

**Water Supply Reserve Account – Grant and Loan Program**  
**Water Activity Summary Sheet**  
**January 27-28 2014**  
**Agenda Item 31(c)**

**Applicant:** Town of Paonia

**Water Activity Name:** Raw Water Pipeline

**Water Activity Purpose:** Municipal and Industrial

**County:** Delta

**River Basin:** Gunnison

**Water Source:** Groundwater

**Amount Requested:** \$310,000 from the Statewide Account, and \$75,000 from the Gunnison Basin Account, (total request of \$385,000)

**Matching Funds:** \$40,000 cash match, Town of Paonia (10.3% of total grant amount); \$75,000 Gunnison Basin Account (19.4% of total grant amount: Total Cash Match = 29.7% of total grant amount)

<b>Staff Recommendation:</b>
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Staff recommends approval of up to \$310,000 from the Statewide Account, and \$75,000 from the Gunnison Basin Account (total request of \$385,000) for the project titled: Town of Paonia - Raw Water Pipeline.
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**Water Activity Summary:** WSRA funds will be expended to construct approximately 3,320 lineal feet of 6-inch raw water pipeline connecting existing sources of raw groundwater to an existing water treatment plant (Lamborn) that will be undergoing substantial improvements in order to come into compliance with the Colorado Department of Public Health and Environment requirements. The proposed pipeline is one component in a comprehensive effort (\$5.5 million total project costs) targeted at bringing the Town of Paonia's water system into compliance with CDPHE's directive. Constructing the proposed pipeline during the same time period as the other components (upgrade to existing upper water treatment plant consisting of installation of a new membrane filtration treatment technology, construction of an additional 2 million gallon treated water storage tank, and rehabilitation of an existing 500,000 gallon finished water storage tank) will realize a cost savings due to economies of scale and scope. More specifically, WSRA grant approval will provide funds for: administrative and legal, easement and right-of-way, engineering, construction, bidding, construction oversight, and contingency expenses.

The Town of Paonia's water system currently serves its 1,451 residents and approximately 1,849 residents of the surrounding rural area via 26 private water companies. Paonia's public water system can basically be described as two separate systems with only limited interfaces. Raw water is collected from multiple springs located above Town, and conveyed through a series of pipelines to one of two (2) water treatment plants. Treatment plants are separated by location and elevation, and are commonly referred to as the "upper plant" (Lamborn) and the "lower plant" by nature of relative elevations and their respective raw groundwater sources. As such, there is currently no

interconnection between raw water supplies and transmission mains that convey water to one or the other treatment plant. Each plant's water supply is independent of the other, and provides treated water to their respective service area. The lack of redundancy and back-up, and the inability to divert raw water supplies to either treatment plant based on raw water quality or quantity can be problematic in flexible management and operation of the overall water system. Furthermore, the proposed raw water pipeline satisfies CDPHE's *Design Criteria for Public Water Systems* technical and physical criteria for redundancy and back-up capacity for all critical components of a water system.

The lower treatment plant source water is classified as Ground Water Under Direct Influence of surface water, while historically the upper treatment plant source water was classified as Ground Water, prior to recent reclassification by the Colorado Department of Public Health and Environment to Ground Water Under Direct Influence of surface water. Now that all raw water supplies have the same classification and treatment requirements, it is no longer necessary to maintain separate water supplies to each plant.

The proposed raw waterline extension from the Reynolds Springs pipeline to the upper plant (in addition to the existing pipeline that provides raw water to the lower treatment plant) would have multiple benefits, since the Reynolds Spring pipeline provides a good supply of water to the lower treatment plant, and is within close proximity to the upper treatment plant.

The primary benefit would be improved flexibility and reliability in operation. It allows Operators to select the highest quality water supply or combination thereof, or to supplement the rate of flow from the springs supply(s) to match or exceed treatment capacity. This would help to satisfy seasonal water demands to maintain normal full water levels at both treatment plant storage tanks. The additional raw water supply would also optimize utilization of developed supplies to the extent possible. This additional source water at the upper plant will provide a more reliable system with additional water year round for improved flexibility in operations, system management, and fire protection capabilities. The proposed filtration upgrade at the upper plant will also include a wastewater recovery system for water conservation purposes.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Funding/Match Summary:

