



Bureau of Reclamation WaterSMART Program  
Small-Scale Water Efficiency Projects for FY 2024 & 2025 - R24AS00059

# Clinton City

## Clinton City Metering Project ~ Phase II

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**FY 2025**

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## Technical Proposal and Evaluation Criteria

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### Executive Summary

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#### Applicant Information

**Date:** January 14, 2025

**Applicant Name:** Clinton City

**City, County, State:** Clinton City, Davis, UT

**Applicant Category:** A

**Requested Reclamation Funding:** \$125,000; **Total Project Costs:** \$251,113

#### One Paragraph Project Summary

*Provide the location of the project, a brief description of the work that will be carried out, any partners involved, expected benefits, how those benefits relate to the water management issues you plan to address, and what planning document and objective the project supports.*

Clinton City, Utah, will upgrade 1,160 water meters to Advanced Metering Infrastructure (AMI) in its culinary water distribution system. This project aims to improve water management by enabling real-time leak detection, enhancing water conservation efforts, and providing data-driven insights for decision-making. The upgrade aligns with the City's Water Conservation Plan, addressing water loss and promoting responsible water use in the face of increasing scarcity. This will be Phase II of a multi-phased project that will install radio meter antennas throughout the City.

#### Project Timeline

*State the length of time and estimated completion date for the proposed project (month/year).*

Assuming an agreement is in place with Reclamation by October/December 2025, the proposed project will begin in April/May 2025, install antennas from May to September 2026, and continue from April to August 2027 with final reports and close out September/October 2027. The Meter Radio Antennas will be installed during the spring, summer, and fall months when the existing meters are not covered in snow. The Clinton City Public Works department staff will install the meter radios. All components of the project will be completed within the two-year allowance.

#### Federal Facility

*Is the proposed project located on a Federal facility?*

No. The project is not located on a Federal facility.

#### Project Location

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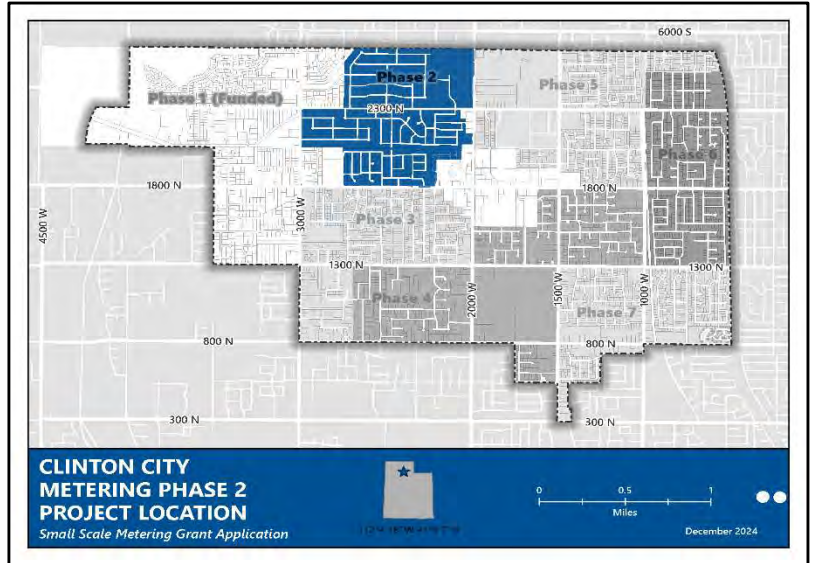
*Provide detailed information on the proposed project location or project area including a map showing the geographic location.*

The project is located in Clinton City in Davis County, Utah. Clinton City is along the Wasatch Front, 10.5 miles south of Ogden and 33 miles north of Salt Lake City. The proposed project is Phase II of a multi-phased project to install radio meter antennas throughout the City. The latitude is roughly {41°08'07" N}, and the longitude is roughly {112°04'18" W}. See **Attachment A – Project Location Map**.

## Technical Project Description

*Provide a comprehensive description of the technical aspects of your project, including the scope of work to be accomplished and the approach for the on-the-ground project. This description should provide detailed information about project materials and equipment including what is currently installed and a description of the upgrade being made.*

Clinton City is seeking funding to implement the second phase of a large project aimed at modernizing approximately 7,000 water connections throughout the City. Phase II includes the installation of 1,160 Advanced Metering Infrastructure (AMI) radio antennas onto existing water meters. Phase I has already been awarded funding and will be underway in the spring of 2025 (see *Figure 1: Clinton City Project Location and Phases*). Currently, 86 percent of the culinary water provided by the City's residential and commercial users is purchased from Weber Basin Water Conservancy District (WBWCD). The City has one well that provides 14 percent of its water needs. They have worked with WBWCD over the past few years to implement many of the WBWCD's suggested conservation methods for indoor and outdoor water use, which has resulted in reduced water use.



*Figure 1: Clinton City Project Location and Phases*

The City's outdoor water is provided by the Davis and Weber Counties Canal Company (DWCCC) through a secondary water system. This water comes from Echo Reservoir, which is a Reclamation project. DWCCC is currently installing radio read meters on all its secondary connections.

The City's culinary system lacks real-time tools to monitor and guide residents regarding how much culinary water they use. Their current culinary water meters measure water flow and are read by hand. When the meters cannot be read in the winter, the users are billed based on an estimated amount and then set up in March or April. They do not have the capability for real-time data transmission. The AMI upgrade involves retrofitting these meters with radio antennas. These antennas will collect water flow data from the meters and transmit it wirelessly to a central receiving tower. The data will then be relayed to the City's analytics software for processing and billing. This process will require minimal site preparation, as the existing meter infrastructure is already in place. Installing the radio antennas is non-invasive and can be done by the City staff. The ultimate goal is to create a comprehensive, city-wide AMI network that enables real-time monitoring and management of water consumption.

The data collected by the AMI system will be utilized in several ways:

- **Leak Detection:** The hourly data will enable rapid identification of leaks, minimizing water loss and system inefficiencies.
- **Water Conservation:** By understanding consumption patterns, the City can develop targeted conservation programs and encourage responsible water use.
- **Customer Engagement:** An online portal will be developed to give customers access to water usage data, fostering transparency and accountability.
- **Data Sharing:** Clinton City plans to share its water data with the Weber Basin Water Conservancy District (WBWCD) to collaborate on regional water conservation efforts.

This project represents a significant step in modernizing Clinton City's water infrastructure and promoting sustainable water use practices.

