

## Green Bond Framework: Central Arkansas Water

### 1. Introduction and Sustainability Strategy

Central Arkansas Water (CAW) is the largest water supplier in the state of Arkansas. The Utility plays an integral role in the quality of life for residents and the economic health of the communities it serves. As a regional water supplier serving a population of nearly 500,000, CAW contributes to the public health and well-being of one in every seven Arkansans. In addition, CAW supplies the water needed by industries that compete in regional, national, and international markets. CAW serves approximately 205,000 metered connections through retail and wholesale service to customers in Pulaski, Saline, Grant, Perry, Lonoke, White, and Faulkner counties (Figure 1).

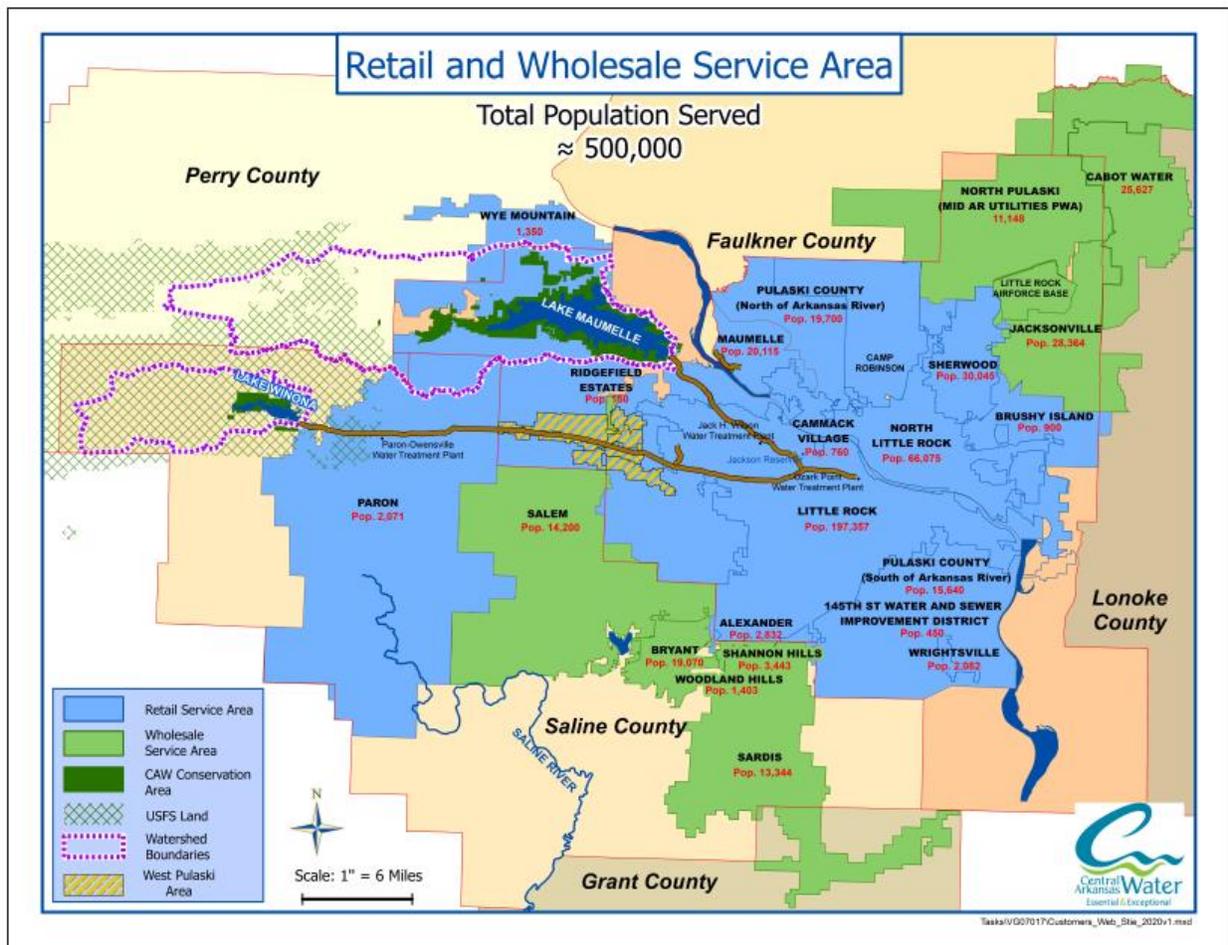


Figure 1. Map of Central Arkansas Water’s retail and wholesale service area, watershed boundaries, and raw water treatment lines.

