North Campus Radial Collector Well Drought Resilience Initiative

Bureau of Reclamation
WaterSMART Drought Response Program Grant Application
Notice of Funding Opportunity No. R23A200005

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Contents

Image: Prairie Waters Project Site

QUICK REFERENCE GUIDE:

- The radial well system will increase the water supply by up to 7,900 to 9,000 acre-feet annually (p. 5)
- 90,000 acre-feet over 10 years (p. 13)
- Roughly 8% increase to total system yield 10.7 to 12.2 acre-feet per day for each of the two wells. (p. 9)

PERFORMANCE ESTIMATES:

- Radial collector well – 3.5 to 4.5 MGD (p. 9)
- Radial collector well – 3,950 to 4,500 acre-feet annually (p. 26)
- Radial collector well – 10.7 to 12.24 acre-feet daily (p.9)
- Radial collector wells – $2.5 million per MGD (p. 9)
- Vertical well - .3 MGD (p. 9)
- Vertical well - $5.5 million per MGD (p. 9)

Technical Proposal and Evaluation Criteria

This section presents the technical proposal and addresses the evaluation criteria for the proposed North Campus Radial Collector Well - Drought Resilience Initiative.

Executive Summary

Project Summary

The City of Aurora Water Department (Aurora Water) is seeking grant funding to assist with the North Campus Radial Collector Well - Drought Resilience Initiative (Initiative). The City of Aurora (City), with a population of nearly 400,000, obtains water from several watersheds, reservoirs, and groundwater wells. When faced with a severe drought in 2002 that led to mandatory water restrictions, the City recognized the need for a more robust drought resiliency effort. This realization lead to the development and construction of the Prairie Waters Project (also known as "North Campus"). Built in 2010, this innovative system to recapture and reuse water from the South Platte River Basin uses a natural environmental treatment (riverbank filtration) followed by additional treatment at the Binney Water Purification Facility (Binney WPF), a state-of-the water treatment facility (*see Appendix I - the "Prairie Waters Project fact sheet"*) that provides clean water to Aurora residents.

The North Campus system reduces the impacts from drought conditions by indirectly recycling treated water effluent and reducing reliance on decreasing surface water supplies. The Prairie Waters System currently includes 23 vertical groundwater wells along a 1.5-mile stretch of the South Platte River that collectively increase water management efficiency, water supply sustainability, and drought resiliency. These wells yield roughly 7 to 9 million gallons per day (MGD) or 7,900-to-10,000-acre feet per year and have been a critical component to meeting our resiliency needs in the City of Aurora.

Aurora Water has planned several projects to expand the production of the North Campus system to fully realize the vision behind the Prairie Waters Project. (*See – North Campus Master Plan p. 13-16*) The latest project currently in design is the addition of two new radial collector wells that would greatly expand production and introduce a highly efficient type of well to complement the existing vertical wells. Detailed in Technical Project Description of the application, the radial wells collect water across ten (10) 150-to-200ft radial pipes drilled horizontally from a central shaft and present a greater water collection potential while still retaining beneficial effects of the riverbank filtration.

Unfortunately, due to budget constraints and the sharp increases to construction costs that has occurred since the inception of this project, Aurora Water had to reduce the scope of this project from two radial collector wells, to just one well.

Now, Aurora Water is seeking grant funding from the Bureau of Reclamation (BOR) to build the second radial well and fully realize this project's original mission. With the first radial well and associated infrastructure built by the City, a second well will easily generate value and double this Initiative's impact. Combined, the two radial wells will increase the overall water capacity by 7,800 to 9,000-acre feet annually, provide long-term drought resilience, reduce emergency response risks, and take additional stress off existing water sources in the Colorado and Arkansas River basins. With the help of BOR, we could nearly double our current yield from the Prairie Waters System and consequently double the resiliency our citizens receive from this drought hardening initiative.

Time Frame

The expansion Initiative is currently at 60 percent design, and the first radial well will be ready for construction by March 2023, subject to a competitive bidding process.

Following the execution of the grant assistance agreement, Aurora Water will begin the process of finalizing design and constructing the second radial well. The City projects design, NEPA requirements, and pre-construction procurement steps to occur at the beginning of 2024 with bidding to occur in the fall or early winter. Construction is projected to begin at the start of 2025 and be substantially complete early in 2026. The complete schedule is included in Appendix II - Project Schedule.

Applicant

City of Aurora – Aurora Water
15151 E. Alameda Parkway
Aurora, CO 80012

Applicant Category

For purposes of the grant, City of Aurora is applying as a **Category A** applicant as a local government organization with water delivery authority.

Project Location

Aurora is a home-rule city in the State of Colorado. Located mainly in Arapahoe County, Aurora's boundaries extend into both Adams and Douglas counties. Aurora is 180 square miles located in central Colorado along the populous Front Range corridor. Aurora is the third largest city in the state. Under the U.S. Census, Aurora is within the Denver-Aurora-Lakewood Metropolitan Statistical Area. The Prairie Waters System is in Weld County, near Brighton, Colorado. (*see Figure 1 – Proximity Map*)

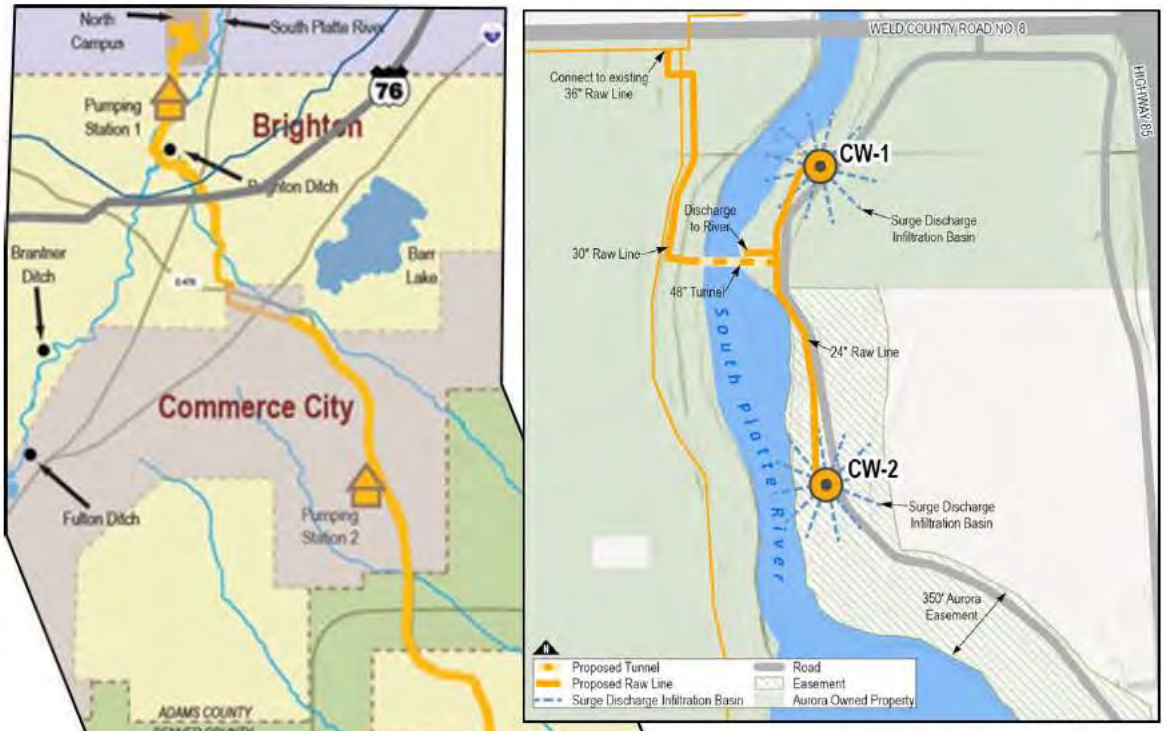


Figure 2 - Site Plan

Figure 1 - Proximity Map

Technical Project Description

This section presents the technical aspects of the North Campus Radial Collector Well - Drought Resilience Initiative.

Background

The North Campus Radial Collector Well - Drought Resilience Initiative is a supporting component of the North Campus Wellfield Expansion program, a raw water collection and delivery system developed as an expansion to the City's Prairie Waters Project (North Campus) that was brought online in 2010. The delivery system is currently yielding 10,000 acre-feet of water per year, [redacted].

The Prairie Waters project at the North Campus consists of two primary elements: the Riverbank Filtration (RBF) Wellfield along the South Platte River and the nearby Aquifer Recharge and Recovery (ARR) sites. In general, the system works by capturing and delivering raw water from the riverbank alluvium via well fields to a pretreatment and purification process and then pumping to the Binney WPF. Prairie Waters is a critical component of Aurora's Integrated Water Master Plan adopted in September 2017 that seeks to build a sustainable and drought-resilient water supply for our existing and future community.