## Evaluation Criteria

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### Evaluation Criterion A – Project Benefits (35 Points)

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*Benefits to the Category A Applicant's Water Delivery System:*

*Clearly explain the anticipated water management benefits to the Category A applicant's water supply delivery system and water customers. Consider: Will the project result in more efficient management of the water supply? Where any conserved water as a result of the project will go and how it will be used?*

The proposed project offers significant water management benefits for Clinton City's culinary water system and its customers:

- **Real-Time Data and Enhanced Leak Detection:** AMI technology provides real-time water consumption data, enabling the City to detect leaks quickly and respond promptly, reducing water loss. This enhanced leak detection capability directly contributes to more efficient water supply management.
- **Improved Water Conservation:** The detailed water usage information provided by AMI enables the City to implement targeted conservation programs and educate consumers about their water consumption patterns. This fosters responsible water use and contributes to overall water conservation goals. Cities implementing AMI technology have typically seen water savings ranging from 2 percent to 10 percent. For example, San Jose Water in California, after installing AMI meters, saw a reduced indoor water use by 14 percent within four weeks, saving an average of 6,280 gallons per household per year. However, the exact percentage can vary depending on the age and condition of existing infrastructure, climate and region factors, and level of customer engagement. Clinton estimates an average of 5 percent water savings with the installation of AMI.
- **Data-Driven Insights for Water Management:** AMI data, collected at 15-minute intervals and accessible through a cloud-based system, allows the City and consumers to track water usage. This granular data empowers data-driven decision-making, helping to identify inefficiencies, optimize operations, and manage water resources more effectively.
- **Reduced Reliance on External Water Supply:** By conserving water through leak reduction and improved consumption practices, Clinton City can decrease its reliance on the Weber Basin Water Conservancy District (WBWCD), the source of 86 percent of its water supply. If we had an average of 5 percent savings of our water by implementing the AMI technology, this would equate to an annual savings of 16 acre-feet for the 1,160 meters we installed for this project. When all phases are completed, we will have an annual savings of 98 acre-feet of water that we are not drawing from WBWCD and our well. This water can stay in the reservoir and Weber River system for extended periods or be used for other WBWCD users. This will benefit the entire region.
- **Infrastructure Investment Optimization:** Efficient water management through AMI can help the City defer or avoid costly infrastructure investments by maximizing the utilization of existing resources, especially as its population grows.

Overall, the AMI project offers a holistic water management approach, benefiting the City and its residents. The project ensures a more sustainable and resilient water future for Clinton City by reducing water loss, promoting conservation, and providing data-driven insights.

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*Explain the significance of the anticipated water management benefits for the Category A applicant's water delivery system and customers. Consider: what are the consequences of not making the improvement? Are customer water restrictions currently required? Other significant concerns that support the need for the project.*

In response to the severe mega-droughts of 2022, the Weber Basin Water Conservancy District (WBWCD) implemented a 10 percent reduction in culinary water for all users and a 40 percent reduction for secondary and agricultural water users. In Clinton City, many residents used culinary water for their gardens due to the shortened irrigation season (May 15 - September 15) and extreme summer heat. While WBWCD and DWCCC maintain some water restrictions, they are less severe than those implemented in 2022.

In Fall 2022, Utah's reservoir levels were significantly below average due to the ongoing drought. Thirty-two of the forty-two largest reservoirs were below 55 percent of their capacity. Despite recent snowfall providing temporary relief, the region is still recovering from a two-decade-long drought. Reservoir levels remain a concern, as demonstrated by the low levels in Fall 2022. While the record-breaking snowpack of 2023/24 helped alleviate immediate water scarcity, the mega-drought of 2022 is a stark reminder of the need for proactive water management, making projects like Clinton City's AMI upgrade crucial for ensuring a sustainable water future.

Historically, water scarcity has led to conflicts and legal disputes over water rights in Utah, where water is a precious resource. However, 2022 intensified these challenges, with the Great Salt Lake reaching a historic low in July, escalating tensions and fueling a blame game over water usage. This crisis fueled several notable conflicts:

- **Environmental Groups vs. State Government:** Environmental organizations like the Great Salt Lake Advisory Council and FRIENDS of Great Salt Lake voiced strong concerns about the lake's decline, advocating for increased water conservation measures and policy changes. They criticized the state government for not protecting the lake and its ecosystem adequately.
- **Farmers vs. Environmentalists:** The agricultural sector, a major water user in the region, faced scrutiny from environmentalists who argued that excessive water diversion for irrigation contributed to the lake's shrinking. This led to tensions between farmers, who rely on water for their livelihoods, and environmentalists, who prioritized the lake's ecological health.
- **Urban vs. Rural Interests:** The conflict over water allocation also extended to urban and rural communities. The growing urban populations demanded more water for domestic and industrial use, and rural communities primarily dependent on agriculture sought to protect their water rights, thus leading to debates over water pricing, infrastructure development, and the prioritization of different water uses.
- **Industry vs. Public Health:** The shrinking of the Great Salt Lake exposed lakebed containing toxic dust, raising concerns about air quality and public health. Industries that rely on the lake's resources, such as mineral extraction, faced criticism for their potential contribution to the problem, leading to discussions about the balance between economic interests and public health concerns.

These conflicts highlighted the complex challenges surrounding water management in the Great Salt Lake region. They underscored the need for collaboration, compromise, and innovative solutions to ensure the sustainable use of water resources and protect the lake's delicate ecosystem.

**Consequences of Inaction:** Failure to implement the proposed AMI project over the coming years will lead to significant implications for Clinton City:

- **Increased Vulnerability to Droughts:** Without proactive water management tools, the City would be more susceptible to drought impacts, including stricter water restrictions and potential shortages.

- **Strained Water Supply and Infrastructure:** Continued overconsumption and inefficient use would strain the City's water supply and infrastructure, leading to higher costs for maintenance and upgrades. It would require additional costly water purchases for WBWCD. This past year, WBWCD increased wholesale water costs by almost 40 percent for secondary water and 50 percent for culinary water.
- **Economic and Environmental Impacts:** Water scarcity negatively affected the local economy, recreation, agriculture, and the environment. WBWCD, the primary water supplier for Davis County, where Clinton City is located, implemented water restrictions in 2022, including a 40 percent reduction for agricultural use. Farmers in the County experienced reduced yields, fallowed land, and crop losses due to limited water availability. In 2022, over \$3.9 million was distributed through ERP to Utah farmers, suggesting a substantial increase in claims compared to previous years.
- **Water Quality:** In 2022, the mega-drought significantly impacted water quality in Utah's reservoirs, with a notable surge in harmful algal blooms (HABs). Data from the Utah Department of Environmental Quality (DEQ) revealed a more than two-fold increase in the number of reported HABs compared to the average year. Additionally, these blooms occurred earlier in the season, starting in May instead of the typical June or July onset. This accelerated and intensified growth of HABs had far-reaching consequences, affecting public health, recreational activities, tourism revenue, and the overall ecological balance of the reservoirs.

*Broader Benefits: Describe the broader benefits that are expected to occur as a result of the project. Consider:*

- *Will the proposed project increase collaboration and information-sharing among water managers in the region? Please explain.*

While the Clinton City AMI project may seem small in the grand scheme of Utah's water challenges, it represents a crucial step towards a more sustainable future. As the second driest state in the nation, every drop counts, and this project demonstrates a commitment to responsible water management. By promoting regional collaboration, fostering water conservation, and paving the way for a more resilient water future, the AMI project serves as an example of how even small-scale initiatives can make a significant difference in addressing the state's pressing water issues.