To fulfill CAW’s primary mission of protecting public health and the environment through world-class, cost-effective water resource management, leadership, and partnerships, CAW manages, operates, and maintains an extensive array of water treatment facilities and forested landscapes in CAW’s primary watersheds, Lake Maumelle and Lake Winona. The two source lakes provide high quality drinking water at a reasonable cost to approximately 500,000 customers. Water is delivered by pipelines to the Jack H. Wilson and Ozark Point water treatment plants located in Little Rock. The raw water pipelines from both lakes also interconnect with Jackson Reservoir, a regulating reservoir inside Little Rock located between the two treatment plants. The combined safe yield from the



two surface water sources is 120 million gallons a day (MGD). The maximum treatment capacity of the Jack H. Wilson Water Treatment Plant (Wilson Plant) is 133 MGD, and the treatment capacity of the Ozark Point Water Treatment Plant (Ozark Point Plant) is 24 MGD. The Utility has 50.4 million gallons (MG) in remote storage capacity serving 22 pressure systems and another 25 MG storage in clearwells at the treatment plants.

Protecting and maintaining the quality of drinking water sources is a primary focus for Central Arkansas Water as it determines:

- (1) The amount of treatment required to exceed federal and State of Arkansas standards for safety and health,
- (2) The cost consumers pay for water service, and
- (3) The quality of drinking water that ultimately flows from taps.

CAW integrates nature into the mainstream infrastructure system to produce lower costs and more resilient services. Its management program consists of measures to protect the two reservoirs from sediment, pollution, and other sources of possible contamination that could affect the quality of our drinking water. A critical factor is to monitor and address potential sources of contaminated runoff that feed the lakes and ultimately, after treatment, become drinking water.

- The surrounding Ouachita National Forest provides essential protection for Lake Winona.
- Lake Maumelle's watershed lies within Pulaski, Perry, and Saline counties. Even though about 80 percent forested, it is vulnerable to development and other land-use changes (Figure 2). Current land uses include small residential sites, limited agriculture, and forestry activities. Storm water from the surrounding lands drain into the lake. When precipitation flows over the ground, it may carry pollutants into the lake.



Figure 2. CAW's vision is to protect and maintain the watershed as forests, which offer natural filtration services, stormwater mitigation, and sediment/erosion control.



CAW has set aggressive goals and developed a comprehensive approach to protecting its Lake Maumelle watershed, as initially outlined in the [Lake Maumelle Watershed Management Plan](#) in February 2007. CAW views acquisition of forested properties as essential to the protection and management of the watersheds. CAW encourages a culture of environmental stewardship, addressing the social, environmental, and economic balance for the utility. CAW is guided by commitments to the following principles: Leadership, Inclusivity, Transparency, Integrity, Stewardship and Continuous Improvement. CAW strives to identify and promote sustainable practices and strategic initiatives within the CAW business culture that protect and enhance the natural environment for future generations.

This commitment to the natural environment is reflected in CAW's dedicated watershed protection fee, which raises about \$1.5M annually and has been utilized to acquire 4,789 acres (includes 495 acres of conservation easements) since its inception in 2007. CAW can best manage the source water from the watersheds of Lake Maumelle and Lake Winona by obtaining land and applying scientifically sound practices and strategies for land and water management and conservation. By purchasing land around and within these source water areas, CAW can help to ensure safe drinking water and thriving wildlife and aquatic ecosystems for current customers and future residents of Central Arkansas. Examples of CAW's proactive efforts include:

#### **Watershed Management:**

- Acquisition and restoration of 1,000 acres of a former sod farm. Ecosystem restoration activities included planting over 60,000 trees, native plant habitat restoration, invasive species removal, removal of failing low-head dams, and aquatic habitat restoration with stabilized streambanks and floodplain reconnection.
- Promoting sustainable forestry management practices on CAW-owned lands by integrating reforestation and forest health in existing forestlands through prescribed fire and ecological thinning which grow and nurture our forests while protecting soil, water quality, and wildlife and plant habitats.
- Removing low-water crossings and stabilizing streambanks to protect land and water resources through the reduction of sediment and nutrients into our source water and support critical habitat for spawning fish.
- Enhancing non-forested lands through native wildflower, grass, and restoration. These enhancements are critical for soil health and retention, thus also enhancing water quality across the watersheds in addition to providing critical habitat for native bees, butterflies, other pollinators, and other wildlife (such as quail, turkeys, and other species).
- Continuing study to evaluate opportunities and obtain funds for aquatic ecosystem restoration within the Maumelle River and Lake Maumelle Watershed by restoring the natural hydrology of the river, restoring the native aquatic and riparian habitat to sustainably support native fish and wildlife species over the next 50 years.
- Active comprehensive biological monitoring program of aquatic macroinvertebrates, fishes, forestry plots, and native vegetation.