The overall Prairie Waters Project involves extracting alluvial water from the 23 vertical wells that are [redacted] from the river utilizing riverbank filtration (RBF), a natural purification process to remove nitrates and organic chemicals. The aquifer recharge provides time for travel and additional removal of chemicals with percolation through sand and gravel. This portion of the system takes place at the North Campus location. The water is then pumped [redacted] over 30 miles and 1,000 feet of vertical gain to the Binney WPF where the water undergoes a series of treatments including chemical softening to reduce hardness, UV light to remove trace organics, and filtration to remove particulates and pathogens. Lastly, the water goes through a granular activated carbon treatment process to improve taste, odor, and remove any trace organics. A process chart can be found on Aurora's website. Once water is used by our customers, it is transported and treated through the Metro Treatment facility and released back into the South Platte River, where is recaptured through the well system. The full system is outlined in *Appendix III – System Overview Map.*

Our treatment systems produce consistent safe drinking water that reduces and eliminates harmful chemicals and removes secondary drinking water contaminants that cause taste and odor issues. Our purification facility was shown in a pilot study by CH2M Hill's treatment experts, independent scientists, Colorado School of Mines,

the University of Colorado, and Colorado State University to significantly reduce organic carbons and nitrates and to be beneficial for the biological and sustainability of the river system (UC Denver 2011). This means that the process is not only good for Aurora residents health but also river and ecological health.

The impacts of drought have far-reaching effects, and new water resources are increasingly difficult to acquire and use. Therefore, this highly sustainable solution was built to expand with our population growth (greater than 20% since 2010 http://www.worldpopulationreview.com). The broad process of water use, wastewater treatment, natural purification, collection in the wellfield, and potable treatment ready for use again means we can continually provide clean, safe potable water to our residents while remaining resilient to the impacts of drought to Aurora Water's almost entirely surface water system.

A key piece of this system is the water rights Aurora Water holds, [redacted] half of each gallon of water used in homes and businesses is treated at the Metro Denver Wastewater Facility and returned to the South Platte River, where it can then be recaptured through the Prairie Waters system. In short, we can recycle water over and over until it is completely gone.

The Need

As part of a water system that relies heavily on snow and rainfall from the mountains, the diversification of water sources is critical. The changes in weather patterns across the west is adversely impacting traditional water storage of source water, making the Prairie Waters system a critical component to our water portfolio. While the vertical wells work as intended, the lack of uniform subsurface conditions in the sands and gravels near the river coupled with the ability to only screen along a portion of the shaft of the vertical well (10 to 15 feet), as opposed to horizontally, limit the capacity of this type of well.

Drought conditions have continued to cause more frequent wildfires in the mountains impacting water quality and quantity and causing post-fire that reduces existing water storage capacity. In fact, seven of the 10 largest wildfires in Colorado history have occurred in the last decade. The wildfires continue to contaminate water with heavy metals, sediment, and volatile organics (like benzene). This frequent occurrence has resulted in increased difficulty in acquiring water and led to increased costs for treatment, which are especially critical during the drought years when wildfires occur. Wildfires also holistically threaten mountain water supplies as they can impact reservoir functionality where we gather most of our water. The City has implemented an aggressive Water Management Plan to help reduce water use during low-yield periods.

Aurora is a very diverse community located in three separate counties in Colorado. Our population of nearly 400,000 has a majority of minority groups. In addition, Aurora is considered the first in Colorado for immigrant support and meets the definition in Section 1015 of the Cooperative Watershed Act as a community with a median household income that is less than 100 percent of the statewide annual median household income. This has significantly contributed to the population growth, and we believe it is important to provide a clean and sustainable water source to residents new to our country.

Our primary focus of the expansion Initiative is to increase the firm yield of Aurora Water's water resource portfolio, especially in drought years, to achieve a higher standard of drought hardening and protect water quality for our residents. Since completion of the initial project, Aurora Water has dedicated resources to the Prairie Waters system to increase operational advantages and fully realize the value of existing assets to provide drought resiliency. In addition to a currently underway expansion of six (6) new vertical wells, we have completed several studies with consultants and our local academic institutions.

Recently, Aurora Water completed the Prairie Waters System - North Campus Horizontal Well Pilot Project Phase 1 Horizontal Well Alternatives Analysis and Pilot Test Conceptual Design – January 2020. (see p. 17-26 for reference) The study found that on average, each of the vertical wells produce 0.3 MGD as compared to 3.5 – 4.5 MGD (10.7 to 12.2 acre-feet daily) from one radial collector well resulting in a recommendation to use radial collector wells to improve efficiency and to improve water quality. In addition, internal analysis of the capital cost for the current vertical well expansion project versus the radial collector wells found the capital investment to be $5.5M/MGD versus $2.5M/MGD, respectively.

Project Details

The expansion Initiative is a critical portion of our water portfolio. The project has been initiated, and the project design and permitting are underway with the intention of building a single radial well. The initial design was developed to include the cost of all materials, equipment, tools, labor, supplies, as well as site work to excavate and construct the well. The work also includes time to develop and performance test the radial collector well.

Support from the BOR WaterSMART grant program would provide Aurora with the opportunity to significantly accelerate its drought resiliency efforts and take advantage of construction efficiencies to build a second well. The wells would be configured nearly identically, and equipment will be standardized between the two wells to create a streamlined maintenance and operations environment and to meet production requirements for a wide range of pressures and flows. The work for each radial collector well includes but is not limited to the following:

- Each radial well would include a [redacted] diameter concrete caisson to approximately [redacted] depth.
- Each well would also require horizontal drilling and installation of ten (10) radial screened laterals from the base of the concrete caisson into the optimum alluvial materials.
- Each of these laterals would be constructed with approximately [redacted] feet-long stainless-steel pipe with a well screen, designed depending on the hydrogeology and geology.
- A pump station would be constructed vertically on top of the [redacted] diameter concrete caisson to both operate and protect the well. The pump station would be an approximately [redacted] square foot cement masonry unit and would be supported by twelve (12) concrete piers drilled down to bedrock.
- Each well would have [redacted] vertical turbine pumps installed along with the necessary electrical [redacted]) and instrumentation equipment for operation and control of each pump station. The station would be connected to the City's existing Supervisory Control and Data Acquisition (SCADA) system.
- Yard piping will also be installed to tie into existing infrastructure and will be constructed of [redacted] steel pipe. Yard piping will also include any other pipe appurtenances added to piping such as blow off valves, etc. and a passive cathodic protection system.
- Site security will be design around each pump station including intrusion alarms.
- Well development and testing will be required, including an 8-hour step test and a 72-hour pump test.
- Civil/ site improvements including earthwork, site access roads, perimeter fencing, yard piping, connection to existing systems, and buried electrical and communication conduits.
- Construction services including on-site coordination and inspection, attendance at weekly construction meetings, review of contractor shop drawings and requests for information, preparation of operations and maintenance manuals, and record drawings.

Aurora Water will work with the Colorado Division of Water Resources, Colorado Department of Public Health and Environment, Weld County Colorado, and any other agencies to submit all the required documentation and all permits per regulatory requirements. Our team will also be required to contract with a Colorado licensed and certified Colorado Division of Water Resources Water Well Driller and ensure the contractor provides OSHA Construction Safety-certified foreman and an "Excavation Competent" staff.

Performance Measures

Aurora Water will require the contractor to conduct well development and testing, including an 8-hour step test and a 72-hour pump test. Since this is an expansion of an existing system, operational wells will provide measures for comparison and review. Studies were completed prior to installation of existing wells and can also be used to help guide installation and design. Performance will be measured by quantifying the volume of water collected and delivered from each of the two wells. As mentioned previously, estimates indicate an increase of [redacted] acre-feet per day for each of the two wells.

Successful operation of the new radial collector wells also means testing for a quantifiable benefit in water quality from the purification effects of riverbank filtration processes. Though we expect marginal differences from the water quality of the existing vertical well field, we still anticipate sizable reductions in total organic carbon, turbidity, harmful bacteria, and contaminates of emerging concern.

Evaluation Criteria

Evaluation Criterion A – Project Benefits (30 points)

How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?

The expansion Initiative will significantly improve Aurora Water's resilience, sustainability, quality, and water yield. It will also help to protect the community from both current and future drought events. Specifically:

- The Radial Well collectors will diversify Aurora Water's existing water portfolio and reduce the dependency and need for water from the Colorado and Arkansas River Basins (heavily influenced by snowpack and rain), which has experienced severe drought conditions over the last two decades.
- The Radial Well collectors will provide security and drought resilience from mountain fire events that limit access to water resources and reduce water quality. According to the State of Colorado Division of Fire Prevention and Control, four of the largest fires in the state's history have occurred since 2018 and the area is considered above normal risk for significant wildfire potential (*see Figure 3 – Wildfire Potential Outlook*).
- The Radial Well collectors will allow Aurora Water to take advantage of existing water rights.

- The Radial Well collectors increase the ability of Aurora Water to use its water rights to extinction promoting greater indirect potable reuse.