	<u>Cash (% of Total Project Costs)</u>	<u>Total (% of Total Project Costs)</u>
WSRA Gunnison Basin Account	\$75,000 (17.6%)	\$75,000 (17.6%)
WSRA Statewide Account	\$310,000 (n/a)	\$310,000 (n/a)
Town of Paonia	<u>\$40,000 (9.4%)</u>	<u>\$40,000 (9.4%)</u>
<b>Total Project Costs</b>	<b>\$425,000</b>	<b>\$425,000</b>

The application articulates how the project meets the *Evaluation Criteria* as summarized below:

Tier 1: Promoting Collaboration/Cooperation & Meeting Water Management Goals & Identified Needs:

This application helps to implement projects and processes identified in SWSI that addresses the gap between current and future needs of Paonia and its surrounding area. Specifically, this project will address multiple interests as the Town supplies water to 26 individual water companies. By addressing the needs of the applicant, the needs of the water companies are also addressed. The water companies are cooperative, and tend to collaborate with the Town on potable water issues. Water companies restrict the use of potable water for outside use and this cooperation enables the Town to meet future growth needs. The 2010 SWSI reported that “The West Slope of Colorado will grow at the fastest rate of any area in Colorado between now and 2050. Population on the West Slope is expected to more than double in the next 40 years, and growth rates in some areas on the West Slope could be as high as 240 percent.” By addressing residential water needs, the Town of Paonia helps to close the gap between available water supplies and future needs. Additionally, the flexibility and efficiencies enabled by the moving of these pre-1922 water rights to the upper system, allows for spillage in excess of current needs. This spillage then becomes available for downstream agricultural rights/uses.

Tier 2: Facilitating Water Activity Implementation:

The funding received will allow Paonia to move a source water (Reynolds Springs) transmission line to feed into the upgraded water treatment plant. This funding is essential for this first piece of the overall project as it puts in place system flexibility prior to the CDPHE required plant upgrade. Existing springs have been reclassified by CDPHE as GWUDI. The reclassification is directly influencing the immediate need for the water treatment plant upgrade. By moving the transmission line, continuous water flow will be maintained more easily, allowing for more flexibility within the system. The Reynolds Spring is in close proximity to the upper treatment plant and is a logical choice to provide additional water to the upper plant. Over the past years, the Town has been improving flow monitoring devices and mapping the raw water transmission lines in an effort to primarily document and compile accurate flow data. The Town infrequently experiences difficulty in maintaining storage levels during years of low snow pack or drought conditions during the summer months. Improved flow monitoring will also help in assessing the need for additional raw water storage. The Town has experienced frequent waterline breaks within the upper treatment distribution lines. Seven occurrences happened during the first five months of 2012, taking an average of three days to repair, causing substantial strain on raw water supplies, the treatment system and finished water storage. In addition, because the location of the plant and the moving of the waterline are in an area that has a shortened construction season due to elevation, it is both prudent and optimal for mobilization at the same time. Delays in any part of the overall project will mean additional costs in an already expensive project.

Tier 3: The Water Activity Addresses Issues of Statewide Value and Maximizes Benefits:

2010 SWSI also reports that passive conservation will save approximately 150,000AFY by 2050. Another criteria identified in SWSI calls for the developing new storage to firm existing and future right and capture consumable supplies for later use. Because the proposed activity will address flexibility, efficiency, and redundancy within the Town’s water system, the project does indirectly help the State meet compact goals and obligations. The proposed new treatment plant

will also include a backwash recovery system that reprocesses waste flows into drinking water. Again, the flexibility and efficiencies achieved in the raw water component of this project, allows for spillage to be utilized by downstream agricultural rights/uses. In terms of level of benefits, because Paonia is asking for \$385,000 from the Gunnison Basin Roundtable and the CWCB, out of a \$5.4 million dollar project, the bang is maximized for a comparatively minimal buck. This project will also address the foreseeable needs of Paonia, making the money received compliment other water project loan programs administered at the State level.

**Discussion:**

No additional discussion is needed.

**Issues/Additional Needs:**

No additional issues or needs were identified.

**Staff Recommendation:**

Staff recommends approval of up to \$310,000 from the Statewide Account, and \$75,000 from the Gunnison Basin Account (total request of \$385,000) for project titled: Town of Paonia Raw Water Pipeline.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting and Final Deliverable:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

**Engineering:** All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.