#### **Water Infrastructure Systems:**

- Variable Frequency Drives installed on a number of pumps which increase performance and reduce peak energy costs by up to 50%.
- Encouraging green energy utilization through a 4.8 MW DC solar power plant joint partnership with Scenic Solar which will result in immediate annual power cost savings. The solar plant should produce enough clean electricity to offset approximately 20% of CAW's energy expenses.

- Energy efficient pump retrofitting at the Wilson treatment facility requires less electricity and increases operational performance (Figure 3).
- Fuel Polishing System preserves back-up Generator fuel in tanks at seventeen locations. This aids fuel loss reduction due to contaminants in addition to alleviating disposal of bad fuel.



Figure 3. Aerial view of the Wilson Treatment Plant, which was retrofitted with energy efficient pumping.

#### **Climate Adaptation:**

- CAW undertook a preliminary study to estimate the tons of carbon sequestered on protected CAW lands, yielding estimates of 195,000 tons of carbon sequestered every 6 years.

#### **Partnerships:**

- CAW partners with the U.S. Environmental Protection Agency to promote [WaterSense](#), a program dedicated to protect the future nation's water supply by promoting and enhancing the market for water-efficient products and services.
- CAW is an active member of the [American Water Works Association](#), which encourages water utilities to adopt policies, procedures, and programs that result in the efficient use of water, in their operations and by the public, through a balanced approach combining demand management and supply-side practices.
- CAW stewards ongoing, productive partnerships with the Arkansas Forests & Drinking Water Collaborative and Southeastern Partnerships for Forests and Water, supporting the connection between forests and clean drinking water.



## Alignment with United Nations Sustainable Development Goals

CAW recognizes increasing interest on the part of investors and other stakeholders in working towards the United Nations Sustainable Development Goals (SDGs)—the impacts of CAW projects financed by green bonds will exhibit our continued alignment with several of the SDGs. To determine project impact, CAW relies on the International Capital Market Association (ICMA) “Green and Social Bonds: A High-Level Mapping to the Sustainable Development Goals” (June 2019). A detailed explanation of the bond and funded projects’ alignment with the SDGs can be found in Annex B.

## 2. Green Bond Framework

In support of the green bonds to be issued by CAW, a framework has been created that lays out the four pillars of the Climate Bonds Initiative (“CBI”) Standard. These include:

- Use of Proceeds;
- Project Evaluation and Selection Process;
- Management of Proceeds; and
- Reporting.

### 2.1 Use of Proceeds

CAW projects to be financed with green bonds proceeds must meet one or more of the following project areas under the Climate Bonds Initiative Water Infrastructure criteria. Aligned with its mission, CAW is pursuing the strategic goals of source water protection, improved delivery and transportation systems, and enhanced utilization of CAW resources to increase resiliency. The net proceeds from the certified green bond will not be greater than the Issuer’s total investment exposure to nominated projects, and if proceeds are utilized for the nominated projects, they will be excluded from nomination to other certified climate bonds. CAW has identified nominated projects (Annex A) aimed at increasing resilience through built and natural infrastructure, which include one or more of the following activities:

<b>Climate Bonds Initiative (Eligible Sectors)</b>
<p><b>Water Infrastructure:</b> Installation or upgrade of water treatment infrastructure</p> <ul style="list-style-type: none"> <li>• Installation of high-efficiency water treatment equipment, pumps, motors, and valves</li> <li>• Install enhanced power reliability equipment at water reclamation facilities</li> <li>• Installation of new equipment and systems</li> </ul>
<p><b>Water Infrastructure:</b> Water saving technologies</p> <ul style="list-style-type: none"> <li>• Replacement of pipelines to improve delivery and prevent leakage</li> </ul>
<p><b>Improvement on water distribution systems</b></p> <ul style="list-style-type: none"> <li>• Pipeline rehabilitation, replacement, and installation to prevent overflow and improve delivery</li> </ul>
<p><b>Nature-based solutions:</b> Water treatment by natural filtration systems</p> <ul style="list-style-type: none"> <li>• Acquisition and permanent protection of forested landscapes in the watershed</li> </ul>
<p><b>Nature-based solutions:</b> Stormwater management by erosion control measures</p> <ul style="list-style-type: none"> <li>• Acquisition and permanent protection of forested landscapes in the watershed</li> </ul>



