



## **Town of Buena Vista (Public Works)**

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# Request for Qualifications



**Town of Buena Vista Water Treatment Plant  
Design and Capacity Expansion Project**

# Introduction

The Town of Buena Vista (Town) requests Statements of Qualifications (SOQ) from qualified engineering firms for the funding procurement, permitting, design, and construction administration for a 2021 Water Infrastructure Capital Improvements Project at the Town of Buena Vista Water Treatment Plant (WTP) and Gorrel Meadow Infiltration Gallery (Gallery). The Town intends to select a consultant for this project via a two-step process: SOQs will be reviewed and up to three (3) firms will be asked to submit a formal, more detailed project proposal including engineering fees.

## Background

### A. Project Need

The Town of Buena Vista's (Town) water treatment capacity has not kept up with increasing water demands over the last decade. In recent years, the Town has on several occasions had to utilize 100 percent of available treatment capacity to meet peak demands in the summer. In these situations, there exists no redundant capacity to protect against unexpected maintenance or operational problems. Therefore, it has become apparent that the Town needs to increase its potable water production capacity to fully utilize existing water rights and ensure that an appropriate level of treatment redundancy is maintained. This project reflects a decision by the Town to reprioritize infrastructure needs and complete a water treatment plant expansion project by 2023.

### B. Existing Facilities

The Town's main water supply is collected from an infiltration gallery in the Gorrel Meadow located west of Town along County Road 361. A series of perforated collection pipes are buried into the Cottonwood Creek alluvial aquifer. Although the infiltration gallery is situated in a shallow aquifer, it has remained classified as a groundwater source. Water collected from the Gallery flows by gravity to a chemical storage and injection facility situated on the water treatment plant site. The water is disinfected with gaseous chlorine and injected with caustic soda for pH stabilization and corrosion control. The water then flows to a discharge vault. Well water from a potable water well (Well #2), which is chlorinated separately from the Gallery treatment, is combined with the treated Gallery water at the discharge vault. No pH adjustment is necessary for treating Well #2 water. From the discharge vault, the combined treated water flows through an 18-inch transmission line to the 0.277-million-gallon Ivy League water storage tank and the 1.5-million-gallon Lower Zone water storage tank. Treated water flows by gravity to the distribution system from the storage tanks, which maintain distribution system pressure for the Town's Lower Pressure Zone (an Upper Pressure Zone and associated pump station exist but are outside the scope of this project). Chlorine contact and 4-log virus inactivation are achieved in the 18-inch transmission line between the discharge vault and the Ivy League water storage tank. The entry point sample location is located immediately upstream of the Ivy League water storage tank.

In addition to the Gallery, the Town has a direct filtration plant which was constructed in 1974 and decommissioned in 1999. The direct filtration plant processes include a surface water intake; pre-sedimentation ponds; a common chemical injection (coagulant) and in-line rapid-mix; two (2) parallel flocculation basins; two (2) parallel gravity media filters with surface scour and backwash; a common

chlorine injection point; and a clearwell. Treated water flows by gravity to the discharge vault where, if in operation, would combine with treated water from the Gallery and Well #2.

The Gallery capacity fluctuates seasonally. During winter months, the Gallery can produce approximately 400 gallons per minute (gpm). During Summer months, the Gallery can produce approximately 800gpm. Additionally, Well #2 (a supplementary well located at the treatment plant site) can produce 150gpm; although, water produced by Well #2 does not have a decreed Town water right associated with it and must be augmented (depending on the year, Well #2 is allotted between 2.0 and 10.0 acre-feet of storage in Cottonwood Lake). The total firm production capacity for the Town is approximately 950gpm, which matches the permitted treatment capacity of 950gpm based on the 4-log virus removal requirement. The 2019 Well #3 upgrade to potable water adds approximately 120gpm to the total production capacity - meaning that at the present time, the Town has a total approximate potable water capacity of 1070gpm. However, only approximately 800gpm can currently be sourced from the Town's seasonal and year-round water rights. Well #3 is located east of Town, is tributary to the Arkansas River, and not associated with this project.

In addition to the above information, actual production numbers have met or exceeded the Gallery's capacity every year since 2012, except for 2016, which was an unseasonably wet year. Exceedances of the Gallery's capacity were mitigated using Well #2. However, this is not a reliable long-term solution due to the water rights limitations associated with Well #2. The Town must increase the capacity of the water treatment plant to provide firm capacity in excess of current and near-term demands. This increase in capacity must be provided using the Town's best and most senior water rights associated with Gorrel Meadow infiltration gallery.

### C. Town Water Rights and Sources of Supply

1. Agricultural Diversions: Between April 1 and October 31, the Town diverts water from North Cottonwood Creek to irrigate the Gorrel Meadow and adjacent wetland utilizing the Gorrel Ditch water right (2.66 cfs; 5/31/1866 appropriation). The primary use for this irrigation water is to recharge and raise the groundwater table which feeds the Town's water source, referred to as the Infiltration Gallery. Other uses include hay production.