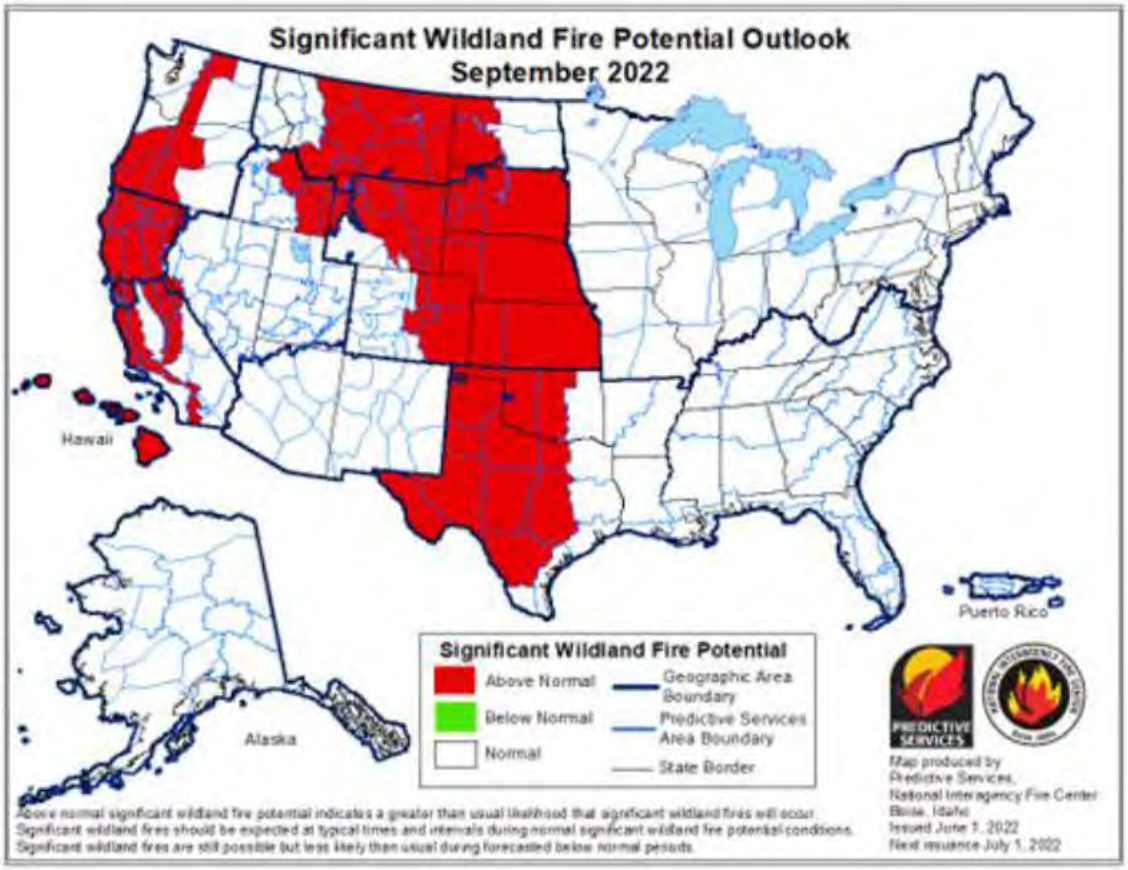


Figure 3 - Wildfire Potential Outlook

Aurora Water anticipates a 30-year lifespan for the radial well collectors with annual maintenance and upkeep as planned and budgeted by Aurora Water. [redacted]

Will the project make additional water supplies available?

Yes. The radial well system will increase the water supply by up to 7,900 to 10,000 acre-feet annually, which translates to roughly [redacted] increase to total system yield.

Further, Aurora Water helped create the Water Infrastructure Supply Efficiency partnership (WISE) in 2002. WISE is collaborative effort between the Denver Water and South Metro Water districts to share excess water resources from the Prairie Waters project mainly during lower demand winter months. Through the collaborative effort under WISE, Aurora Water shares excess treated water to South Metro Water District, which reduces their dependence on depleted groundwater resources.

Additionally, Denver Water, another WISE partner, can access the raw water during severe emergency or drought. This type of regional water sharing partnership reflects Aurora Water's effort to support regional drought resiliency efforts.

If so, what is the estimated quantity of additional supply the project will provide and how was this estimate calculated? Provide this quantity in acre-feet per year as the average annual benefit over ten years (e.g., if the project captures flood flows in wet years, provide the average benefit over ten years including dry years).

The impact of the two new radial wells will provide roughly 7,900 to 9,000 acre-feet of water annually and up to 90,000 acre-feet over 10 years. The estimate was calculated through the current design engineer's calculations performed by subcontractor Leonard Rice Engineers. This being the same firm that completed the engineering study in 2020.

The study also developed a groundwater model to identify locations for the well to understand the relationship between the yield, proximity to the river, and the hydraulic residence time. The model took into consideration historic water levels and existing geological conditions along with test wells to formulate an understanding of production capacities.

What percentage of the total water supply does the additional water supply represent? How was this estimate calculated? Provide a qualitative description of the degree/significance of the benefits associated with the additional water supplies.

During normal/wet years, Aurora has the capacity of [redacted], during the sustained drought in Colorado, the capacity is reduced to 50% (the water rights that can be used to extinction). The ability to capture and reuse the 50% of our water rights is imperative for drought resiliency. Hence, this project is critical to our community.

The radial well collector system also provides the opportunity to capture water rights that cannot currently be used due to storage limitations and increase water quality during drought years when wildfires are prevalent.

The new capacity from the two radial wells diversifies Aurora Water's raw water portfolio. This reduces the potential impacts with fire events that impact the Colorado and Arkansas River Basis supplies. In months with excess capacity, Aurora Water will be able to contribute additional water to the WISE regional partnership.

Will the project improve the management of water supplies? For example, will the project increase efficiency, increase operational flexibility, or facilitate water

marketing (e.g., improve the ability to deliver water during drought or access other sources of supply)?
If so:

- *How will the project increase efficiency or operational flexibility?*
- *What is the estimated quantity of water that will be better managed as a result of this project? How was this estimate calculated? Provide this quantity in acre-feet per year as the average annual benefit over ten years (e.g., if the project captures flood flows in wet years, provide the average benefit over ten years including dry years).*
- *What percentage of the total water supply does the water better managed represent? How was this estimate calculated?*
- *Provide a qualitative description of the degree/significance of anticipated water management benefits.*
- *Will the project make new information available to water managers? If so, what is that information and how will it improve water management?*

Yes. Aurora Water will be able to use existing infrastructure more efficiently and it will provide significant operational flexibility. Aurora Water has invested in the transmission lines from the North Campus site and the Binney Water Treatment facility, which has excess capacity. [redacted] The original facility was built between 2007 and 2010 for around $600 million. The additional infrastructure needed to support the expansion is minimal due to substantial prior investment by Aurora Water.

[redacted]

[redacted]

Evaluation Criterion B – Drought Planning and Preparedness (20 points)

Provide a link to the applicable drought plan, and only attach relevant sections of the plan that are referenced in the application, as an appendix to your application. These pages will be included in the total page count for the application.

South Platte Basin Implementation Plan

Aurora Water Management Plan

Explain how the applicable plan addresses drought. Proposals that reference plans clearly intended to prepare for and address drought will receive more points under this criterion.

- *Does the drought plan contain drought focused elements including a system for drought monitoring, sector vulnerability assessments related to drought, prioritized mitigation actions, and response actions that correlate to different stages of drought?*
- *Explain whether the drought plan was developed with input from multiple stakeholders. Was the drought plan developed through a collaborative process?*
- *Does the drought plan include consideration of climate change impacts to water resources or drought?*

The South Platte Basin Implementation Plan (Plan) updated in January of 2022 is a collaborative effort initiated by the Colorado Water Conservation Board and is part of a larger effort that encompasses the eight watersheds in Colorado.

The Plan takes a holistic approach to the watershed that seeks to address all aspects of the water resource including water supply, water quality, existing constraints (mainly existing water compacts and storage issues), and environmental and recreational needs. This approach addresses the need to get ahead of drought conditions by supporting conservation measures and other water projects that promote active reuse of water including the Prairie Waters facility.

A major recommendation from the Plan is to:

> *"Develop new, in-basin, multipurpose water storage and conveyance mechanisms, explore further integration of South Platte water supply systems to enhance yield and reliability, and develop methods to more effectively use groundwater. Encourage surface water and groundwater availability/hydrologic modeling to provide more detailed and reliable estimates of water availability. (South Platte Basin Implementation Plan, Recommendations Summary)"*

The Plan was developed by regional stakeholders that included water districts, the agricultural and recreation industry, elected officials, and other stakeholder groups. The focus is to promote collaboration between water users within the South Platte Basin and identify goals, strategies, and measurable outcomes that address current and future water needs in the region.

The Plan acknowledges climate change as one of the major challenges facing the state and region. This includes considering the impacts from both drought and the prevalence of wildfires that negatively impact water supplies.

The Aurora Water Management Plan guides Aurora's local efforts to address drought conditions. The plan provides guidance on identifying drought conditions and empowers local leaders to take corrective actions including water restrictions and identifies water reduction goals based on the severity of the drought conditions.

Figure 4 below outlines the demand reduction recommendations based on drought conditions. Reductions include the restrictions on residential water, closing of car washes, and other steps to reduce water demand.

Water Availability Stage Conditions and Demand Reduction Recommendation				
Water Availability Stage	**NORMAL**	**Stage I SEVERELY DRY**	**Stage II EXCEPTIONALLY DRY**	**Stage III EMERGENCY CONDITIONS**
Trigger - Months of supply based on current demand	*Above 30 months*	*30-25 months*	*24-13*	*12 months or less*
Demand Reduction Goal (outdoor use only)	0%	20%	50%	100%

Figure 4 – Demand Reduction Recommendations

Describe how your proposed drought resiliency project is supported by and existing drought plan.