## 2.2 Project Evaluation and Selection Process

CAW utilizes a robust and transparent annual process to prioritize capital improvements for financing, and the utility maintains long-range financing plans for its Operation and Maintenance and Capital budgets. The Capital Improvements Program identifies the project list, which is presented in Annex A of this Framework, as a priority for bond financing. The typical budget process involves:

- Budget requests identifying total needs, wants, and priorities submitted by staff and stakeholders,
- Budget staff review the budget requests and work with stakeholders, and
- Review, analysis, and prioritization to create a budget

Projects to be financed are evaluated and selected based on:

- a) Alignment with the current Strategic Plan, Facilities Plan and asset management needs, and the current Watershed Management Plan;
- b) Business case studies and community benefits (identify need, options, and preferred solutions); and
- c) Multiple reviews by Budget Staff, the Chief Executive Officer, and Commissioners. In addition, Commissioners approve all projects over \$100,000 prior to signing contracts. CAW will engage an accredited External Reviewer to evaluate how selected projects meet the specific criteria for the Climate Bonds Initiative sector criteria within 24 months of issuance in accordance with the Climate Bonds Initiative certification. Only bond financings with eligible projects that meet the criteria will be nominated for financing with green bonds.

## 2.3 Management of Proceeds

Proceeds from green bonds will be specifically directed to pay the costs of design, construction, property acquisition, and other related expenses necessary for the eligible projects. Ensuring that green bond proceeds are allocated only to designated green projects and activities will be the responsibility of CAW's Chief Financial Officer.

CAW's green bond proceeds will be used exclusively to finance eligible green projects. A record of such will be maintained by CAW. Green bond proceeds may also be used to pay the cost of issuance and underwriter's fees related to this transaction. These costs will be specifically delineated in closing documents. A project account, debt service reserve account, and fund account are established for each series of debt. The bond proceeds for the green bond will be maintained in a separate project account. The interest earned on that project account is added directly to the account to support project spending. The unallocated proceeds are invested per CAW's financial policy as outlined by Commissioners and include such investments as government obligations and obligations whereas the principal and interest are fully guaranteed by the United States government or agency. CAW has received the Government Finance Officers Association (GFOA) Certificate of Achievement for Excellence in Financial Reporting for the past 10 years. In addition, CAW has received the GFOA Award for Outstanding Achievement in Popular Annual Financial Reporting for the past 2 years.

## 2.4 Allocation Reporting and Impact Reporting

CAW nominated projects estimate that 35% of the green bond proceeds will support nature-based filtration services and the remaining 65% will support improving the built infrastructure (Figure 4). CAW expects to utilize 11%<sup>1</sup> of the green bond proceeds to refinance a 2018 bond whose proceeds purchased 460 forested acres as a natural filtration system and erosion prevention. CAW will provide continuing disclosures as to the status of the bonds and funds expended.

CAW will provide an annual report detailing how the green bond proceeds were used to finance the selected projects, a description of the selected projects, and the estimated environmental benefits resulting from these projects for publication on the CAW website for public record.



Figure 4. Improvements to the spillway at Lake Winona is one of the nominated projects in the green bond, which will increase the resiliency of the system, decrease contaminants into the system, and improve functionality.

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<sup>1</sup> The refinancing portion of the bond proceeds could be 13% if CAW is able to reduce expenditures associated with a nominated project, which would reduce the bond to \$26.8 million.



**Annex A: Nominated Project Descriptions**

Nominated Projects	TOTAL
Improve Booster Pump Station No. 11	350,000
Install 24-inch Transmission Main - N. Locust Street/Pump Station No. 23 - North Little Rock	2,000,000
Install Watermain 12" Morgan / NLR Int. Looping	700,000
Install - 12" WM to WM Pressure Zone Connection	250,000
Relocate Water Mains - Bowman Rd Improvements - LR	250,000
2022 Relocate 24-inch Transmission Main Along Interstate 30 (I-30) Ark River Bridge	805,000
Improve Lake Winona Spillway	500,000
Install 8-inch Water Main Across I-40 at Harris Road	250,000
Improve Raw Water Pump Station No. 12 – Jackson Resvr.	1,500,000
Install 8-inch Panther Mtn to Maumelle Connection	550,000
Replacement of GALV & CIP Water Mains	7,219,250
Relocate Water Mains - Rodney Parham Rd., Rocky Valley to Cantrell	500,000
Replace 12-inch Water Main at 8101 Stagecoach	250,000
Replace Wilson WTP Filter Control Solenoid Valves	96,000
Relocate 16/12/8-inch Water Mains - Cantrell Rd/AR Hwy 10/Sam Peck/Taylor Loop - Phase 2	1,800,000
Relocate Water Mains - 24" Along Hemphill Rd - Sherwood	500,000
Relocate Water Mains - Country Club Rd - N. Hills to Beaconsfield - Sherwood	850,000
Relocate Water Mains - Park Hill Jump Start - JFK Blvd - NLR	225,000
Improve Intake Gates at Lake Maumelle, Lake Winona, & Jackson Resv.	500,000
Lake Maumelle Pump Station Intake Rehab. & Parking Lot Foundation Repair	250,000
Install Generator at Pump Station 16A	70,000
Install Highland Ridge Pump Station 17A	600,000
Watershed Protection: Purchase Rattlesnake Ridge Conservation Easement	600,000
Watershed Protection: Purchase watershed land or Conservation Easement	500,000
Watershed Protection: Forest Legacy Large Acre Property Purchase	6,000,000
Refunding Series 2018A (proceeds purchased 460 acres of forest lands for watershed protection)	3,509,397
<b>TOTAL</b>	<b>30,624,647</b>