Municipal Diversions: Between April 1 and October 31, the Town diverts water from Cottonwood Creek through a series of subsurface collection pipes referred as the Infiltration Gallery. This diversion utilizes the Thompson (2.0 cfs; 12/19/1864 appropriation), Prior (1.0 cfs; 4/30/1866 appropriation), and the Cottonwood Irrigating (0.88 cfs; 1/31/1866) rights. These water rights can also be diverted at the Surface Water Treatment Plant headgate located on Cottonwood Creek on the western end of the surface water treatment plant site. The infiltration gallery can currently utilize 1.78 cfs of the 3.88 cfs of its seasonal right due to operational limitations. The proposed project will address the operational limitations and allow for the full 3.88 cfs to be used from the Gorrel Meadow.

Year round, the Town can divert water at the above locations utilizing the Buena Vista Water Works right (10 cfs; 6/1/1883 appropriation). The Town utilizes this right from November 1 through March 31. Because this right is junior to all others, it is not utilized during the irrigating season.

2. Groundwater Wells: The Town currently operates three groundwater wells (a fourth well is currently in planning stages but not part of this project):

- Well #1 is a transient non-community well that serves the Rodeo Grounds. It is not associated with the water treatment plant nor is it connected to the Town's distribution system. Usage from this well is not considered significant.
  - Well #2 is a drinking water well that utilizes 0.1 cfs of the Buena Vista Water Works right, which is stored at Cottonwood Lake. Any additional water that is pumped by the well is augmented with purchased water from the Upper Arkansas Water Conservancy District. It is common for Well #2 to exceed 10 acre-feet of annual usage. This well is located adjacent to the water treatment plant and provides water directly into the distribution system.
  - Well #3 is an irrigation well utilizing purchased water from the Upper Arkansas Water Conservancy District to irrigate Town Parks adjacent to the river and the South Main subdivision, which also abuts the river. This well has been upgraded to a potable water source for the Town – however, water from this well is also augmented through the Upper Arkansas Water Conservancy District. This well is located on the east side of Town and provides potable water (when needed) directly into the distribution system.
  - Well #4 is a proposed future drinking water well to be placed in The Farm subdivision in the south east portion of the Town. Plans are currently being developed for this well, and it would likely function in a similar capacity to Well #3 with augmented water.
3. Cottonwood Lake Storage: The Town currently has the right to store a small amount of water in Cottonwood Lake; generally, 2-4 acre-feet depending on the year. This storage right can be used to augment Well #2 or replace evaporative losses but is not enough to meet annual usage from Well #2, at times over 10 acre-feet.
  4. Town Lake: In 2018, the Town completed a project that installed a weir structure with flash boards at the spillway. This allows the Town to control the level of Town Lake. The weir structure also allows the Town to make releases to augment evaporative losses at Town Lake.

## Project Description

### A. Project Scope

The project will be comprised of five major work elements described below:

1. Gorrel Meadow Infiltration Gallery Expansion (2.5 MGD desired capacity)
  - a. Evaluation of the existing Gallery collection system condition and capacity
  - b. Permitting and design to expand the Gallery collection system
  - c. Evaluation and possible rehabilitation of the raw water transmission line under Cottonwood Creek
2. GWUDI Water Treatment and Capacity Expansion (2.5 MGD desired Capacity)
  - a. Permitting and design of a GWUDI water treatment system to treat water sourced from the Gallery with a strong preference for a cartridge filter system
  - b. Pilot testing of the treatment system to determine design and operational parameters

3. Cottonwood Creek Surface Water Diversion Rehabilitation (2.5 MGD Capacity)
  - a. Rehabilitation of the surface water diversion headgate structure on Cottonwood Creek
4. Redundant Surface Water Treatment Plant Expansion (2.5 MGD Capacity)
  - a. Permitting and design of a surface water treatment system to operate as a redundant water supply and treatment system. Both GWUDI and surface water treatment would be housed on the same site.
5. Procurement and Administration of Colorado SRF Funding

The consultant will be responsible for acquiring the necessary permits from the CDPHE, US Army Corps of Engineers, including but not limited to Section 404, and other permits as required to commence construction of the work..

It is anticipated that the project will be funded through Colorado's Drinking Water Revolving Fund (SRF). The consultant will be responsible for assisting the Town in applying for SRF funding (including grants as applicable), and completing all administrative requirements required for SRF project.