- *Does the drought plan identify the proposed project as a potential mitigation or response action?*
- *Does the proposed project implement a goal or need identified in the drought plan?*
- *How is the proposed project prioritized in the drought plan?*

The South Platte Basin Implementation Plan acknowledges the Prairie Waters project as a regional achievement. The Plan also recognizes and encourages efficiency improvements through water reclamation and recycling that will occur from the Initiative and the WISE collaborative partnership as an innovative response to regional water needs.

Specifically, the Plan calls for the following goals:

- Goal #1 – Encourage Implementation of Projects
- Goal #4 – Maintain and Promote Reuse

In addition, the Prairie Waters project and the WISE program are called out under Goal #4 in part because the Initiative will expand the ability to capture reusable return flows in the South Platte River from Aurora's Sand Creek Recycling Plant.

Evaluation Criterion C – Sustainability and Supplemental Benefits (15 points)

Climate Change: E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution, increase resilience to the impacts of climate change, protect public health, and conserve our lands, waters, oceans, and biodiversity. Examples in which proposed projects may contribute to climate change adaptation and resiliency, may include but are not limited to the following:

- *In addition to drought resiliency measures, does the proposed project include other natural hazard risk reductions for hazards such as wildfires or floods?*

By building additional capacity through the South Platte River Basin, the project will build resiliency from fire events that reduce water access and water quality. In recent years, the prevalence of fire events has increased substantially, which negatively impact existing sources of raw water.

- *Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution?*

Yes. The biggest indirect benefit is the reduced need to source and transport water from sources on Colorado's western slope.

- *Does the proposed project have a conservation or management component that will promote healthy lands and soils or serve to protect water supplies and its associated uses?*

Indirectly, the Sand Creek and other treatment facilities replenish the river flow, which supports the natural habitat through the South Platte River basin.

Disadvantaged or Underserved Communities:

Aurora is a very diverse community. The population of nearly 400,000 is comprised of 40% non-white residents. In addition, Aurora is considered the first in Colorado for

immigrant and refugee support and the local workforce are comprised of almost 25% immigrants.

The City of Aurora meets the definition in Section 1015 of the Cooperative Watershed Act as a community with a median household income that is less than 100 percent of the statewide annual median household income. According to the most recent Census, Aurora has a median household income of $66,723 as compared to the state of Colorado at $75,231. (*Source: US Census Bureau, American Community Survey*).

Under the definition of low income or high and persistent poverty, 46 percent of the population is under 24 or 65 and older. In addition, 34 percent of the population earns less than $50,000 per year, and 10.5 percent of the population lives below poverty.

Aurora spans three counties over which our median housing value is $322,200, which is less than Colorado's median housing value of $369,900. Approximately 46.1% of Aurora residents in renter-occupied units are paying gross rent that exceeds 35% or more of their income. Gross rent does not include additional housing costs such as utilities.

In addition, the City of Aurora has a demonstrated commitment to accepting and welcoming immigrants and refugees. Aurora has been ranked No. 1 overall in Colorado on the New American Economy Cities Index for its commitment to support its immigrant population. Aurora approved the "Immigrant Integration Plan," that includes 12 stated goal areas including promoting healthy lifestyles and housing to the immigrant and refugee population.

Tribal Benefits

None.

Environmental Benefits

- *Increasing storage to augment stream flows during dry periods to protect endangered species*
- *Improving water quality or providing water for wildlife habitat areas*

Other Benefits

Yes. Aurora Water can use the water to extinction and take advantage of natural processes to maximize its water use.

Evaluation Criterion D—Severity of Actual or Potential Drought Impacts to be addressed by the Project (15 points)

What are the ongoing or potential drought impacts to specific sectors in the project area if no action is taken (e.g., impacts to agriculture, environment, hydropower, recreation and tourism, forestry), and how severe are those impacts? Impacts should be quantified and documented to the extent possible. For example, impacts could include, but are not limited to:

- *Whether there are public health concerns or social concerns associated with current or potential drought conditions (e.g., water quality concerns including past or potential violations of drinking water standards, increased risk of wildfire, or past or potential shortages of drinking water supplies? Does the community have another water source available to them if their water service is interrupted?).*
- *Whether there are ongoing or potential environmental impacts (e.g., impacts to endangered, threatened or candidate species or habitat).*
- *Whether there are local or economic losses associated with current drought conditions that are ongoing, occurred in the past, or could occur in the future (e.g., business, agriculture, reduced real estate values).*
- *Whether there are other drought-related impacts not identified above (e.g., tensions over water that could result in a water-related crisis or conflict*

Aurora serves over 400,000 residents in the growing Metro Denver region and is the third largest city in the state of Colorado. As of May 24, 2022, the region is currently experiencing drought conditions considered moderate to severe according to the U.S. Drought Monitor (*Figure 5 – US Drought Monitor*).

Aurora Water receives approximately 50 percent of its water supplies from the Colorado and Arkansas River basins combined, which have been prone to wildfire conditions and are experiencing additional severe drought conditions. According to the U.S. Drought Monitor, "Since 2000, the Colorado River basin has been experiencing a historic, extended drought that has impacted regional water supply and other resources, such as hydropower, recreation, and ecological goods and services."

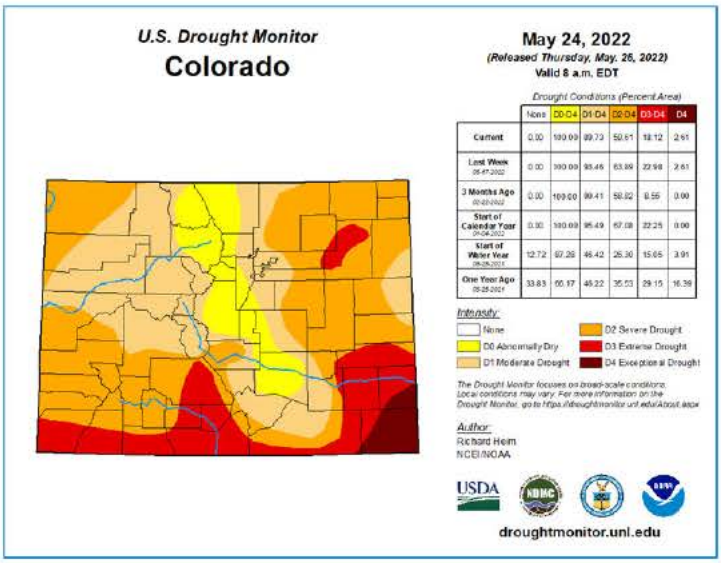


Figure 5 - US Drought Monitor

Describe recent, existing, or potential drought conditions in the project area.

- *Is the project in an area that is currently suffering from drought, or which has recently suffered from drought? Please describe existing or recent drought conditions, including when and the period of time that the area has experienced drought conditions. Include information to describe the frequency, duration, and severity of current or recent droughts. Please provide supporting documentation, (e.g., Drought Monitor, droughtmonitor.unl.edu).*
- *Describe any projected increases to the severity or duration of drought in the project area resulting from changes to water supply availability and climate change. Provide support for your response (e.g., reference a recent climate informed analysis, if available).*

According to the most current Drought Monitor report, (*see Figure 6 – Drought Conditions Arapahoe County*) the City of Aurora (as indicated through Arapahoe County) is currently in Moderate Drought conditions with the outlook expected to continue. As recent as January of 2022, drought conditions were considered Extreme. Using Arapahoe County, which is where a majority of Aurora's municipal boundaries lie, the entire county has been impacted by drought and April of 2022 was the driest on record.

In 2021, lack of snowfall as winter progressed lead to Colorado's Front Range communities breaking records for the number of days without snow. On December 16, 2021, the National Weather Service reported that since July 1, 2021, Denver area had been the warmest and driest since records began. Impacts of drought existed in the mountain regions as well where Aurora's water resources are the most plentiful. According to information from both the U.S. Department of the Interior and the National Oceanic and Atmospheric Administration, since 2000 the Upper Colorado River basin, where roughly 25% of the City's water originates, "has been experiencing an historic, extended drought that has impacted regional water supply."

