 Approved Budget decreased by \$467,972 or 16.33% from the 2020 Approved Budget.

The major reasons for the variance are:

- Labor decreased due to a projected increase in capital labor
- Service Line expenses decreased due to a projected increase in capital spending
- Facilities Other decreased based on current year spending trends

Water Accountability Department Personnel Summary					
JOB TITLE	2017	2018	2019	2020	2021
Revenue Water Manager	1.00	1.00	1.00	1.00	1.00
Superintendent – Meter Shop	1.00	1.00	1.00	1.00	1.00
Superintendent – Water Accountability	1.00	1.00	1.00	1.00	1.00
Supervisor – Meter Shop	1.00	1.00	1.00	1.00	1.00
Water Auditor	1.00	1.00	1.00	1.00	1.00
Commercial Meter Maintenance Technician	2.00	2.00	2.00	2.00	2.00
Meter Repair Technician	2.00	2.00	2.00	2.00	2.00
Meter Setter – Helper	12.00	12.00	12.00	12.00	12.00
Meter Setter I	6.00	6.73	5.00	5.00	5.00
Meter Setter II	10.00	10.00	10.00	10.00	10.00
Project Coordinator	1.00	1.00	1.00	1.00	1.00
Representative III – Customer Account	2.00	3.00	3.00	3.00	3.00
Revenue Meter Inspector	2.00	2.00	2.00	2.00	2.00
Water Accountability Technician I	1.00	1.00	1.00	1.00	1.00
Water Accountability Technician II	6.00	6.00	6.00	6.00	6.00
Administrative Assistant III	1.00	1.00	1.00	1.00	1.00
Total Department Personnel	50.00	51.73	50.00	50.00	50.00

KEY PERFORMANCE MEASURES

1. Collaborate with other departments to successfully complete at least 64% of the yearly capital projects on budget and within the designated project timelines
2. Evaluate and resolve all service orders within 3 business days
3. Test new and replacement meters for 90% accuracy annually as established by the AWWA standards
4. Finalize all leak surveys for the distribution system every 2 years
5. Conduct and distribute a water audit on all water usage within BWB's service area yearly by September 30
6. Complete at least 90% of the construction worksheets for any updates or changes to the distribution system and submit to the Mapping & Records Department within 30 business days



8

APPENDIX

DESCRIPTION OF THE SYSTEM | COMPARISON OF WATER RATES WITH OTHER SYSTEMS |
RESULTS OF OPERATIONS | MAJOR INDUSTRIAL/GOVERNMENTAL CUSTOMERS | GLOSSARY

DESCRIPTION OF THE SYSTEM

The BWWB System now serves an area of approximately 700 square miles in Jefferson, Blount, St. Clair, Walker and Shelby counties. Direct retail water service is provided to a population of approximately 655,000; however, an additional population of approximately 115,000 is served by consecutive systems that purchase treated water from BWWB.

The System presently has 4 separate sources of raw water as described below:

LAKE PURDY-CAHABA RIVER SYSTEM

Part of the BWWB's original purchase from The Birmingham Water Works Company in July 1951, included the Lake Purdy-Cahaba River System. The Cahaba River watershed in Jefferson, St. Clair and Shelby counties is east of Birmingham and drained by the Cahaba and Little Cahaba Rivers. With a drainage area of approximately 196 square miles, this watershed includes an impoundment in Lake Purdy, formed by a dam across the Little Cahaba River. The storage capacity of Lake Purdy is 5.7 billion gallons. The safe yield from the Lake Purdy-Cahaba River System is approximately 52 million gallons per day. The Lake Purdy-Cahaba River System is the primary source of supply to the Shades Mountain Filtration Plant.