- **Regional Collaboration and Information Sharing:** By partnering with WBWCD, Clinton City is fostering collaboration and data sharing among regional water managers. This exchange of information about water use patterns, peak demands, and conservation strategies will enable more informed decision-making, coordinated efforts, and a unified approach to water management challenges.
- **Strengthened Water Conservation Efforts:** The project aligns with broader water conservation initiatives led by WBWCD, such as the Governor's Water Conservation Team and the Slow the Flow campaign. By contributing to these efforts, Clinton City is vital in promoting responsible water use and ensuring the long-term sustainability of the region's water resources.
- **Support from State Agencies:** The Utah Division of Water Resources (DWR) and WBWCD recognize the importance of metering projects, and DWR has actively supported them through grant and loan programs.
- **Increased Public Awareness and Engagement:** The project's emphasis on providing water usage data to residents and businesses will raise awareness about water consumption patterns and the importance of conservation. This increased awareness can drive behavioral change, leading to more responsible water use practices and a greater sense of community ownership over water resources.

- **Preparing for Future Growth:** With the Wasatch Front population expected to double by 2060, the project's focus on data-driven water management and conservation is essential for ensuring water security in the face of rapid growth. By understanding current water usage patterns and identifying areas for improvement, Clinton City can proactively plan for future water needs and ensure that development occurs sustainably.
- *Is the project in an area that is experiencing, or recently experienced, drought or water scarcity? Will the project help address drought conditions at the sub-basin or basin scale? Please explain.*

This project will install AMI radio antennas on existing water meters. As such, Clinton City and its residents will be able to monitor water usage in real time. The data provided by AMI empowers the City to implement targeted conservation measures and educate residents about responsible water use, contributing to drought resilience. It is not merely an infrastructure upgrade but a strategic response to the pressing challenges of drought. We will be able to reduce water loss by identifying and responding promptly to leaks in our system. Residents will have improved information and tools to identify water usage patterns and participate in water conservation efforts.

It is estimated that approximately 16 acre-feet of water will be saved each year from this Phase II project and 98 acre-feet once all phases are completed. More water will remain in the reservoir and Weber River system for extended periods, directly impacting the health and drought resiliency of the Weber River Basin. This project will allow Clinton City and its residents to respond in a timely manner during drought, as well as improve water conservation efforts ongoing for long-term impact in the Basin.

As described above, Davis County has experienced a recent mega-drought (2022) and the impacts of water scarcity (as evidenced by water restrictions implemented by WBWCD during that time). Data from the U.S. Drought Monitor illustrates the significance and persistence of drought conditions in this area in the last ten years (see *Figure 2: Davis County Drought Conditions 2015-2024*). In spite of improved snowpack and higher precipitation in 2023/24, Davis County is already starting 2025 with abnormally dry conditions.

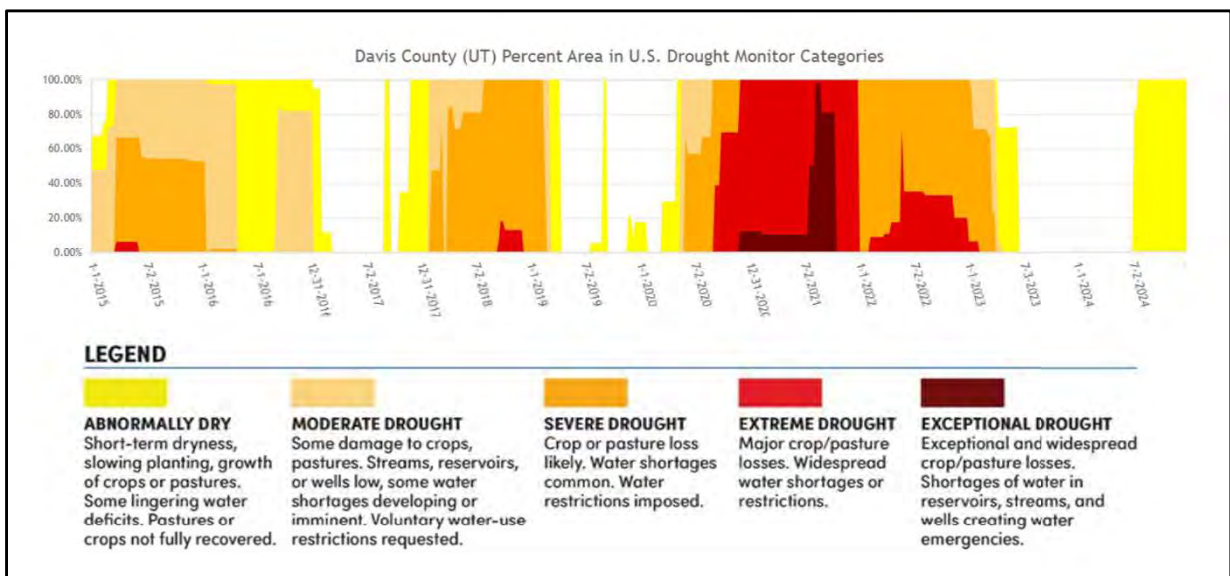


Figure 2: Davis County Drought Conditions 2015-2024

- *Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a State listed species, or a species of recreational, or economic importance)? Please explain.*

By ensuring a more reliable and sustainable water supply, the conserved water can accumulate over time and play a valuable role – albeit a small one – in supporting the conservation of WBWCD water within the Weber River system. This extended water presence benefits a variety of species and ecosystems, from fish in the Weber River to migratory birds in the Howard Slough Waterfowl Management Area (HSWMA) and the Great Salt Lake.

- **Improved Instream Flows and Aquatic Habitats:** By reducing water loss and promoting conservation, the project will allow more water to remain in WBWCD's reservoirs and the Weber River. This increased flow can benefit aquatic species, particularly the Bonneville cutthroat trout and bluehead sucker, both listed as sensitive species in Utah. Maintaining adequate instream flows is crucial for their survival and reproduction.
  - **Support for Waterfowl and Shorebirds:** The increased water availability in reservoirs and the Weber River will positively impact the HSWMA. This vital habitat supports numerous waterfowl and shorebird species, including millions of migratory birds using the Pacific and Central Flyways. Improved water levels will enhance these birds' nesting, breeding, feeding, and staging habitats.
  - **Protecting the Great Salt Lake Ecosystem:** The Weber River is a major tributary to the Great Salt Lake, a critical ecosystem for migratory birds and other wildlife. By conserving water and ensuring adequate flows in the river, the proposed AMI project indirectly contributes to the health and stability of the Great Salt Lake ecosystem. This, in turn, benefits numerous species, including the eared grebe, Wilson's phalarope, and snowy plover, a species of conservation concern.
  - **Addressing Water Quality Concerns:** Increased water conservation from the AMI project can help reduce the water needs of the City and allow WBWCD to have more water in its reservoirs for more extended periods and maintain optimal conditions in impoundments and wetlands, mitigating issues like sedimentation and potential contaminant inflow.
- *Will the proposed project positively impacts/benefit various sectors and economies within the applicable geographic area (e.g., impacts to agriculture, environment, recreation, and tourism)? Please explain.*

As previously stated, by reducing the City's reliance on WBWCD water, residents, farmers, ranchers, recreation users, and the environment will all benefit from an overall increase in available water supply. More water can remain in the Clinton City culinary water system, WBWCD's reservoir, and the Weber River for extended periods and is available for use. The Clinton City AMI project generates a ripple effect of positive impacts across multiple sectors. By promoting water conservation and ensuring a sustainable water supply, the project supports agriculture, protects the environment, enhances recreation and tourism, strengthens the local economy, and improves the overall quality of life for residents in the region.