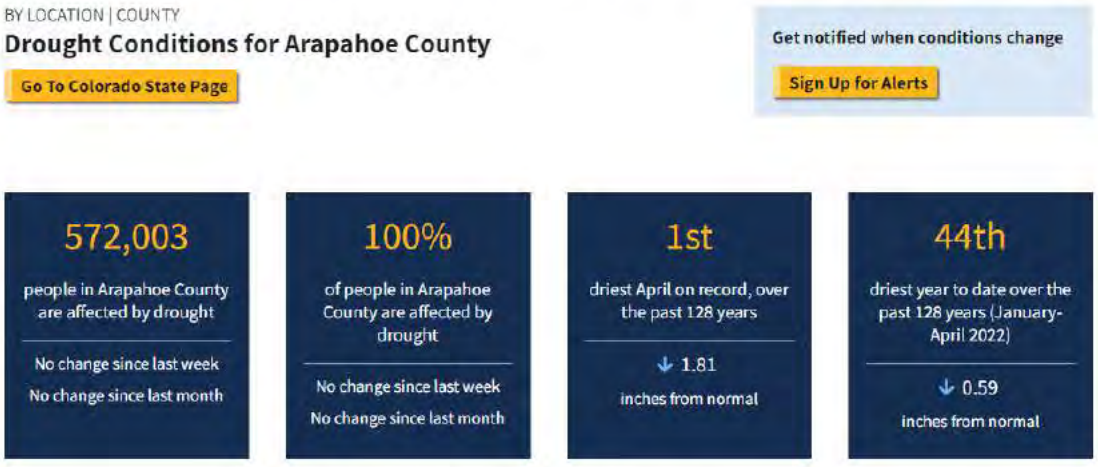


Figure 6 - Drought Conditions for Arapahoe County

[redacted]

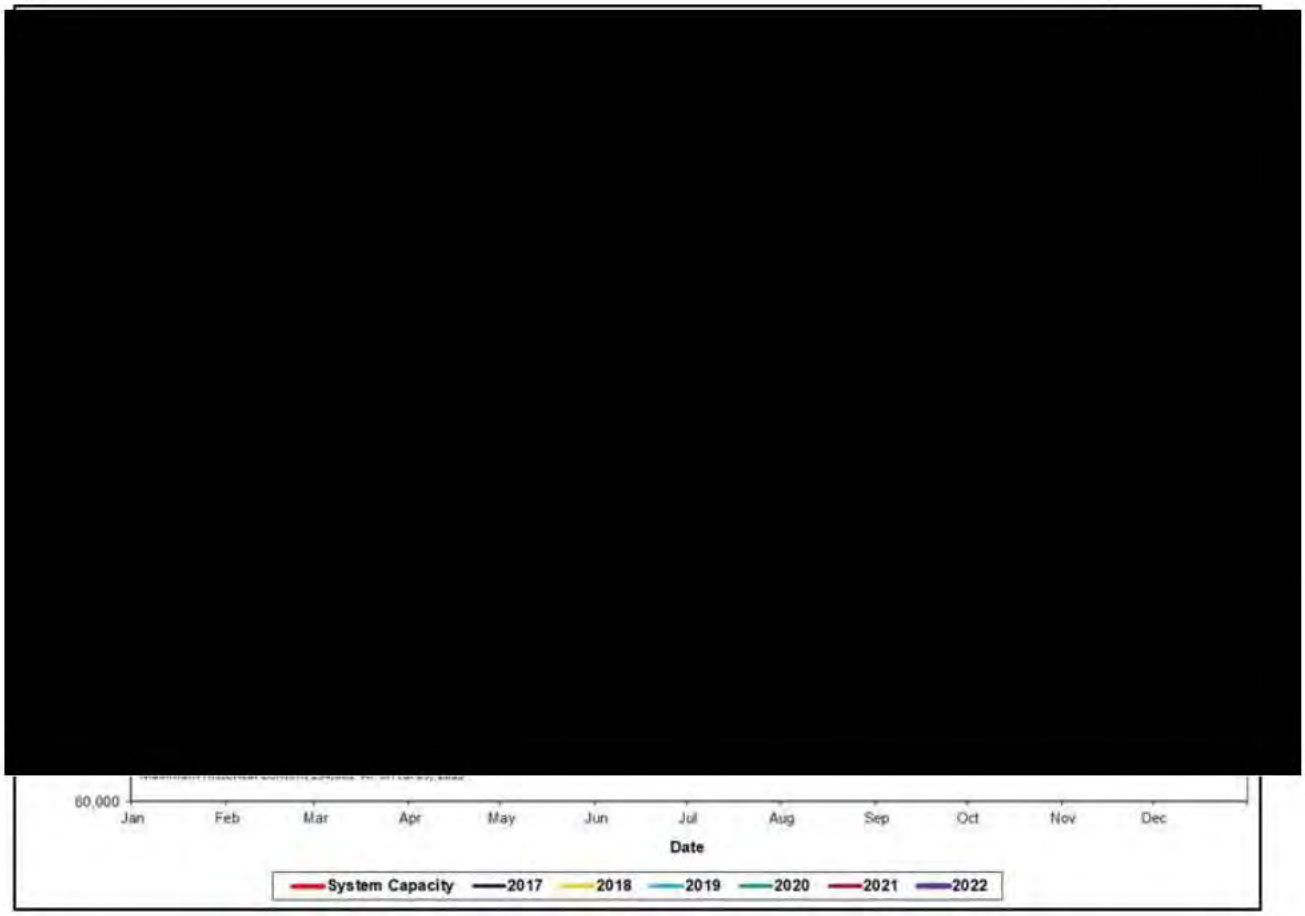


Figure 7 - 5-Year System Storage

Evaluation Criterion E—Project Implementation (10 points)

Applications that include a detailed project implementation plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most points under this criterion. Please also see Section C.3.3 regarding eligible lengths of projects for this NOFO.

- *Describe the implementation plan of the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Milestones may include, but are not limited to, the following: design, environmental and cultural resources compliance, permitting, construction/installation.*
- *Describe any permits that will be required, along with the process for obtaining such permits.*

- *Identify and describe any engineering or design work performed specifically in support of the proposed project.*
- *Describe any new policies or administrative actions required to implement the project.*

The first radial well is at 60 percent design with 90 percent design expected by fall of 2022. Construction is estimated to begin in the first quarter of 2023. (*see Appendix II – Project Schedule*) With approval of the grant and completion of the NEPA requirements, Aurora Water will initiate the final design for the second well and start the competitive bid process. We anticipate having 90 to 95 percent of the engineering work completed as part of first radial well.

The Initiative will require permits from Colorado Division of Water Resources, Colorado Department of Public Health and Environment, and Weld County Colorado, and submittal of all required documentation per the permit requirements. Aurora Water is required to contract with a well drilling contractor with Water Well Driller Colorado License from the Colorado Division of Water Resources and will need to ensure the contractor provides OSHA Construction Safety-certified foreman and an "Excavation Competent" staff.

Aurora Water has engaged Carollo Engineers through a qualifications-based RFP process to assist with the engineering and design of the wells. After a study confirmed ideal subsurface conditions for placement, Carollo has been making strides towards the design and permitting requirements of these two radial collector wells (*see LRE Engineer Study – p. 121 -122 for a detailed list of required permits*). Design began in earnest in August 2021, was 30% complete in January 2022, and just reached 60% design in May 2022. We expect 90% design to be complete in August 2022. Carollo has subcontracted with LRE Engineering as the experts in geotechnical and water resource aspects of this project. The design includes:

- Site plans
- Tunneling methodologies for pipeline crossing (built with first well)
- Yard piping
- Civil design of pump stations
- Caisson/wet well design
- Radial pipeline locations and placement
- All electrical including instruments and controls

The Initiative will follow all purchasing and bidding requirements required by the City of Aurora and state of Colorado and managed by the Office of Purchasing Services. It is the stated mission of the Office of Purchasing Services to bring the "best value" to the city of Aurora by acquiring quality goods, services, and construction at a fair price through contracts with commercial sources. The City also follows the Small

Business Enterprise Program for contracts over $250,000 that requires large businesses make a good faith effort to award no less than 10 percent of their subcontracting dollars to Small Business Enterprises and to document their effort. (Small Business Enterprise Program)

Evaluation Criterion F—Nexus to Reclamation (10 points)

Describe the nexus between the proposed project and a Reclamation project or Reclamation activity. Please consider the following:

- *Does the applicant have a water service, repayment, or O&M contract with Reclamation?*
- *If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?*
- *Will the proposed work benefit a Reclamation project area or activity?*
- *Is the applicant a Tribe?*

Aurora Water has on ongoing relationship with the BOR on several storage and exchange contracts. Aurora Water is in regular contact with the Pueblo BOR office regarding ongoing water storage issues. These include:

Pueblo Reservoir
In 2007 Aurora followed up a series of one-year contracts for excess capacity storage in Pueblo Reservoir with a long-term storage contract in Pueblo Reservoir. This contract gives Aurora 10,000 AF of excess capacity storage in Pueblo Reservoir as well as 10,000 AF of exchange from Pueblo Reservoir to the upper Arkansas Basin, Twin Lakes, and Turquoise reservoirs. This contract has an escalating annual fee for this storage as well as a responsibility for a percentage of the ongoing maintenance and replacement costs each year. This contract will be up for renewal in 2048.

Turquoise Reservoir – Owned by the BOR
Aurora Water has a storage contract with the BOR for the Turquoise Reservoir that is in conjunction with Aurora's Homestake project. Aurora has 50% share of a 15,000 AF storage contract in Turquoise Reservoir for storing Homestake project water along with Colorado Springs Utilities. Aurora Water also has an additional storage contract for 5,000 AF of storage in Reclamations Turquoise Reservoir that it purchased from CF&I company.

Twin Lakes Reservoir – Owned by the BOR
Aurora has storage in BOR's Twin Lakes Reservoir through its ownership of Twin Lakes Reservoir and Canal company stock. This is a permanent storage contract

that has a proportional share of the operations, maintenance, and replacement costs of the east slope Fryingpan/Arkansas Project facilities.

Ruedi Reservoir
Aurora is in discussions with BOR regarding a storage contract in Ruedi Reservoir along with Pitkin County. BOR has started the NEPA process.

Project budget

Funding Plan and Letters of Commitment

The non-Federal share of the project costs will be provided by the City of Aurora. The City will make its contribution to the cost share requirement through a monetary contribution. The source of funding is the Aurora Water Fund, which is included in the City of Aurora's approved Capital Budget. The Water Fund is an enterprise fund that provides for the acquisition, development, and protection of water and water rights and the operation and maintenance of the water purification facilities and distribution system.