INLAND LAKE SYSTEM

This system consists of an impounding reservoir, a booster pumping station, chemical treatment facilities, a balancing reservoir and a transmission pipeline. The impounding dam of earth and rock fill construction is 200 feet high and 1,060 feet long and creates a reservoir with a capacity of 21 billion gallons. The watershed above the dam is about 72 square miles in area. The dam is located approximately 27 miles northeast of Birmingham on the Blackburn Fork of the Black Warrior River in Blount County. The pipeline consists of approximately 44 miles of steel and cast-iron supply lines ranging in size from 16 to 60 inches in diameter. The Inland Lake reservoir has a safe yield of about 49 million gallons per day. The booster pumping station has a capacity of 88 million gallons per day. Water from Inland Lake is delivered to both Carson and Putnam filtration plants.

SIPSEY SYSTEM

Operated under a permit from the U.S. Army Corps of Engineers, the Sipsey System consists of an intake pumping station immediately below the Alabama Power Company's L. M. Smith Dam on the Sipsey Fork of the Black Warrior River in Cullman County 35 miles northwest of Birmingham, as well as a booster pumping station, a transmission pipeline, and terminal control reservoirs. The pipeline consists of approximately 44 miles of 60-inch, 48-inch and 42-inch steel and cast iron supply lines. The Sipsey System has a firm yield of about 74 million gallons per day. At present, the intake pumping station is capable of delivering this maximum quantity of water to the system's booster pumping station. The booster pumping station has a capacity of 90 million gallons per day. Water can be pumped from this station to the Western, Putnam and Carson filtration plants.

MULBERRY SYSTEM

With its source the Mulberry Fork of the Black Warrior River in Walker County, Alabama, the intake pumping station is operated under a permit from the U.S. Army Corps of Engineers. Water is withdrawn at a maximum rate not to exceed 85 million gallons per day for a two-hour duration, with a maximum of 65 million gallons per day during a 24-hour period. Work was completed in 1995 to increase the pump station capacity to the fully permitted withdrawal rate. This work included the installation of pumps, motors and other general improvements. Water from this supply is delivered through approximately 20 miles of welded steel pipe 72 inches in diameter. Surge tanks are installed at various points along the pipeline and four 5-million-gallon control reservoirs are located at the terminus at the Western Filtration Plant. The Mulberry System includes a booster pumping station with a 25-million-gallons per-day capacity located in the vicinity of the control reservoirs. Water can be pumped via this station to the Western and Putnam filtration plants.

Water from the above sources is delivered through long transmission lines to the 4 filtration plants, which are a part of the System. The diverse locations of the sources of supply aid in maintaining water service in the event of a partial failure at any plant.

ADDITIONAL SOURCES

The BWWB currently has sufficient supply and should be able to meet its needs through the year 2032 barring unforeseen circumstances. In 2007, the BWWB prepared a Water Supply Needs Assessment, which examined future needs for water supply through the year 2075. In 2009, the BWWB prepared a “Report on Plans for Improving Water Supply Reliability and Evaluation of Alternatives to Meet Future Water Demands,” which examined alternatives for additional water supply and improving connectivity among its sources and filtration plants.

By adding additional supply from existing water resources in the Warrior River Basin at Holt Lake and making other improvements to its raw water delivery system, the BWWB can meet the expected demands of the Birmingham area through the year 2075. While obtaining additional water supply from existing water resources will require additional capital improvements to transport water from Holt Lake to the filtration plants, this cost is lower than developing a new source of supply.

Between now and 2032, the BWWB will work toward acquiring necessary property, permitting a new intake at Holt Lake, and other project development activities. The BWWB believes, upon completion of the Holt Lake improvements, that it will have sufficient supply to meet its needs through the year 2075.

ANNUAL RAINFALL

Established by records of the United States Weather Bureau, the average annual rainfall since 1900 has been approximately 55 inches. The lowest annual rainfall on record was 28.86 inches recorded in 2007. The absence of any major seasonal variations in rainfall in the Birmingham metropolitan area usually ensures a dependable supply of surface water.