Below are some specific examples of benefits from other areas that have implemented AMI Technology. Clinton City feels that these examples demonstrate that AMI technology can generate significant positive impacts across various sectors. By improving water efficiency, promoting conservation, and providing valuable data for decision-making, AMI can contribute to a more sustainable and resilient water future for communities like Clinton City:

Eastern Municipal Water District (California): Implemented AMI technology, leading to a 10 percent reduction in water consumption and improved leak detection, saving an estimated 5 billion gallons of water per year.

Town of Cary (North Carolina): After installing AMI meters, the town saw a 5 percent reduction in overall water use, with some customers achieving savings of up to 20 percent.

City of Dubuque (Iowa): AMI technology helped the city identify and repair leaks, saving over 1 million gallons of water per year and reducing operational costs.

By conserving water and reducing the City's demand on WBWCD's supply, the project helps to ensure a more reliable water source for agricultural users in the surrounding areas. This is particularly crucial during a drought when water scarcity severely impacts crop yields and livestock production. Adequate water availability can support a thriving agricultural sector, contributing to local food production and economic stability.

The project's emphasis on water conservation directly benefits the environment by reducing stress on water resources, maintaining healthy stream flows, and preserving aquatic habitats. This contributes to the overall ecological balance of the region, supporting biodiversity and ecosystem services.

A healthy environment with ample water resources is essential for recreational activities like fishing, boating, and wildlife viewing. The project's contribution to maintaining water levels in Echo Reservoir and the Weber River can enhance recreational opportunities and attract tourists, generating economic benefits for the region. Additionally, a well-maintained water supply supports the area's aesthetic appeal, further boosting tourism.

A healthy environment, abundant recreational opportunities, and a thriving economy all contribute to residents' high quality of life. The AMI project's positive impacts on these various sectors ultimately enhance the well-being and prosperity of the community.

- *Will the project complement work being done in coordination with NRCS in the area (e.g., the area with a direct connection to the district's water supply)? Please explain.*

N/A.

## Evaluation Criterion B – Planning Efforts Supporting the Project (25 Points)

*Plan Description and Objectives: Is your project supported by a specific planning document or effort? If so, describe the existing plan. When was the plan developed? What is the purpose and objective of the plan?*

The project aligns with multiple water conservation initiatives in the region. Notably, the project is supported by the 2021 Clinton City Drought Resiliency Plan, the 2022 Clinton City Water Conservation Plan, and the 2018 Weber Basin Water Conservancy District (WBWCD) Drought Contingency Plan. These comprehensive plans, developed to address the increasing challenges of water scarcity and drought, emphasize the importance of innovative technologies like AMI to achieve their shared water conservation goals and improved management practices.

*Plan Development: Who developed the planning effort? What is the geographic scope of the plan? If the planning effort was not developed by the Category A applicant, describe the Category A applicant's involvement in developing the planning effort.*

Clinton City's 2021 Drought Resiliency Plan (DRP) was developed collaboratively, drawing upon the Weber Basin Water Conservancy District's (WBWCD) 2018 Drought Contingency Plan (DCP), in which Clinton City actively participated as a key stakeholder. The DRP and the subsequent 2022 Water Conservation Plan (WCP) were crafted in partnership with a local consultant, incorporating input from diverse stakeholders, including those identified in the earlier planning process, to formulate effective mitigation and response strategies. See **Attachment C – Planning Documentation**

### Documentation

*Support for the Project: Describe to what extent the proposed project is supported by the identified plan. Consider:*

- *Is the project identified specifically by name and location in the planning effort? Is this type of project identified in the planning effort? Explain whether the proposed project implements a goal, objective, or address a need or problem identified in the existing planning effort?*

The proposed project is specifically listed in all three planning documents as an action item or priority project—the 2022 WCP lists AMI under section 6, "Planned Conservation Practices" on page 11. Leak Detection and Repairs is listed as a prioritized project under "Mitigation Actions"

on page 21 of the 2021 DRP. The proposed project is also critical to WBWCD's ability to implement and monitor Response Actions as listed on page 45 of the 2018 DCP. Demand Reduction Targets have been set by sector for each level of drought. Without AMI technology, water use data would continue to be collected monthly, reducing the data's accuracy and potentially leading to unnecessary actions.

- *Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.*

Several potential Mitigation Actions were evaluated and ranked within the above referenced planning documents based on how well they met a set of established main objectives, including Increased Supply, Financial Feasibility, Implementation and Risk Reduction, Environment, and Other Miscellaneous Objectives.

### Evaluation Criterion C – Project Implementation and Results (20 Points)

- *Describe the implementation plan for 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.*

The proposed project will require roughly 30 minutes to remove and install each AMI antenna. Once an agreement is in place with Reclamation, Clinton City plans to complete the project at a rate of roughly 21 meters a week to finish the project within the two-year allotted timeframe. It is unlikely that any meters will be installed from November to March due to winter weather conditions. Environmental and cultural compliance is being completed for all project phases during Phase I.

<b><u>Milestone/Task</u></b>	<b><u>Start and End Schedule</u></b>
Sign WaterSMART contracts	October 2025 - December 2025
Materials procurement	December 2025 – March 2026
AMI installation - first year	April 2026 – September 2026
AMI installation - second year	April 2027 – August 2027
Final report and project close-out	September 2027 – October 2027

- *Describe any permits and agency approvals that will be required along with the process and timeframe for obtaining such permits or approvals.*

No additional permits or approvals will be required to proceed with the proposed project. Clinton City owns all rights-of-way for the proposed project. The City will notify homeowners when the AMI antennas are installed. The impact will be minimal since the meter and the box are installed and located within the park strip.

- *Identify and describe any engineering or design work performed specifically in support of the proposed project. What level of engineering design is the project currently? If additional design is required, describe the planned process and timeline for completing the design.*

This project will not require additional design work; all water meters are already installed. This project would only require utilizing standard drawings and specifications previously developed. City staff will be used to complete the work if any additional details are needed.

- *Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project? If the applicant does not yet have permission to access the project location, describe the process and timeframe for obtaining such permission.*

Clinton City owns all rights-of-way for the proposed project. The City will work with homeowners to minimize installation impacts and provide an improved service connection.