## Qualification Requirements

### A. Statement Format

Consultants shall submit three (3) hard copies and one (1) electronic copy of the qualifications, not to exceed fifteen (15) pages in length excluding cover pages, dividers, and appendices. Up to two (2) of the fifteen (15) pages can be 11x17 format. Resumes should be included in the appendices and limited to two pages per person. The consultant shall address the following required qualifications:

- Project Understanding and Approach – Describe the team's understanding of the Town's needs. Describe the consultants design philosophy and approach and identify specific challenges and opportunities.
- Relevant Experience – Describe the team's experience with the following:
  - Assisting with selection of qualified contractors
  - Assisting municipalities with applying for and administering Colorado Drinking Water SRF Funding
  - Construction phasing to maintain continuity of operations
  - Infiltration gallery / GWUDI treatment systems performing in combination with surface water treatment as a redundant supply
  - Working directly with Operations and Public Works staff during the planning, design, and construction phases of the project
  - Familiarity with the Town's infrastructure and operations
  - Understanding of facility level certification requirements and downstream operational impacts resulting from specific design decisions
- Project Team – Identify the individuals from your firm who will be involved in the project and their responsibilities. Present an organization chart indicating the key staff members that will be assigned to the project. Describe the team's experience including subconsultants with similar projects, and in the disciplines necessary to fulfill the project requirements. Describe how the project continuity will be maintained over the course of the project. The Town has a strong

preference for a consistent team and liaison at the firm. Please describe how continuity will be maintained in the event, however unlikely, that the project is restaffed.

- Project Schedule – Provide a project schedule based on your best understanding of the project scope described in this document. The schedule assumes that a consultant is selected and a contract for the services listed in the above scope is executed on April 1<sup>st</sup>, 2021 (beginning of Quarter 2, 2021).

## **B. Evaluation of Qualifications**

For this solicitation, the evaluation committee will score responses based on the criteria outlined in this section. Statements of Qualifications will be examined closely by the Town. The Town will be the sole judge as to which firms are deemed most qualified to meet the Town's specific needs and subsequently invited to provide a more formal project proposal.

- Anticipated Project Approach (30 points possible)
  - Describe the project team's proposed course of action to accomplish the tasks identified in this RFQ.
  - Describe the project team's approach to working with Operations and Public Works staff to gain Town input and feedback.
  - Identify critical issues to project success and recommendations for cost and schedule control.
- Relevant Project Experience (30 points possible)
  - Provide a brief discussion and a list of current and past water treatment projects which are similar in scope to the Town's project. Reference projects must have been completed in the past ten years. Descriptions should include the following:
    - Client contact name, phone number and email address
    - Project name
    - Approximate project construction completion date
    - Key engineering firm team members
    - Contractor's name, phone number and email address
    - Client's funding source(s)
    - Final approximate construction cost
    - Treatment facility operator classification
- Project Team (25 points possible)
  - Provide a project-specific organization chart indicating the key personnel that will be committed to the project and discuss how the project team's qualifications and experience relate to this specific project.
  - Include a discussion of relevant experience of any sub-consultant(s) identified in the proposal; discuss relevant experiences of partnering with the sub-consultant(s) on previous projects (if applicable).
  - Include a discussion of how the firm plans to maintain project continuity with staff. Will the same project team that starts the project be the same team that finishes the project?
- Firm Capabilities and Willingness to Meet Project Constraints (15 points possible)
  - Discuss the capability of local staff available to work on this project. Specifically, include a discussion of team members' availability to begin work immediately after commencement and throughout the duration of the project.

- Discuss the anticipated project schedule and provide milestones for completing the project

### C. Anticipated RFQ Schedule

The following is a tentative RFQ schedule

- RFQ Available: **January 19, 2021**
- Written Questions Due: **February 5, 2021**
- Proposals Due: **February 16, 2021**
- **Notice of Firms Selected to Propose: March 9, 2021**

## Reference Materials

The following reference materials will be made available electronically on the Town's website:

1. Water Treatment Feasibility Study (2019, PIC)
2. Town of BV Growth Projection / WTP Expansion Presentation (2019, Town)
3. Preliminary Groundwater Investigation for Buena Vista (2019, HGE)
4. Water Resources Master Plan (2014, RGA)
5. ToBV Water Treatment Plant Design Drawings (1974, Wright and McLaughlin)
6. 83CW88 ToBV Water Rights Decree (1989, Water Court)

## Qualifications Submittal

**Three (3) hard copies and one electronic copy of the proposals shall be received by 4:00pm Tuesday, February 16th, 2021 at the following address:**

Attention: Shawn Williams  
Town of Buena Vista Public Works Department  
210 E Main Street or PO Box 2002\*  
Buena Vista, CO 81211  
swilliams@buenavistaco.gov

\*USPS does not deliver to 210 E. Main Street. If delivering USPS, please send to the PO Box listed above. Mail is checked on the morning of each day – please plan accordingly. FedEx and USP do deliver to the physical address listed above.

## Limitations

The Town reserves the right to reject any/or all SOQs and waive any informalities or irregularities therein. The SOQ is prepared at the consultant's expense and becomes Town record and therefore public record. Confidential data, if identified as such, will be held in confidence upon request, if the request is made as a part of the submittal of qualifications and if the Town attorney determines that the data meet the requirements of the Colorado Public Records Act.

## Contact Information

Questions and information related to this RFQ shall be directed to Shawn Williams at (719) 966-9966 or via email: [swilliams@buenavistaco.gov](mailto:swilliams@buenavistaco.gov)