FILTRATION PLANTS

Four water filtration plants process and treat the raw water from the aforementioned sources of supply. The rated capacity and sources of supply of the filtration plants are as follows:

Filtration Plant Sources and Capacity		
FILTRATION PLANT	RATED CAPACITY	SOURCE OF SUPPLY
Shades Mountain	80 MGD	Cahaba River – Lake Purdy
Putnam	24 MGD	Mulberry Fork, Smith Lake or Inland Lake
Western	60 MGD	Mulberry Fork or Smith Lake
Carson	25 MGD	Inland Lake, Smith Lake or Mulberry Fork

The present maximum capacity of the four filtration plants is 189 MGD. The four filtration plants feed into an integrated distribution system increasing the overall reliability of system.
(See "DESCRIPTION OF THE SYSTEM – Sources of Supply.")

PUMPING FACILITIES

Pumping facilities at each of the four filtration plants deliver water into the 13 major and 7 minor service areas of the distribution system. In addition to these pumping facilities, the system has 16 major pumping stations, ranging in size from 1 million to 28 million gallons per day. These major pumping stations deliver water from lower service areas to higher service areas. In addition to the above, there are a number of smaller booster pumping stations delivering water to isolated areas at higher elevations. These smaller stations range in pumping capacity from 20 to 400 gallons per minute.

TANKS AND STANDPIPES

Storage is provided in the distribution system by 51 elevated tanks or standpipes having a total capacity of 75.7 million gallons. The tanks, ranging in size from 100,000 gallons to 6.3 million gallons capacity, improve the flow and pressure throughout the distribution system. All but two of the tanks have been built or acquired by the BWWB since it purchased the System from the Birmingham Water Works Company in 1951. In addition to the above distribution storage, the BWWB has a total of 9 million gallons of filtered water storage capacity in clear wells at its various filtration plants. The BWWB also has a raw water storage of 36 million gallons at its Shades Mountain Filtration Plant.

TRANSMISSION AND DISTRIBUTION LINES

The general topography of the Birmingham metropolitan area, ranging in elevation from 300 to 1,200 feet above sea level, requires that the distribution system be separated into 13 major and 7 minor zones, and this requires long transmission and supply mains. These mains are interconnected with loops to form a completed arterial system, which supplies a grid system of smaller secondary mains particularly in congested areas. This distribution system is supplied with water pumped from the four filtration plants in such a way that maximum reliability of the System is afforded for all zones.

In the past several years, the BWWB's distribution system has been extended into outlying rural areas, particularly in the north and northeast in Blount and Walker counties, to the south in Shelby County, and to the east in St. Clair County. As a result, the service area has more than quadrupled in size since the BWWB purchased the System in 1951.

ENVIRONMENTAL MATTERS

The BWWB is subject to numerous governmental laws and regulations relating to water resources, water treatment, pollution control and other environmental matters. The BWWB cannot predict whether additional legislation or regulations may be adopted and what the impact, if any, of any such future legislation or regulations might be. The BWWB has residual removal systems in service at its Shades Mountain, Western and Putnam filtration plants. Dewatered residuals from these plants are transported to either of 2 BWWB-operated landfills, with remaining useful lives ranging from 15 to 60 years.

The BWWB is not under any U.S. EPA consent decree but recently entered a consent agreement with the Alabama Department of Environmental Management (ADEM) regarding development of improved lead and copper service line inventory and increased lead and copper sampling frequencies. ADEM contended that the BWWB had not previously maintained a sufficiently accurate inventory of existing lead service lines or provided enough tier-1 sampling sites. They additionally contended that the BWWB did not test the requisite 50% of samples from lead service lines in 2016. This monitoring issue is in no way indicative of any water quality problems in the system. The results from lead and copper samples taken in 2016 (and from a similar resampling event conducted in 2019) indicate that no samples were found to be above the respective EPA action levels.