**Annex B: CAW Nominated Program Impacts Aligned with United Nations Sustainable Development Goals**

<b>Project Name</b>	<b>UN SDGs</b>	<b>Project and Environmental Impact Description</b>
Improve Booster Pump Station No. 11	9, 11	Upgrade supply and delivery reliability
Install 24-inch Transmission Main - N. Locust Street/Pump Station No. 23 - North Little Rock	9, 11	Upgrade supply and delivery reliability
Install Water main 12" Morgan / NLR Int. Looping	9, 11	Upgrade supply and delivery reliability
Install - 12" WM to WM Pressure Zone Connection	9, 11	Upgrade supply and delivery reliability
Relocate Water Mains - Bowman Rd Improvements - LR	9, 11	Upgrade supply and delivery reliability
2022 Relocate 24-inch Transmission Main Along Interstate 30 (I-30) Ark River Bridge	9, 11	Upgrade supply and delivery reliability
Improve Lake Winona Spillway	6, 9, 11	Upgrade supply and delivery reliability through engineering improvements enhancing reservoir resilience
Install 8-inch Water Main Across I-40 at Harris Road	9, 11	Upgrade supply and delivery reliability
Improve Raw Water Pump Station No. 12 – Jackson Reservoir.	9, 11	Upgrade supply and delivery reliability
Install 8-inch Panther Mtn to Maumelle Connection	9, 11	Upgrade supply and delivery reliability
GALV / CIP Water Main Replacements	9, 11	Upgrade supply and delivery reliability
Relocate Water Mains - Rodney Parham Rd., Rocky Valley to Cantrell	9, 11	Upgrade supply and delivery reliability
Replace 12-inch Water Main at 8101 Stagecoach	9, 11	Upgrade supply and delivery reliability
Replace Wilson WTP Filter Control Solenoid Valves	6, 9, 11	Upgrade supply and delivery reliability, drinking water quality
Relocate 16/12/8-inch Water Mains - Cantrell Rd/AR Hwy 10/Sam Peck/Taylor Loop - Phase 2	9, 11	Upgrade supply and delivery reliability
Relocate Water Mains - 24" Along Hemphill Rd - Sherwood	9, 11	Upgrade supply and delivery reliability
Relocate Water Mains - Country Club Rd - N. Hills to Beaconsfield - Sherwood	9, 11	Upgrade supply and delivery reliability
Relocate Water Mains - Park Hill Jump Start - JFK Blvd - NLR	9, 11	Upgrade supply and delivery reliability



Improve Intake Gates at Lake Maumelle, Winona, & Jackson Reservoir	6, 9, 11	Enhance reservoir resilience and enhance system improvement
Lake Maumelle Pump Station Intake Rehab. & Parking Lot Foundation Repair	6, 9, 11	Enhance reservoir resilience and enhance system improvement
Install Generator at PS 16A	9, 11	Enhance system reliability and disaster resilience
Install Highland Ridge Booster Pump Station	6,9,11	Install new pump station for water delivery system to enhance performance and meet growing consumption demand
Watershed Protection Fee Purchase Rattlesnake Ridge Conservation Easement	14, 15	Land purchase for source water protection and conservation management co-benefits
Watershed Protection Fee Purchase Watershed Land or Conservation Easement	14, 15	Land purchase for source water protection and conservation management co-benefits
Watershed Protection Fee Large Acre Property Purchase along with Forest Legacy Grant	14, 15	Land purchase for source water protection and conservation management co-benefits
Refinancing Series2018A (acquisition of 460 acres of forestland for WPF)	14,15	Land purchase for source water protection and conservation management co-benefits