

Project Description

Who:

The applicant, the City of Moab, is a small, rural municipality in southeast Utah responsible for providing culinary water to residents, businesses, and millions of visitors each year. Due to its isolated location within the cliff-enclosed Spanish Valley, Moab must be largely self-reliant in planning for emergencies and meeting long-term infrastructure needs. The City currently serves 5,317 residents, 2,256 culinary water connections, and the equivalent of 3,124.77 residential connections, all within a service area that is almost entirely confined to City limits. The system spans the incorporated valley floor, which is bordered by steep canyon walls and surrounded by federal public lands.

Moab's culinary water is sourced from three wells and four springs and delivered through a system with three existing storage tanks totaling 3 million gallons (MG). This system supports not only households but also City governmental functions, public safety, parks, and essential facilities, as well as commercial operations that serve millions of annual visitors to Arches and Canyonlands National Parks.

However, the 2020 Water Distribution and Storage Master Plan identifies a significant water storage deficiency. Based on State of Utah standards, Moab currently lacks 0.64 MG of required storage, with a projected 2.18 MG deficiency by 2060. This shortage directly affects the City's ability to meet peak daily demand, maintain emergency firefighting reserves, and ensure operational stability during equipment outages, drought, or wildfire events. Growth in both resident population and tourism intensifies this vulnerability.

To address these critical needs, the City proposes construction of a fourth, 1.5 MG concrete culinary water storage tank, which has been the top priority on Moab's Capital Improvement Project list since 2020. This new tank will increase system resiliency, help the City meet rising demand, and protect water availability during extreme weather events. In addition, the project will include installation of a new chlorination station, strategically placed to improve the consistency, reliability, and measurability of water quality throughout the distribution system.

By increasing storage capacity and enhancing water treatment reliability, this project will directly benefit the entire population, safeguard City facilities and emergency operations, support economic activity in a major recreational tourism hub, and provide the necessary resiliency for Moab to remain sustainable and self-reliant in the face of climate and growth pressures.

Scope of Work:

The City of Moab proposes to construct a new 1.5-million-gallon (MG) reinforced concrete culinary water storage tank and an associated on-site chlorination station to address existing water storage deficiencies, improve system resiliency, and prepare for long-term growth and emergency demands. This project is a key recommendation of the Moab Water Distribution and

Storage Master Plan, which identifies the need to increase storage capacity to ensure adequate service for both existing and future water users.

The City has owned a 3.3-acre parcel near the intersection of Spanish Valley Drive and Spanish Valley Trail for several years specifically for future water infrastructure. Conceptual modeling and a preliminary tank layout for this site were completed in 2014, confirming its suitability due to elevation, accessibility, and hydraulic benefits. The City is now prepared to advance this long-planned project into final design and construction.

This project directly supports the City's 5,317 residents, 2,256 culinary water connections, essential government and public safety facilities, and the millions of annual visitors who rely on Moab's public water infrastructure.

Project Size and Features:

The proposed project includes the following major components:

- 1.5 MG conventional cast-in-place reinforced concrete storage tank
- Tank configuration anticipated to be partially buried and partially above existing ground, with the potential to be covered with fill to improve visual integration and thermal protection
- Concrete valve vault
- Inlet and outlet piping (assumed 16-inch diameter at 30% design; final sizing to be confirmed during hydraulic modeling)
- New chlorination station located just upstream of the tank, contingent upon funding
- Piping and distribution system connections
- Electrical, instrumentation, telemetry, and SCADA integration
- Earthwork, access improvements, and site security
- Associated valves, flow control structures, and appurtenances

Locating the chlorination station upstream of the tank allows chlorine to mix directly within the tank, significantly increasing contact time and improving disinfection consistency compared to the City's existing configuration, where most mixing occurs within distribution pipelines.

Location:

The tank will be constructed on the City-owned parcel near Spanish Valley Drive and Spanish Valley Trail, within Moab's upper pressure zone and at a higher elevation than most of the service area. This high-elevation siting enables the tank to supplement the City's gravity-fed system, improving equalization storage, emergency response capability, fire suppression pressures, and overall system stability.

Because of its elevation and strategic location, the tank may also provide future operational flexibility to supplement Grand County's water system during emergencies, enhancing regional resiliency.

The City is also coordinating with the Grand Water & Sewer Service Agency (GWSSA) to evaluate the potential siting of a culinary water interconnect on this parcel. Planning, design, and funding for that interconnect will be separately coordinated and funded by GWSSA and are not included in this project scope.

A location map is included as Attachment 2: Project Map.

Development Timetable:

- Design & Engineering: Months 1–6
- Environmental Review, Permitting, and Procurement: Months 7–10
- Construction: Months 11–28
- System Integration, Testing, and Startup: Months 29–32
- Closeout: Month 33

Total Estimated Project Duration: 33 months

Projected Benefits to Public Infrastructure:

The City's 2020 Water Distribution and Storage Master Plan identifies:

- Current storage deficiency: 0.64 MG
- Projected 2060 storage deficiency: 2.18 MG

Construction of the proposed 1.5 MG tank will:

- Significantly reduce existing storage shortages
- Improve system pressures during emergencies and peak demand
- Strengthen fire suppression capacity
- Provide operational redundancy during drought, wildfire, mechanical failure, or infrastructure outages
- Improve water quality through enhanced chlorine mixing and contact time
- Support all 2,256 culinary water connections within Moab's service area
- Enhance regional resiliency with potential future support to neighboring systems

These improvements directly protect Moab's critical public infrastructure—including government buildings, public safety facilities, parks, schools, commercial centers, and tourism-dependent services—and support the millions of visitors who depend on reliable water service each year.

Alternatives Considered:

No-Build Alternative

Rejected due to ongoing storage deficiencies, inadequate fire flow, and increased vulnerability during extreme weather events and peak seasonal demand.

Smaller Storage Tank

Rejected because it would not meaningfully reduce current or projected 2060 storage deficiencies and would require additional storage projects in the near future.

Multiple Small Tanks

Rejected due to higher capital and maintenance costs, lack of sufficient elevation for systemwide gravity service, increased operational complexity, and reduced efficiency.

Reliance on Adjacent Water Providers Not feasible due to Moab's geographic isolation, limited capacity of neighboring systems, and the City's responsibility to maintain independent system resiliency.

The selected alternative—a single 1.5 MG high-elevation concrete storage tank with an upstream chlorination station—represents the most cost-effective, technically sound, and strategically beneficial solution.

Construction Budget Estimate

A complete engineer's estimate is included as Attachment 3 and 4.

Why:

The City of Moab has investigated and pursued other potential funding sources for this project. Specifically, the City has secured a grant from the Governor's Office of Economic Opportunity (GOEO) to support this project. However, this funding is not sufficient to cover the cost of the project fully.

Further, the City of Moab has been in contact with the Utah Division of Drinking Water (DDW), the Utah Division of Water Quality (DWQ), and USDA Rural Development to find additional sources of financing for this project. Conversations with each of the entities have helped inform the City's strategy for securing financing. Specifically, the timeline for funding with USDA Rural Development may not align with the City's desired start date of Summer 2026. DDW referred us to DWQ for potential funding opportunities. DWQ is not accepting new construction applications until July 2026.

Financial assistance from the Community Impact Board (CIB) is required to close the remaining funding gap and ensure the project can move forward as planned. CIB funding will allow the City of Moab to leverage existing state and local investments, minimize the financial burden on local taxpayers, and deliver a project that directly benefits rural residents and visitors. Without CIB participation, the project would likely place an unsustainable strain on local resources.