WATER RATES

Water rates are fixed by resolution of the Board in compliance with the rate covenants in the Senior Indenture and the Subordinate Indenture. From the time the BWWB acquired the System in 1951 until the System was acquired by the City in 1998, the BWWB imposed rate increases from time to time. The annual rate increases since 2003 are as follows:

Year	Percent Increase
2004	8.80%
2005 (January)	7.30%
2005 (June)	6.50%
2006	8.75%
2007	7.75%
2008	7.70%
2009	13.20%
2010	6.90%
2011	6.90%
2012	3.90%
2013	4.90%
2014	3.90%
2015	3.90%
2016	4.90%
2017	3.90%
2018	2.90%
2019	3.90%
2020	3.90%
2021	0.00%

The Board adopted the use of a Rate Stabilization and Equalization Model ("RSE") to determine necessary rate adjustments beginning in 2006. The RSE will calculate and automatically adjust the rates which, when implemented, will provide the appropriate levels of debt service coverage for the BWWB's obligations.

Current water rates are as follows

(Effective January 1, 2020): Typical Rates for Each 100 Cubic Feet of Water Delivered*

Current Water Rates	
	RATE
RESIDENTIAL AND IRRIGATION RATES	
For the first 300 cubic feet per month	\$2.59
For 400 to 1,500 cubic feet per month	\$3.42
Over 1,500 cubic feet per month	\$5.99
COMMERCIAL AND ALL OTHER WATER USERS RATES	
Per cubic feet per month	\$4.00
WHOLESALE RATES	
Per cubic feet per month	\$3.78
Monthly base charge – per month for 5/8-inch meter (in addition to the above)	\$26.60
Varied monthly base charges for other meter sizes	\$35.27 – \$2,064.97
Fire Service Rental Rates (per year) (based on size)	\$334.20 – \$8,369.04
Fire Hydrants (per year through September 2020)	\$217.80
Fire Hydrants (per year beginning October 2020)	\$235.44

* These rates apply for approximately 90% of all revenues generated from water supply service.

COMPARISON OF WATER RATES WITH OTHER SYSTEMS

A comparison of the BWWB's residential water charges based on average customer usage of 10 CCF (7,480 gallons) of water per month, ⁵/₈-inch meter, with that of other regional surface water systems as of March 25, 2020 follows:

Comparison	
CITY	AS OF MARCH 2020 WATER BILL (10 CCF)
Charlottesville	\$70.31
New Orleans	\$70.31
Montgomery	\$63.76
Chapel Hill	\$62.71
Austin	\$60.06
BIRMINGHAM	\$58.31
Richmond	\$57.72
Atlanta	\$54.96
Norfolk	\$52.90
Asheville	\$52.70
San Antonio	\$49.57
Knoxville	\$42.70
Chattanooga	\$40.37
Mobile	\$37.44
Marietta	\$37.13
Louisville	\$36.57
Nashville	\$35.89
Charlotte	\$30.59

RESULTS OF OPERATIONS

The following table sets forth certain operational statistics for the System:

Operations Statistics					
OPERATION	YEAR ENDED DECEMBER 31				
	2015	2016	2017	2018	2019
Number of customers	194,932	190,758	192,636	192,429	193,530
Miles of mains in service	3,997	4,012	4,025	4,052	4,060
Number of fire hydrants	13,679	13,681	13,688	12,805	13,894
Capacity of storage (in thousand gallons)	75,172	75,172	75,172	75,172	75,172
Water delivered to the distribution system (in billion gallons)	37.8	38.9	37.1	38.8	40.5
Single day, peak day demand (in million gallons)	122.3	131.2	115.6	125.3	138.5

MAJOR INDUSTRIAL/ GOVERNMENTAL CUSTOMERS

The following table contains the 10 largest customers of the system during the periods indicated and the gross revenues derived from each of such customers. Total operating revenues for the year ending December 31, 2019 were \$184,880,257.