Budget proposal

The first phase of the Initiative will include one radial well and will be paid for by the City through the Water Fund. This will lay the groundwork and infrastructure needed to easily incorporate a second radial collector well partly funded by this grant. This initial portion of this initiative will be fully designed, procured, and funded by the City [redacted]

This grant request will allow the City to achieve their original goal of two radial wells for this initiative. The second radial well will cost $11,519,297 and will be split between the applicant and the requested federal funding.

[redacted]

Table 1 – Total Project Cost Summary

SOURCE	AMOUNT
Costs to be reimbursed with the requested federal funding	$5,000,000
Costs to be paid by the applicant	$6,519,297
Value of third-party contributions	$0
TOTAL PROJECT COST	$11,519,297

Table 2 - Non-Federal and Federal Funding Sources Summary

FUNDING SOURCES	AMOUNT

Aurora Water Fund/Aurora Capital Budget	$6,519,297
REQUESTED RECLAMATION FUNDING	$5,000,000

Table 3 – Detailed Budget Proposal

The budget table below inclues the estimated quantity and unit costs.
Units below only relate to major cost contributors.

BUDGET ITEM DESCRIPTON	DESCRIPTION	QTY	UNIT	LINE TOTAL COST
GENERAL CONDITIONS				
Mobilization and other General	Field Office, Site Prep, Supervision, Mobilization	[redacted]	LS	$452,377
Sitework and Demo	Clear grub, Erosion Control, Access Road, Restoration	[redacted]	LS	$ 66,849
YARD PIPE				
[redacted] RW Steel Pipe	Purchase and Install	[redacted]	LF	$327,049
DURATION EQUIPMENT				
Gen Mechanical	General Mechanical/Conditions	[redacted]	MO	$ 52,972
RADIAL COLLECTOR WELL - 02				
Sitework and Demo	Excavation/Backfill, Drilled Piers, Laydown Area for Caisson	[redacted]	VF	$122,959
Concrete	Caisson, Generator Pad, Aprons	[redacted]	LS	$3,498,607
Architectural	Veneer, Roofing, Doors	[redacted]	SF	$300,654
Metals	Joists/Deck, Handrail, Ladder	[redacted]	SF	$101,346
Process Equipment	Pump Station Pumps [redacted]	[redacted]	EA	$352,207
Process Pipe	[redacted] Pipe	[redacted]	LF	$384,969
HVAC	HVAC Systems	[redacted]	LS	$ 54,801
Electric/Instruments and Controls	Conduit, Cable, Transformers, Switches, Generator, VFDs, PLC	[redacted]	LS	$1,249,551
	Work Total			**$6,964,347**
Local Sales Tax	5.6%	390,003		
State Sales Tax	2.9%	201,966		
Escalation, Materials	10.0%	696,435		
Escalation, Labor	3.5%	243,752		
	Total with Direct Costs			**$8,496,503**
Builders Risk/Liability	1.3%	106,206		
	Subtotal			$8,602,709
Overhead and Profit	15%	1,290,407		
	Subtotal			$9,893,116
Bonds	1.3%	123,664		
	Subtotal			$10,016,780
Risk/Contingency	15%	1,502,517		
	GRAND TOTAL			**$11,519,297**

	[redacted]			[redacted]

Budget Narrative

Aurora Water is proposing to build two radial wells as part of the Drought Resilience Initiative, with the second radial well being funded using Bureau of Reclamation funding. Initially, Aurora Water reduced the scope of the project to a single radial well based on available funding even though the preliminary engineering recommendations called for two radial wells based on available space and capacity.

The master plan created for the North Campus indicates a potential total capacity of [redacted] if additional land can be acquired for additional wells. With the opportunity for federal funding under the Bureau of Reclamation WaterSMART grant program, Aurora Water will be able to construct the second well resulting in an additional 3.5 – 4.5 MGD yield, which translates to roughly 3,950 to 4,500 acre-feet annually.

Salaries and Wages

Aurora Water has designated Justin Montes as the project manager. Other key personal will include Melissa Toering as Grants Manager. Aurora Water maintains internal staff for Capital Projects and is not seeking reimbursement for this expense through the grant funding, nor is it included in the project budget.

Travel
No travel costs are included in the budget.

Equipment
Equipment needs and cost will be subject to a competitive bid process but is expected to include [redacted] vertical turbine pumps.

Materials and Supplies
Materials will be purchased and provided by the contractor selected through a competitive bid process. Materials are expected to include concrete caissons, [redacted] steel pipe, [redacted] cement masonry unit, as well as security measures.

Contractual
Aurora Water will contract for the construction through a competitive bid process.

Construction

Aurora Water will initiate a competitive bid process and estimated costs include a contingency due to pricing volatility. The bid process will commence only after award, NEPA processes, and appropriate permitting requirements have been completed.

Other Expenses
Due to ongoing pricing concerns, the project includes a15 percent contingency and an escalation for future materials and labor costs, which is carried within Aurora's budget.

Indirect Costs
Indirect costs are not included in the requested budget.

Total Costs
[redacted]

Environmental and cultural resources compliance

Aurora Water will contract with a consultant to perform an Environmental and Cultural Resources survey for the project site. The following information will be updated with the results of the survey.

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

The project will involve earth-disturbing work that will involve digging one well to a depth [redacted] Steps will be taken to minimize the impact of the work that may affect the air, water, or animal habitat in the project area. Dust suppression measures will be taken for any concrete work. Because the project is located on previously disturbed ground that is owned by Aurora Water, we anticipate minimal impact to the area.

Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

No.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.

No.

When was the water delivery system constructed?

The existing well network was built as part of the Prairie Waters project from 2007 through 2010.

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

No.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

No.

Are there any known archeological sites in the proposed project area?

No.

Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

No. The project site is not in proximity to any residential neighborhoods.

Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

No.

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

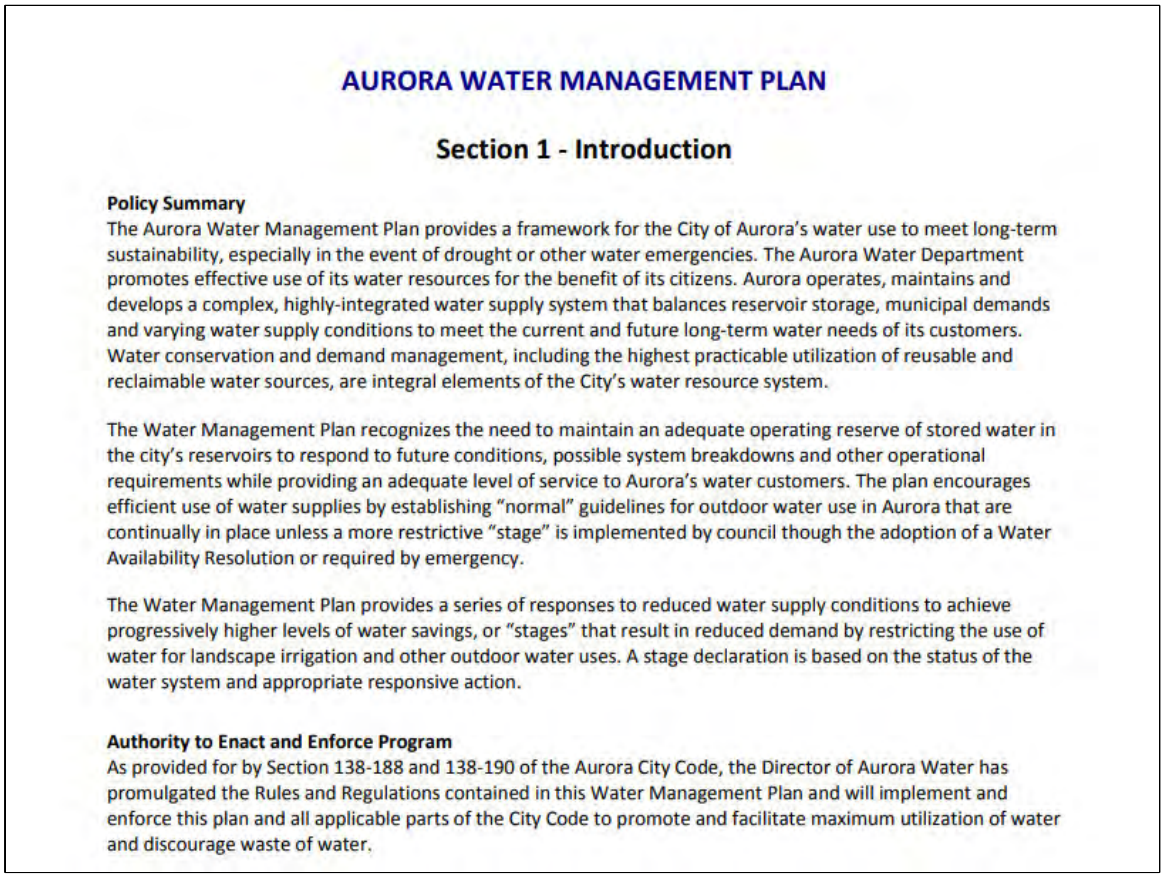
No. The site is actively maintained by Aurora Water and will continue to be maintained through the life of the project investment.