- *Identify whether the applicant has contacted the local Reclamation office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs. Has a line item been included in the budget for costs associated with compliance? If a contractor will need to complete some of the compliance activities, separate line items should be included in the budget for Reclamation's costs and the contractor's costs.*

Environmental work for all phases of this project was budgeted for and is being completed during Phase I. It is currently anticipated that a Categorical Exclusion will be approved by June 2025. The project will take place within existing rights-of-way and pre-disturbed areas.

### Evaluation Criterion D – Nexus to Reclamation (5 Points)

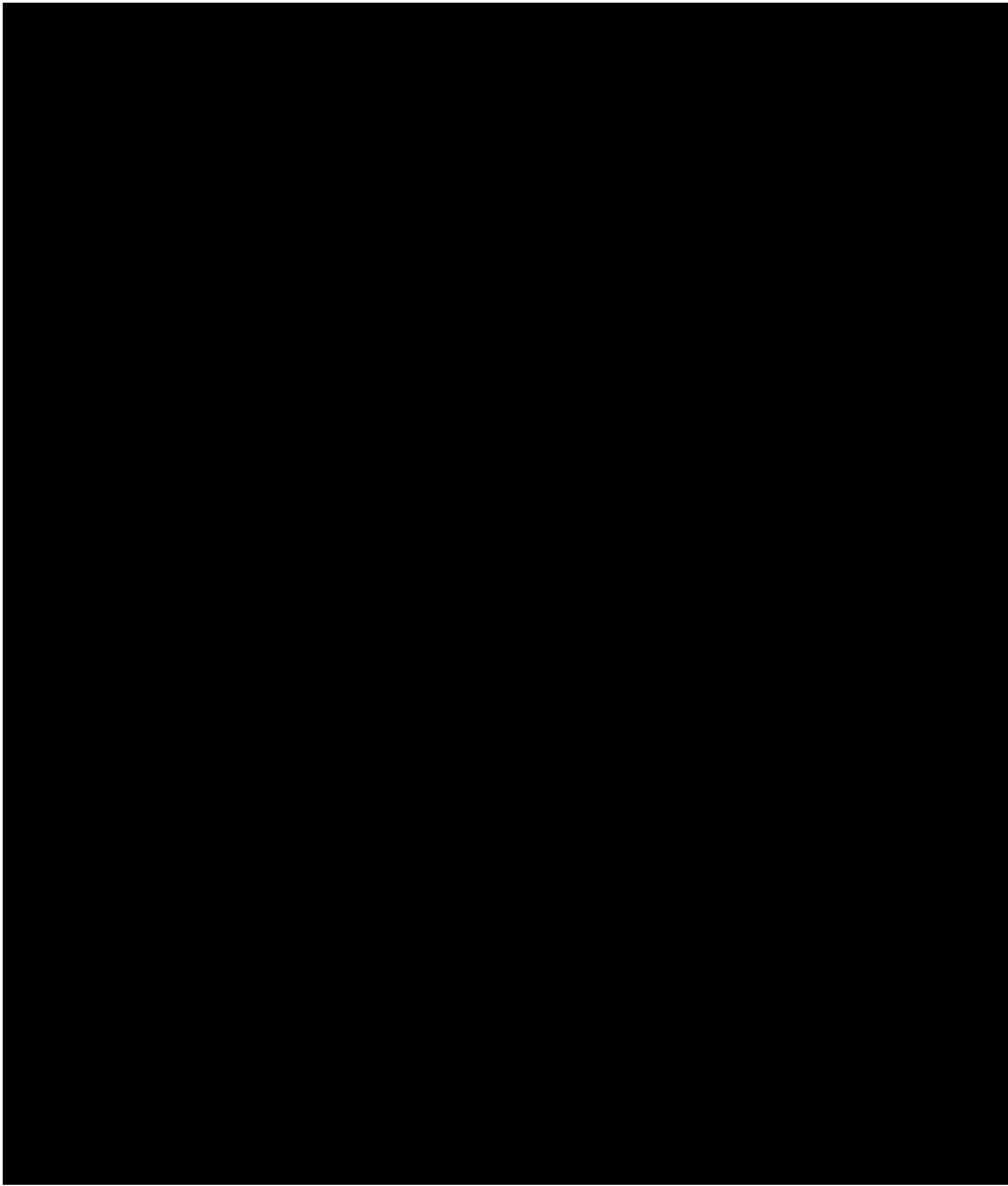
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- *Is the proposed project connected to a Reclamation project or activity? If so, how? Please consider the following: Does the applicant have a water service, repayment, or operations and maintenance(O&M) contract with Reclamation? If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?*

Clinton City receives roughly 86 percent of its annual water supply from Weber Basin Water Conservancy District, the managing entity of Reclamation's Weber Basin Project.

- *Will the proposed work benefit a Reclamation Project area or activity?*

The proposed AMI project in Clinton City will directly benefit the Weber Basin Project by significantly reducing water waste and promoting more efficient water use within the community. By providing real-time water usage data, the project empowers both the City and its residents to promptly identify leaks, make informed decisions about water consumption, and adopt conservation practices. This reduction in water waste directly translates to more water remaining in the Weber Basin Project's system, increasing the availability of this valuable resource for other users and purposes downstream.



## Budget Narrative

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**See Attachment B – Budget Detail and Narrative, Attachment B1 – Wage and Fringe Justification, and Attachment B2 – AMI Bid from Mountainland for budget clarification.**

## Environmental and Cultural Resources Compliance

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- *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.*  
Impacts will be those associated with the installation of water meter antennas. The water meter and meter boxes have already been installed, and all work will be done within the existing meter boxes. This project is anticipated to have minimal impacts.
- *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?*  
Clinton City is unaware of any impacts concerning threatened or endangered species in the project area.
- *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.*  
Clinton City is not aware of any wetlands in the project area.

- *When was the water delivery system constructed?*  
The culinary water system was built in the mid-1900s. Since 1980, Clinton City has been replacing all the older pipes in the system. There are very few pipes older than 1960 remaining in its system.
- *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, the project will not result in any modifications or effects to an irrigation system's features.
- *Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?*  
A cultural resource inventory will be completed as part of the submitted environmental document. All the work will be done in existing meter vaults that are in the street right of way.
- *Are there any known archeological sites in the proposed project area?*  
Clinton City is unaware of any impacts to or locations of archeological sites.
- *Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?*  
No.
- *Will the proposed project limit access to, and ceremonial use of, Indian sacred sites or result in other impacts on tribal lands?*  
No. The project will not be near, nor will it impact any tribal lands.
- *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 project will be conducted in contained areas. No outside soil or foliage will be introduced into the area.

## Required Permits or Approvals

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No permits or approvals are required for this project.

## Overlap or Duplication of Effort Statement

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There are no overlap or duplication of efforts at the time of submission.

## Conflict of Interest Disclosure Statement

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There is no actual or potential conflict of interest at the time of submission.