Jefferson County		
CUSTOMER	REVENUE	% OF TOTAL OPERATING REVENUE
UAB	\$4,546,332.79	2.46%
US Steel	2,155,034.64	1.17%
ERP Compliant Coke	1,413,340.22	0.76%
Birmingham Housing Authority	1,322,757.03	0.72%
Graysville Water Co	1,145,392.60	0.62%
Buffalo Rock Co	839,532.54	0.45%
ACIPCO	741,841.86	0.40%
Town of Mulga	685,657.02	0.37%
Samford University	657,887.92	0.36%
Town of West Jefferson	655,144.61	0.35%
Grand Total	\$14,162,921.23	7.66%

GLOSSARY

Accrual Basis of Accounting – A basis of accounting under which increases and decreases in economic resources are recognized as soon as the underlying event or transaction occurs. Revenues are recognized when earned and expenses are recognized when incurred, regardless of the timing of related cash flows.

Amortization – The gradual elimination of a liability in regular payments over a specified time period.

Annual Budget – A plan covering a single fiscal year (January 1 - December 31) that details how BWWB will generate income and prioritize spending based on priorities, goals and needs.

Backflow Prevention and Cross Connection Control Policy – Program mandated by the Alabama Department of Environmental Management (ADEM), the U.S. Environmental Protection Agency (EPA) Office of Water and the Federal Safe Drinking Water Act. The purpose of the policy is to protect BWWB's potable water system against actual or potential cross connections, back pressure, and back siphonage.

Bond – A debt instrument/security used to fund capital projects or asset purchase with a written promise to pay a specific amount of money with interest within a specific time period, usually long term.

Budget Process – The process by which the BWWB prepares and adopts a financial plan for the next fiscal year (January 1 through December 31). The plan includes determining the appropriate rates, fees and charges necessary to provide sufficient revenues to meet anticipated expenses for operating and maintenance, asset repair or replacement, asset acquisition or construction to meet the service needs of the customer base and debt service requirements for existing and projected debt.

Buried Infrastructure Program – The program is funded by the BWWB's Capital Budget. It is focused on the replacement of 2-inch galvanized steel pipe and 2-inch unlined cast iron pipe that have exceeded their useful life in older communities in the BWWB's service area. This improves water quality, service and reliability to customers in the older communities and has been instrumental in the utility's water loss initiative to reduce leakage in the distribution system.

Business Sustainability and Capacity Building (BSCB) Program – Program created to increase the number of contractors and vendors required to meet the needs of the Operation & Maintenance and Capital Improvement Plan budgets by providing guidance on how to access capital and capacity to the many small local businesses including Historically Underutilized Businesses.

Capital Expenditure – Expenditures that result in the acquisition of or the addition of fixed assets.

Consumer Confidence Report (CCR Report) – The CCR is an annual report on the quality of water. The report details and outlines contaminants and their levels in drinking water. BWWB is federally mandated to provide this report to customers and wholesalers.

Capital Improvement Plan (CIP) – Process by which BWWB evaluates the operating condition of the organization's assets to identify the need for upgrades and improvements.

Capital Project – Planned process to construct, purchase, or install a new asset or improve an existing asset.

Capital Reserve Fund – Established for unexpected capital needs when shortfalls in anticipated capital funding occur.

Consecutive Water Systems – Other public water systems that receive some or all of their finished water from BWWB through direct connection to the BWWB distribution system.

Debt Service Coverage – Generally expressed as a percentage of current-year debt service, generally in the range of 115 to 150 percent, and is a requirement included in the bond indentures associated with revenue bonds.

Debt Service Coverage Ratio – The margin of safety ratio associated with bond indebtedness reflecting the ratio of the actual or projected net revenue available for debt service to annual debt service payments.

Demand Shortfall Fund – Established for unexpected capital and operating needs when demand is significantly below projections due to climatic events.

Development Impact Fees – Charges established to recoup the cost of installing or extending water lines to service a certain defined group of properties, some of which may not currently be developed.

Economic Development Fund – Established to provide funding for capital projects that would enable the growth of the utility system.