Required permits or approvals

The LRE Engineers Technical Study, pages 120-121 includes all anticipated permitting for the entirety of the North Campus Master Plan and is inclusive of the permits anticipated for this project.

Relevant sections of existing drought contingency plan (if applicable)

The link to the full plan was included in Criterion B, below is an excerpt of the policy summary and authority to enforce.



AURORA WATER MANAGEMENT PLAN

Section 1 - Introduction

Policy Summary

The Aurora Water Management Plan provides a framework for the City of Aurora's water use to meet long-term sustainability, especially in the event of drought or other water emergencies. The Aurora Water Department promotes effective use of its water resources for the benefit of its citizens. Aurora operates, maintains and develops a complex, highly-integrated water supply system that balances reservoir storage, municipal demands and varying water supply conditions to meet the current and future long-term water needs of its customers. Water conservation and demand management, including the highest practicable utilization of reusable and reclaimable water sources, are integral elements of the City's water resource system.

The Water Management Plan recognizes the need to maintain an adequate operating reserve of stored water in the city's reservoirs to respond to future conditions, possible system breakdowns and other operational requirements while providing an adequate level of service to Aurora's water customers. The plan encourages efficient use of water supplies by establishing "normal" guidelines for outdoor water use in Aurora that are continually in place unless a more restrictive "stage" is implemented by council though the adoption of a Water Availability Resolution or required by emergency.

The Water Management Plan provides a series of responses to reduced water supply conditions to achieve progressively higher levels of water savings, or "stages" that result in reduced demand by restricting the use of water for landscape irrigation and other outdoor water uses. A stage declaration is based on the status of the water system and appropriate responsive action.

Authority to Enact and Enforce Program

As provided for by Section 138-188 and 138-190 of the Aurora City Code, the Director of Aurora Water has promulgated the Rules and Regulations contained in this Water Management Plan and will implement and enforce this plan and all applicable parts of the City Code to promote and facilitate maximum utilization of water and discourage waste of water.

Letters of Project Support

Letters of support will be sent directly to the Bureau of Reclamation. We anticipate letters will be sent from the following:

- Senator John Hickenlooper
- Representative Jason Crow (CO-06)

Letter of Support from Senator Michael Bennet

MICHAEL F. BENNET
COLORADO

COMMITTEES:
AGRICULTURE, NUTRITION, AND FORESTRY
FINANCE
INTELLIGENCE

United States Senate
WASHINGTON, DC 20510–0609

WASHINGTON, DC:

COLORADO:

June 14, 2022

Camille Calimlim Touton
Commissioner
U.S. Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

Dear Commissioner Touton:

I write to express support for the application submitted by the City of Aurora (the City) to the U.S. Department of the Interior, U.S. Bureau of Reclamation, for funding from FY23 Drought Resiliency Projects under the WaterSMART Drought Response Program. If awarded, funds will assist the City in building the North Campus Radial Collector Well project.

The City is the third largest in Colorado and home to aerospace, energy, medical, and biosciences industries, including the Buckley Space Force Base. Currently, the City receives its water supply from three major rivers: the South Platte, Arkansas, and Colorado Rivers. In order to increase the reliability of diverse water supplies and improve water management, additional infrastructure is needed.

Constructed in 2010, the Prairie Waters Project was an innovative system to recapture and reuse water from the South Platte River Basin. The system reduces the impacts of drought conditions, offers a source of clean water to Aurora residents, and provides aquifer recharge. WaterSMART monies will assist the City in building the second of two radial wells to expand the system, introducing a more efficient and cost-effective type of well. These two wells will increase the overall water capacity, provide drought resilience by cyclically utilizing water within its system, and take additional stress off existing water sources in the Colorado River and Arkansas River basins.

This proposal is a simple but significant project that will increase the City's long-term drought resilience capabilities, reducing future risk, and providing a sustainable future. I encourage you to give the application submitted by the City of Aurora your full and fair consideration consistent with all applicable laws and regulations. Thank you for your review, and please notify my office of any funds awarded.

Sincerely,

Michael F. Bennet
United States Senator

Letter of Support from UTE Water Conservancy District:

P.O. Box 460 (81502)
2190 H ¼ Road
Grand Junction, CO 81505

WATER
Conservancy District

Office: (970)242-7491
Fax: (970) 242-9189
www.utewater.org

June 14, 2022

Camille Calimlim Touton
Commissioner
Bureau of Reclamation
1849 C Street NW
Washington DC 20240-0001

RE: City of Aurora North Campus Radial Collector Well Grant Request
WaterSMART Drought Response Program: Drought Resiliency Projects FY2023
NOFO R23AS00005

Dear Commissioner:

This letter is in support of WaterSMART grant funding for City of Aurora's North Campus Radial Collector Well project.

The City of Aurora seeking $5 in million in grant funding to assist with its North Campus Radial Collector Well - Drought Resilience Initiative. The Prairie Waters Project was originally constructed in 2010 and is an innovative system to recapture and reuse water from the South Platte River Basin. The system reduces the impacts of drought conditions, offers a source of clean water to Aurora residents, and provides aquifer recharge. The grant funding will assist in building the second of two radial wells to expand the system, introducing a more efficient and cost-effective type of well. These two wells will increase the overall water capacity, provide drought resilience by cyclically utilizing water within its system, and take additional stress off existing water sources in the Colorado River and Arkansas River basins.

The Western United States is experiencing its worst drought in a century. Investments in infrastructure planning and construction will provide for a sustainable future. Aurora receives its water supply from three major rivers: the South Platte, Arkansas, and Colorado Rivers. Additional infrastructure is needed to increase the reliability of these diverse water supplies and improve water management. Aurora's North Campus Radial Collector Well is a simple but significant project that will specifically increase Aurora's long-term drought resilience capabilities and reduce future risk and the potential need for future emergency response.

The Ute Water Conservancy District supports Aurora in their drought resilience planning and applauds their innovative approaches to water management and request your full and fair consideration of the City's WaterSMART grant.

Sincerely,

Terry W. Clever
General Manger

Official Resolution

The official resolution has been drafted and will be submitted to the Aurora City Council for consideration and approval within 30 days of the grant submission. Upon approval, the resolution will be sent to the d to the BOR upon final approval.

RESOLUTION NO. R2022- ____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF AURORA, COLORADO, EXPRESSING THE AURORA CITY COUNCIL'S SUPPORT OF A BUREAU OF RECLAMATION GRANT FOR THE NORTH CAMPUS RADIAL COLLECTOR WELL DROUGHT RESILIENCY INITIATIVE

WHEREAS, The City of Aurora and its Utility Enterprise, Aurora Water ("The City") supports its WaterSMART Drought Response Program Drought Resiliency Project Grant application ("Application") to the United States Bureau of Reclamation ("BOR"); and

WHEREAS, The grant will assist the City in constructing one of two radial collector wells at the North Campus Wellfield to increase the drought resiliency of the City's water supply through the Department of the Interior, Bureau of Reclamation, Water Resources and Planning Office by authority of Section 9504(a) of the Secure Water Act, Subtitle F of Title IX of the Omnibus Public Land Management Act of 2009, Public Law (P.L.) 111-11 (42 United States Code (U.S.C.) 10364), as amended, and the Fish and Wildlife Coordination Act, 16 U.S.C. 661-666c, as delegated to Reclamation in Departmental Manual 255 DM 1.1B.to award funding through the WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2023; and

WHEREAS, The City of Aurora Water Department is seeking grant funding in the amount of $5,000,000.00 with a non-federal fund match from the Water Fund to complete the North Campus Radial Collector Well - Drought Resiliency Initiative; and

WHEREAS, Aurora Water is seeking grant funding to build two radial well systems which will increase the overall water capacity by 8 to 10 MGD at the original Prairie Waters Project along a 1.5 mile stretch of the South Platte River that yields roughly 8 to 10 million gallons per day ("MGD") of water capacity from 23 vertical wells; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF AURORA, COLORADO, THAT:

Section 1. City Council approves Aurora Water applying for a Bureau of Reclamation Grant for the North Campus Radial Collector Well Drought Resilience Initiative between The City and BOR in a form not inconsistent with this Resolution.

Section 2. All resolutions or parts of resolutions of the City in conflict herewith are hereby rescinded.

Section 3. This Resolution shall take effect immediately without reconsideration.

RESOLVED AND PASSED this day of , 2022.

MIKE COFFMAN, Mayor

ATTEST:

KADEE RODRIGUEZ, City Clerk

APPROVED AS TO FORM:

Rachel Allen

RACHEL ALLEN, Client Group Manager

Signature:

Email: rallen@auroragov.org

Overlap or Duplication of Efforts Statement

The proposal is not seeking funding from other Federal or non-Federal sources.

Conflict of Interest Disclosure

There is no conflict of interest. The City of Aurora utilizes internal controls to ensure compliance with all Federal purchasing requirements.

Uniform Audit Reporting Statement

The City of Aurora complies with the Single Audit requirements in accordance with 2 CFR §200 subpart F.

Certification Regarding Lobbying

See form SF-424.