## Uniform Audit Reporting Statement

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Clinton City was required to submit a Single Audit Report for FY21. The Employer Identification Number associated with that report is 87-6113995. The report will be posted on the Federal Audit Clearinghouse Internet Data Entry System per 2 CFR requirements.

## Certification Regarding Lobbying

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Please see the GG Lobbying Form V1.1 Certification Regarding Lobbying.

## Letters of Support for the Project

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See **Attachment E – Letters of Support**

Weber Basin Water Conservancy District - Jonathan Parry, PE, Assistant General Manager



Article

# Harmful dust from drying lakes: Preserving Great Salt Lake (USA) water levels decreases ambient dust and racial disparities in population exposure

[Sara E. Grineski](#)<sup>1,6</sup>  , [Derek V. Mallia](#)<sup>2</sup>, [Timothy W. Collins](#)<sup>3</sup>, [Malcolm Araos](#)<sup>4</sup>,  
[John C. Lin](#)<sup>2</sup>, [William R.L. Anderegg](#)<sup>5</sup>, [Kevin Perry](#)<sup>2</sup>

## Summary

Lake desiccation is a global problem associated with increased human water use and climate change. Like other drying lakes, Utah's Great Salt Lake (GSL) is producing health-harming dust. We estimate social disparities in dust fine particulate matter (PM<sub>2.5</sub>) exposures based on four policy-relevant water-level scenarios. Dust PM<sub>2.5</sub> exposures would increase as GSL levels drop (e.g., from 24.0 μg m<sup>-3</sup> to 32.0 μg m<sup>-3</sup>). People of color and those with no high school diploma would experience disproportionately higher exposures (e.g., 28.4 μg m<sup>-3</sup> for Pacific Islanders vs. 26.0 μg m<sup>-3</sup> for Whites under very low lake levels). Racial/ethnic disparities would be reduced if GSL water levels rose. If the GSL vanished, racial/ethnic disparities between the highest and lowest exposed groups would be moderate (16.3%). If the GSL stabilized at healthy levels, those disparities would be smaller (7.9%). While all nearby residents face unhealthy dust exposures, findings reveal exposure disparities for socially disadvantaged groups.

The GSL in Utah is the largest terminal lake in the Western Hemisphere (and the eighth largest in the world); like many of its counterparts worldwide, it has experienced desiccation in recent decades.<sup>1</sup> The GSL dropped to a record low of 1,276.7 m above sea level (mASL) in November 2022 following a multi-decadal decline in lake levels. Over the past several thousand years, the GSL has fluctuated around a long-term water elevation of around 1,280 mASL.<sup>24</sup> The GSL experienced its historical high in the mid-1980s and has since steadily declined, driven primarily by human water depletions upstream with secondary contributions from decreased precipitation (e.g., multiple very dry years) and anthropogenic climate change that increases evapotranspiration rates.<sup>3,25</sup>

Concerns about a vanishing GSL are multifaceted and have risen to national prominence in recent years. In June 2022, *The New York Times* likened the drying GSL, the surface area of which has shrunk by two-thirds, to a “environmental nuclear bomb.” The shrinking GSL has raised concerns about arsenic pollution, the loss of flies and brine shrimp habitat imperiling 10 million migratory birds that feed on them, and reduced lake effects snow and accelerated snowmelt rates in adjacent mountains,<sup>26,27</sup> which would undermine the ski industry.<sup>28</sup> Dust plumes from the lake bed have potentially increased in severity and frequency as lake levels have fallen, constituting a serious public health concern. Dust emissions are physically related to the lake level, with higher lake levels decreasing the area of exposed lake bed and reducing the potential for emissions of dust.<sup>25</sup> In the absence of immediate action to deliver substantially more water to the lake, levels are expected to continue to decline and further expose lake bed to atmospheric weathering and wind, which will exacerbate dust emissions. While the spring 2023 season brought a slight reprieve as the GSL rose by 1 m due to recording-breaking precipitation and snowpack depths in the Wasatch

Mountains,<sup>29</sup> future climate change is expected to amplify GSL water loss as increasing temperatures drive elevated evapotranspiration rates,<sup>29,30</sup> a fate similar to what is expected for terminal lakes globally.

Here, we specifically examine the GSL as a case study with relevance to drying saline lakes globally. We estimate social disparities in dust PM<sub>2.5</sub> exposures based on four policy-relevant water-level scenarios for a tri-county study area surrounding the GSL. We find disparities based on race/ethnicity and education levels, but not based on household income or housing tenure. Those existing disparities are predicted to attenuate if lake levels rise to a healthier range. While studies have documented how some future climate change impacts (e.g., sea level rise and storm surge) pose socially disparate risks,<sup>31</sup> no study to our knowledge projects how various climate change and environmental policymaking pathways can affect social disparities in dust-driven PM<sub>2.5</sub> exposure. Studying how future adaptation scenarios may impact social disparities clarifies ways in which present-day policy decisions may simultaneously foster equitable health outcomes and improved ecological conditions in a rapidly changing climate.

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## Methods summary

In this study of the three-county area proximate to the GSL, we examine how predicted population-weighted PM<sub>2.5</sub> exposures ( $\mu\text{g m}^{-3}$ ) from dust events vary by race/ethnicity and socioeconomic status under four differing GSL water-level scenarios ranging from the hypothetical “no lake” to a “healthy lake level” that slightly exceeds the long-term average. We then explore how changes in predicted population-weighted PM<sub>2.5</sub> exposures ( $\mu\text{g m}^{-3}$ ) from dust events vary by race/ethnicity and socioeconomic...

## Discussion

The predicted PM<sub>2.5</sub> dust concentrations for all groups have the potential to be detrimental to human health, as the concentration levels are above the 24-h World Health Organization threshold ( $15\mu\text{g m}^{-3}$ ). However, predicted exposure for all groups except Pacific Islanders is below the less stringent U.S. National Ambient Air Quality Standards (NAAQS) for 24-h averaged PM<sub>2.5</sub> ( $35\mu\text{g m}^{-3}$ ).<sup>17</sup> Exposures under U.S. NAAQS are still associated with deleterious health effects.<sup>35</sup> In addition to...

## CERTIFICATION REGARDING LOBBYING

### Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

### Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

#### \* APPLICANT'S ORGANIZATION

Clinton City

#### \* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

Prefix: Mr.

\* First Name: Trevor

Middle Name:

\* Last Name: Cahoon

Suffix:

\* Title: City Manager

\* SIGNATURE:



\* DATE: 01/14/2025



# WEBER BASIN WATER CONSERVANCY DISTRICT

2837 EAST HIGHWAY 193 • LAYTON, UTAH • PHONE (801)771-1677 • SLC (801) 359-4494 • FAX (801) 544-0103

July 6, 2024

Scott W. Paxman, PE  
General Manager/CEO

Board of Trustees:

Marlin K. Jensen  
President  
Weber County

Jared A. Andersen  
Morgan County

Mark D. Anderson  
Davis County

Kym O. Buttschardt  
Weber County

Randy B. Elliott  
Davis County

Scott K. Jenkins  
Weber County

Angie Osguthorpe  
Weber County

Christopher F. Robinson  
Summit County

Paul C. Summers  
Davis County

Clinton City  
c/o Trevor Cahoon, City Manager  
2267 North 1500 West  
Clinton, UT 84015

## RE: Bureau of Reclamation WaterSMART Small-Scale Efficiency Grant Proposal

Dear Mr. Cahoon,

The Weber Basin Water Conservancy District (“District”) is writing in support of Clinton city’s (the “City”) request for grant monies to assist in their efforts improve their meter data analytics and water management through the installation of advanced metering infrastructure (AMI) in their water distribution system.