EUM Framework – The framework which BWWB manages the utility to ensure that implemented strategies support effective utility management and ultimately result in mission accomplishment and vision fulfillment. The adoption of EUM has been essential in communicating a clear direction to all who are responsible for ensuring the success of the BWWB.

Historically Underutilized Business Program (HUB) – This is a program designed to encourage the participation of underserved firms. The program fosters competition and ensures non-discrimination in contract awards with a goal of at least 30% of goods and services sourced by BWWB from these marginalized vendors.

Mobile Pilot Plant – This is a mobile test lab that navigates between filter plants. The pilot plant is designed to evaluate differing raw water sources and distribution systems at each plant and functions as an alternative test process treatment.

Potable Water – Water that is free of contaminants and ready for consumption.

PAYGO (Pay As You Go) – It is the practice of financing expenditures with funds that are currently available rather than borrowed.

Project Drivers (Capital Budget) – Capital projects are classified/listed by priority. Each project is placed into one of the six categories, however it is possible that a project could fall into multiple categories. When this occurs, effort is made to identify the most significant reason for the project.

Rate Stabilization Fund – Funds reserved for unexpected capital and operating needs if the BWWB faced events that severely challenge its financial position during the year.

Revenue Fund – Funds reserved to maintain 45 days of operating revenues.

Watershed Protection Policy – This policy establishes requirements for development in the Cahaba River/Lake Purdy Watershed to manage/control pollution and in order to protect the public water supply.

ACRONYMS

ADAH Alabama Department of Archives and History

ADEM Alabama Department of Environmental Management

ACH Automated Clearing House

A/R Accounts Receivable

AWPCA Alabama Water Pollution Control Association

BBB Better Business Bureau

BCIA Birmingham Construction Industry Authority

BPEM Business Process Exception Management

BSBC Business Sustainability and Capacity Building

BWVB Birmingham Water Works Board

CADD Computer Aided Design and Drafting

CCF Centum Cubic Feet

CCR Consumer Confidence Report

CCTV Closed Circuit Television

CDC Centers for Disease Control

CI Pipe Cast Iron Pipe

COLA Cost-of-Living Adjustment

CORE Control Operations Room and Emergency Recovery

CPI Consumer Price Index

CPR Clean Paint and Repair

CRM Customer Relationship Management (SAP)

DHS Department of Homeland Security

DSE Distribution System Evaluation

E&M Electrical & Mechanical Department

EMA Emergency Management Agency

EPA Environmental Protection Agency

ERP Enterprise Resource Planning

EUM Effective Utility Management

FI Financial Information System (SAP)

FTE Full Time Equivalent

GAC Granular Activated Carbon

GFOA Government Financial Officers Association

GIS Geographic Information System

GPS Global Positioning System

HR Human Resources

HUB Historically Underutilized Business

HVAC Heating, Ventilation and Air Conditioning

IT Information Technology

KV Kilo Volts

LAN Local Area Network

LT2 Long Term Testing (Lab)

LIMS Laboratory Information Management System

MDL Minimum Detection Limits

MGD Million Gallons per Day

M&R Maintenance & Repair

NIMS National Incident Management System

NRW Non-Revenue Water

NST National Standard Thread

O&M Operation & Maintenance

OPEB Other Post-Employment Benefits

PAYGO Pay As You Go

PFP Putnam Filter Plant

PMO Project Management Office

PS Pump Station

PSA Public Service Announcement

QA/QC Quality Assurance/Quality Control

RL Reporting Limits

R&R Renewal and Replacement

RSE Rate Stabilization and Equalization Model

SAP Systems, Applications and Products

SCADA Supervisory Control and Data Acquisition

SMFP Shades Mountain Filter Plant

TAT Testing Turnaround Time

UAB University of Alabama at Birmingham

VOC Volatile Organic Compounds

WAN Wide Area Network

WFP Western Filter Plant

WQO Water Quality Operations