Appendix I – PWP Fact Sheet

Owner:
Aurora Water
Aurora, Colorado

Ground Breaking:
July 2007

Completion:
October 2010

Initial Capacity (S. Platte):
Up to 12 million gallons per day

Project Cost:
$638,000,000

Treatment capacity:
50,000,000 gallons per day

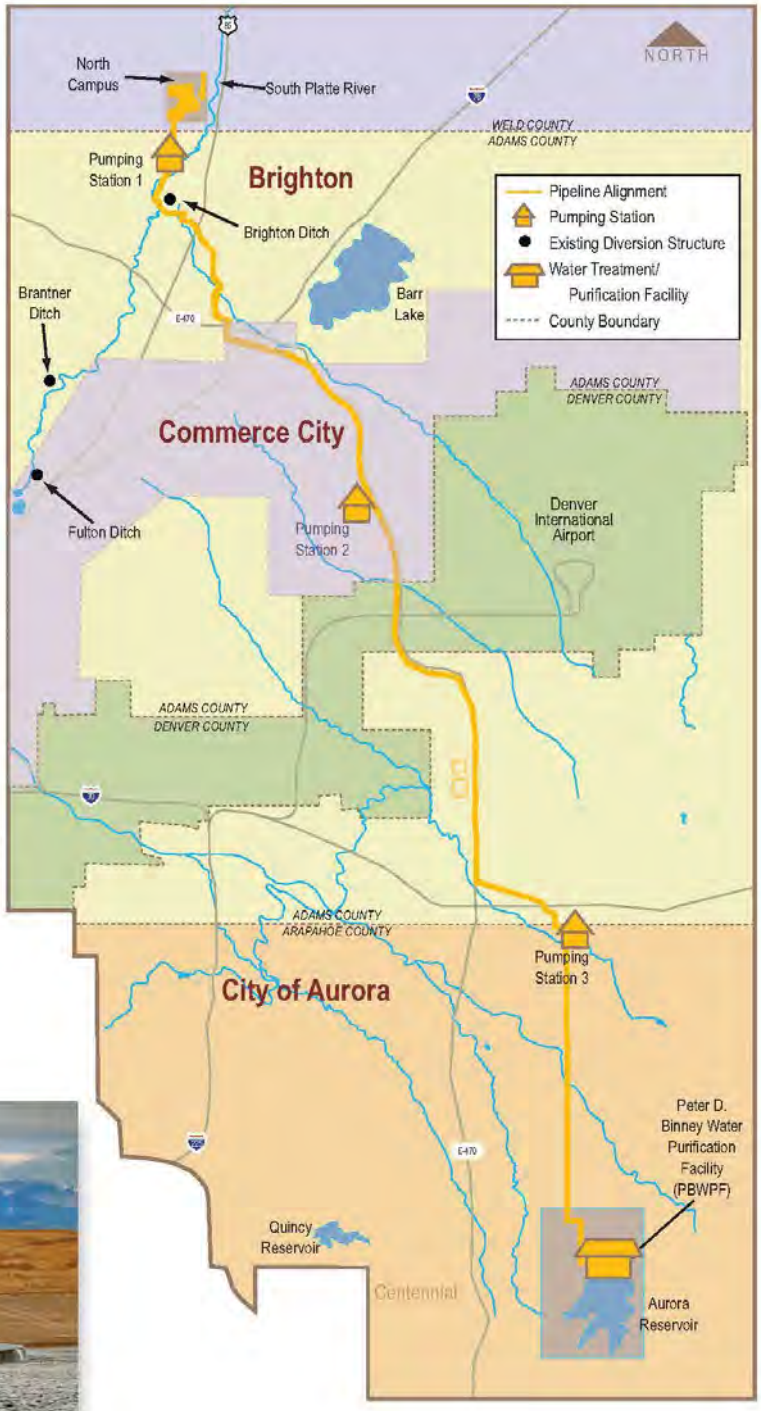
Water Sources:
Aurora Reservoir
South Platte River

AURORA WATER

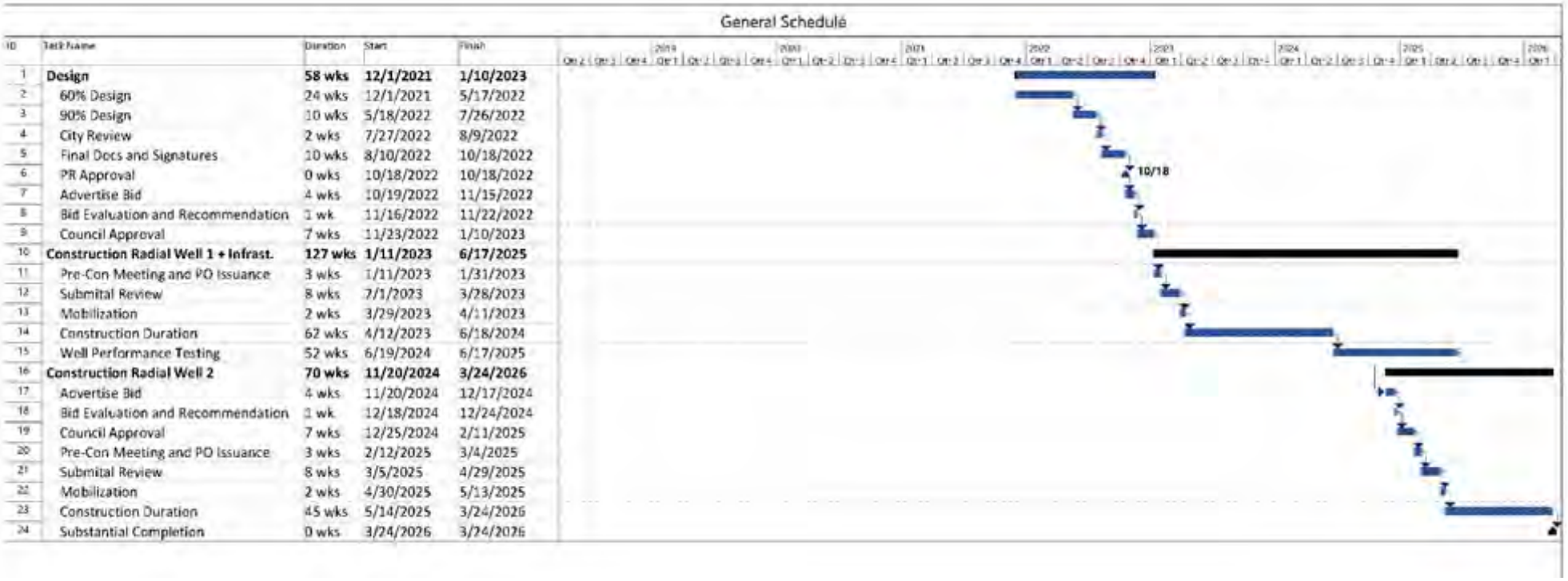
Prairie Waters Project

Prairie Waters is an innovative system that uses a sustainable water source by recapturing river water to provide drought insurance and as a cornerstone of a water supply plan that will help meet much of Aurora's needs for decades. Prairie Waters uses both natural cleansing processes and state-of-the-art purification technology to deliver an additional 3.3 billion gallons of water per year.

Aurora owns rights to water in the South Platte River Basin which includes water from the Colorado and Arkansas River Basins, as well as agricultural rights in the South Platte purchased from willing sellers. In most cases, Aurora's water rights in the South Platte allow the city to use the water "to extinction". Essentially, this means that the water residents use for washing, laundry, showering, as well as some of the water from lawn watering, stays in the South Platte River Basin. Since this water is not native to the South Platte basin, we have the right to take an equivalent amount back out of the river.



Appendix II – Project Schedule



ID	Task Name	Duration	Start	Finish
1	**Design**	**58 wks**	**12/1/2021**	**1/10/2023**
2	60% Design	24 wks	12/1/2021	5/17/2022
3	90% Design	10 wks	5/18/2022	7/26/2022
4	City Review	2 wks	7/27/2022	8/9/2022
5	Final Docs and Signatures	10 wks	8/10/2022	10/18/2022
6	PR Approval	0 wks	10/18/2022	10/18/2022
7	Advertise Bid	4 wks	10/19/2022	11/15/2022
8	Bid Evaluation and Recommendation	1 wk	11/16/2022	11/22/2022
9	Council Approval	7 wks	11/23/2022	1/10/2023
10	**Construction Radial Well 1 + Infrast.**	**127 wks**	**1/11/2023**	**6/17/2025**
11	Pre-Con Meeting and PO Issuance	3 wks	1/11/2023	1/31/2023
12	Submital Review	8 wks	2/1/2023	3/28/2023
13	Mobilization	2 wks	3/29/2023	4/11/2023
14	Construction Duration	62 wks	4/12/2023	6/18/2024
15	Well Performance Testing	52 wks	6/19/2024	6/17/2025
16	**Construction Radial Well 2**	**70 wks**	**11/20/2024**	**3/24/2026**
17	Advertise Bid	4 wks	11/20/2024	12/17/2024
18	Bid Evaluation and Recommendation	1 wk	12/18/2024	12/24/2024
19	Council Approval	7 wks	12/25/2024	2/11/2025
20	Pre-Con Meeting and PO Issuance	3 wks	2/12/2025	3/4/2025
21	Submital Review	8 wks	3/5/2025	4/29/2025
22	Mobilization	2 wks	4/30/2025	5/13/2025
23	Construction Duration	45 wks	5/14/2025	3/24/2026
24	Substantial Completion	0 wks	3/24/2026	3/24/2026

Appendix III – System Overview Map