The District’s Drought Contingency Plan supports this project as a mitigation measure to ensure that water use is monitored and appropriately used. The District understand and appreciates the importance of metering projects and understands that AMI will increase Clinton city system’s resilience to drought conditions that are frequently felt across the state of Utah. AMI also allows for near real-time assessment of the efficiencies and operations of water systems. Water loss assessments and more timely leak detection will work to improve the water distribution system.

Through the installation of AMI the City will gain the ability to collect near real-time water flow data and transmit it to the City and end user, if desired. Educating water users regarding their water use, identifying areas for improvement, and collaboratively working towards improving our use of water is imperative to achieving sustainable water use. The District is committed to assisting the City in achieving an elevated level of customer engagement using software and technology.

The District is in support of this request and is committed to assisting Clinton city in completing this work.

Sincerely,

Jonathan Parry, PE  
Assistant General Manager

JP/dh

# Attachment B1

## Clinton City - Labor Cost Sheet (July 2024)

Labor Costs	Base Rate per hour	Benefits/ Fringes	Social Sec 6.20%	Medicare 1.45%	FUTA 0.60%	SUTA 0.82%	Workman's Comp	Sub-total	Overhead 10.00%	Total w/overhead	Total of B&F and other Labor Costs/Overhead
<b>Maint. Worker III</b>	24.77	10.68	1.54	0.36	0.15	0.20	0.32	\$38.02	\$3.80	<b>\$41.82</b>	\$17.05
<b>Maint. Worker I</b>	19.60	7.05	1.22	0.28	0.12	0.16	0.25	\$28.68	\$2.87	<b>\$31.55</b>	\$11.95

**Noted:**  
Benefits and Fringes includes: sick and vacation leave, retirement fund, health, dental, and eye insurance

<b>Benefits</b>			
Medical/Dental	502.50/Month		3.14\$/hr. (based on cost rather than percentage)
Sick leave	7.38 hrs./mo.		2.31% Converted to percent of time by dividing annual sick leave by total annual work hours
Vacation	11.06 hrs./mo.		4.62% Converted to percent of time by dividing vacation leave by total annual work hours
Retirement	17%		17% Employer share of retirement
Overhead	10% Calculated after all additives		



**Bid**

S106701020.001

**\$230,018.71**

**BILL TO:**

CITY OF CLINTON (METERS)  
2267 NORTH 1500 WEST  
CLINTON, UT 84015

**SHIP TO:**

CLINTON CITY WATER DEPT  
WATER DEPT.  
1700 WEST 1700 NORTH  
CLINTON, UT 84015

Customer #	Salesman	Release #	Job Name
14905	TRAVIS HERZOG		CLINTON METERING PROJECT/GRANT

Ship Via	Terms	Expiration Date	Order Date	Ordered By	Writer
	NET 30TH	02/05/2025	01/06/2025	DAVE WILLIAMS	CARSON NIELSEN

Sequence #	Part #	Qty	Description	UoM	Price	Ext.
1	224321	1160	SENSUS 520M SINGLE PORT SMPT RADIO PIT-SET WITH TRPL TOUCHCOUPLER INTERVAL DATA	ea	\$198.292	\$230,018.71

All prices herein supercede all prior quotes and are subject to change without prior notice. No guarantee is made as to the accuracy of the quantities listed. \*\*\* NOTE- All Special Order Material is Non-Returnable \*\*\*

\*Due to the impact of COVID-19 supply chain interruptions, trucking shortages, and resulting price increases, this pricing is based on material in stock at time of quotation. Please verify all quantities and part numbers prior to placing your order.\*

Subtotal	\$230,018.71
Est. S&H	\$0.00
Est. Tax	\$0.00
<b>Due</b>	<b>\$230,018.71</b>



**Bid**

S106701020.001

**\$230,018.71**

**BILL TO:**

CITY OF CLINTON (METERS)  
2267 NORTH 1500 WEST  
CLINTON, UT 84015

**SHIP TO:**

CLINTON CITY WATER DEPT  
WATER DEPT.  
1700 WEST 1700 NORTH  
CLINTON, UT 84015

Customer #	Salesman	Release #	Job Name
14905	TRAVIS HERZOG		CLINTON METERING PROJECT/GRANT

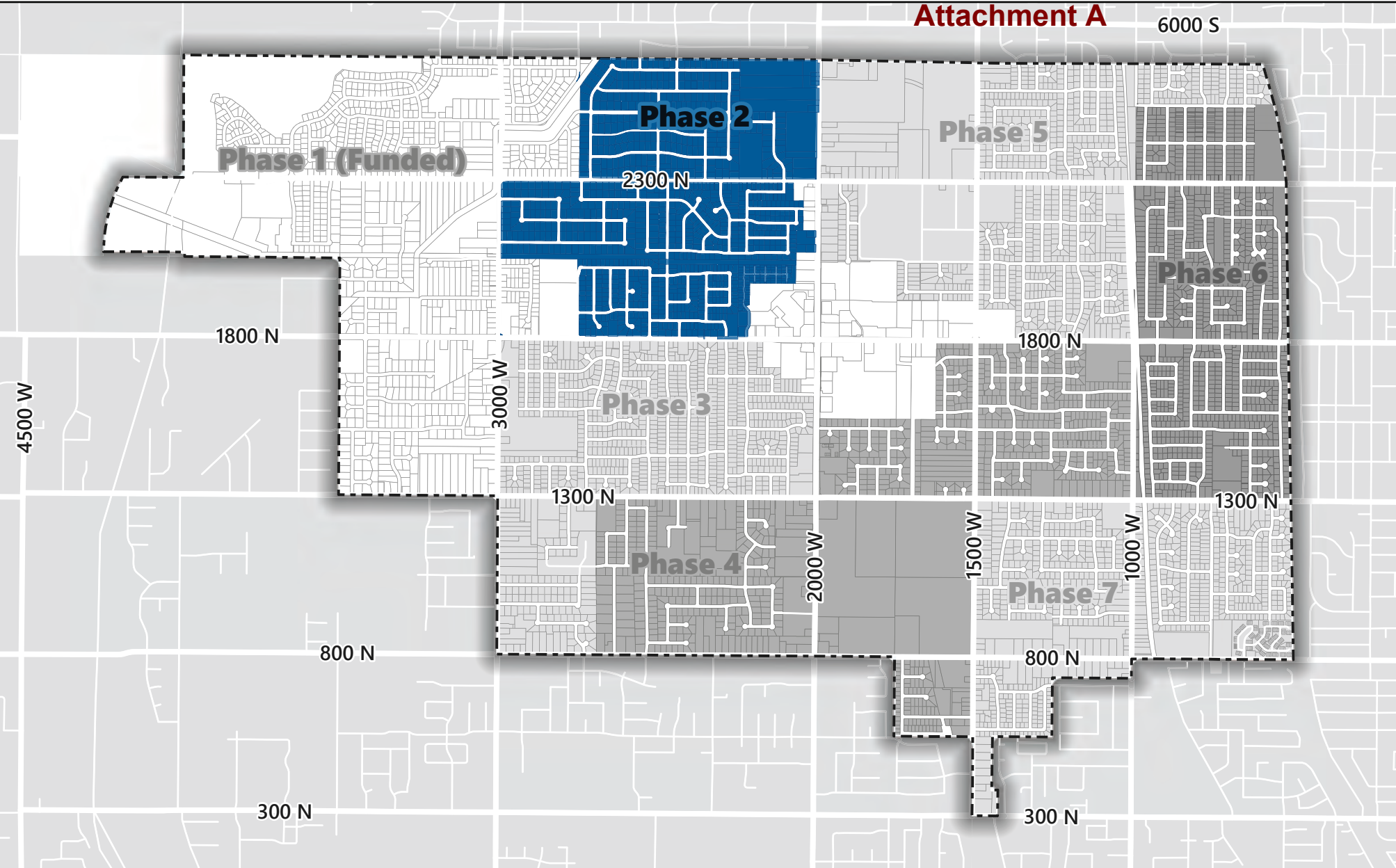
Ship Via	Terms	Expiration Date	Order Date	Ordered By	Writer
	NET 30TH	02/05/2025	01/06/2025	DAVE WILLIAMS	CARSON NIELSEN

Sequence #	Part #	Qty	Description	UoM	Price	Ext.
1	224321	1160	SENSUS 520M SINGLE PORT SMPT RADIO PIT-SET WITH TRPL TOUCHCOUPLER INTERVAL DATA	ea	\$198.292	\$230,018.71

All prices herein supercede all prior quotes and are subject to change without prior notice. No guarantee is made as to the accuracy of the quantities listed. \*\*\* NOTE- All Special Order Material is Non-Returnable \*\*\*

\*Due to the impact of COVID-19 supply chain interruptions, trucking shortages, and resulting price increases, this pricing is based on material in stock at time of quotation. Please verify all quantities and part numbers prior to placing your order.\*

Subtotal	\$230,018.71
Est. S&H	\$0.00
Est. Tax	\$0.00
<b>Due</b>	<b>\$230,018.71</b>



# CLINTON CITY METERING PHASE 2 PROJECT LOCATION

*Small Scale Metering Grant Application*



112°4'18"W 41°8'7"N



December 2024

# Clinton City Water Conservation Plan

2022 Update



Prepared by:  
Clinton City Public Works Department

With the Assistance of:  
J-U-B Engineers  
466 North 900 West  
Kaysville, Utah 84037  
801-547-0393

## 6 PLANNED CONSERVATION PRACTICES

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### 6.1 Landscaping Ordinance

Clinton City has the goal of passing an updated landscaping ordinance that would allow residents to participate in the rebate programs promoted by Weber Basin Water Conservancy District. These programs, such as flip-your-strip, would incentivize residents to relandscape their park strip with more water wise landscaping. The updated landscaping ordinance would clarify the standards for residents interested in relandscaping, helping them stay in conformance with city code.

*(Implementation Timeline: 2022-2023)*

### 6.2 Water Conservation Webpage

Clinton City has the goal of adding a webpage to their city website that includes information on how residents can conserve water. The webpage would include links to Weber Basin Water Conservancy District incentive programs such as flip-your-strip or water efficient fixture conversions. These programs play a vital role in the regions conservation efforts and improving publicity for them would help increase resident participation.

*(Implementation Timeline: 2022-2023)*

### 6.3 Relandscaping City Facilities

This past year, Clinton City budgeted for the relandscaping of city facilities to more water wise landscaping. Many park strips near city facilities have turf sod and are difficult to water efficiently. The City plans to create a phased relandscaping plan to prioritize areas of high-water use. The continued funding of the city facility relandscaping plan would require the future support of City Council.

*(Implementation Timeline: 2023-2028)*

### 6.4 Advanced Metering Infrastructure

The City would like to upgrade the current water meter reading system with advanced metering infrastructure (AMI). The AMI would provide real-time water usage data to residents and has been shown to provide substantial water savings. AMI would allow automatic notification to residents and city personnel of detected leaks in the system or abnormally high usage. The primary barrier to the installation of AMI is the high cost of replacing every existing meter in the system. The City plans to investigate different funding options, especially grants, for the future implementation of this goal.

*(Implementation Timeline: 2023-2028)*

achieved in a given year is 326,679 acre-feet. It is important to monitor this because the storage that is downstream of the mouth of Weber Canyon cannot be as easily treated or utilized to meet needs throughout heavily populated areas of the District.

### 3. U.S. Drought Monitor Classification (only a trigger for the advisory level)

Another tool used only to help establish the normal and advisory drought levels is the U.S. Drought Monitor Intensity Classification. This tool was created by the National Drought Mitigation Center (University of Nebraska) and is found at <https://droughtmonitor.unl.edu/> It provides a summary of drought conditions across the United States and is updated weekly by combining a variety of data-based drought indices and indicators and input from local experts.

### Drought Risks

Drought Vulnerabilities	Risks Associated with Vulnerabilities	Risk Level
Available Water Supply During Drought	Overuse of culinary water as secondary supply is limited	High
	Reduced culinary water as supply is limited	High
	Loss of crops and production	Moderate
	Culinary contamination	Low
Water System	Increased well pumping costs	High
	Increased fire hazards and vulnerabilities	Moderate
	Increased operation and maintenance costs	Moderate
	Clinton’s dependency on WBWCD increases risks to other Junior water right holders	High
Lack of Drought Information for Water Users	Failure to collaborate and educate	High

### 6 – 3 Mitigation Actions (See Appendix D for Mitigation Actions Rankings)

Mitigation actions are essential to building drought resiliency and are actions taken prior to a drought that will help offset the impacts of a drought. Several mitigation actions were evaluated and ranked based on how well they met main objectives, including Increased Supply, Financial Feasibility, and Other Miscellaneous Objectives. The top-ranking mitigation actions are as follows:

1. Additional City Well – Would increase the reliability of water supply available to the City by enabling access to its additional 585-acre-foot groundwater right. This would decrease the City’s dependency on WBWCD water supply during drought, allowing the City to continue to deliver water during a drought, and would reduce the need for emergency response actions.
2. Work with Secondary Water Provider to Meter All Secondary Connections – Reduced usage of secondary water during drought years results in more water available for culinary use.