



**COLORADO**

**Colorado Water  
Conservation Board**

Department of Natural Resources

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**TO:** Colorado Water Conservation Board Members

**FROM:** Kirk Russell, Finance Section Chief  
Jason Ullman, DWR Deputy State Engineer

**DATE:** November 15-16, 2023 Board Meeting

**AGENDA ITEM:** 17b. 2024 Projects Bill - Non-Reimbursable Project Investments - Presentations  
(2) Statewide Diversion Telemetry Project

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### Staff Recommendation

Staff recommends the Board approve \$1,827,500 in funding for the Statewide Diversion Telemetry project from the Construction Fund for inclusion in the 2024 Projects Bill.

### Background

The Division of Water Resources (DWR) is responsible for administering water in compliance with Colorado state statutes, decrees of the water court, and interstate compacts. This involves distributing water based on the priority system, while maximizing the beneficial use of water and avoiding injury to senior appropriators or violation of Compacts with surrounding States. Since the inception of the Colorado Water Resources Satellite Monitoring System in 1986, the Colorado Division of Water Resources (DWR) has leveraged the system and public-facing website to improve data availability, transparency and operational efficiency of water rights administration in Colorado. Not only has electronic data collection and telemetry improved DWR operational efficiency, it also proved invaluable to the water community at large by increasing transparency among users and reducing costs associated with the active management of diversion structures to maximize beneficial use.

While the technology is proven and widely utilized across Colorado, DWR staff in all seven divisions must still physically visit many diversions to determine the demand to compare with supply as measured at a streamgage where telemetry is not installed.

### Description/Scope of Work

This project includes installation of telemetry and/or continuous recording infrastructure at 306 sites across the state where DWR will be working with different ditch companies and other entities at each structure, which makes this a better fit for this funding request because pursuing loans for the many participants wouldn't be feasible.

Previous South Platte Roundtable grants awarded in Division 1, which were used to install telemetry systems serve as a valuable proof of concept for this project. Installations of equipment similar to what is proposed in this grant in Division 1 have proved effective at improving the accuracy of DWR's administration while improving efficiency by requiring fewer DWR visits to diversions to evaluate conditions. These projects have also improved data transparency, which has assisted in reducing conflict between water users because they can see and trust that the data used to determine who is



curtailed is accurate. A successful Yampa-White-Green Roundtable grant application for installation of similar equipment on the Bear River in Division 6 further verifies the value of working with water users to install telemetry equipment at diversions.

Division office staff, including water commissioners and hydrographers, have received positive reaction during outreach to owners of the structures that would be scheduled to obtain equipment with this funding. During those outreach efforts, DWR staff have explained that if their telemetry installation is based upon GOES satellite infrastructure that they will be subject to a \$300 annual fee for work required to maintain access to that system. If cellular telemetry equipment is chosen to transmit data to our Stations system in CDSS then they will pay a fee to maintain access to the selected cellular network. Access fees may also be paid for groups of sites by entities such as a conservancy district, which is the case for the Bear River YWGRT Grant. Owners of diversions associated with each site will also be responsible for replacement of infrastructure if it becomes necessary due to age or obsolescence.

### **Schedule**

The procurement and installation of this equipment represents a sizable effort. This effort will be managed by the Chief of Hydrography with leadership from statewide electronics specialists and support from hydrographers and water commissioners in the various divisions. It is anticipated that this effort will occur over approximately five years. Based on the 306 gages proposed, this amounts to approximately 60 sites per year. At the conclusion of this project, the DWR electronic monitoring network will have been expanded by approximately 30%. **Total Cost: \$2,195,000**



DWR staff in seven division offices must evaluate available supply in each stream and compare that with demands for water from diversions with decrees for beneficial use in order to administer the priority system. This is a time consuming and difficult process because in many areas the water commissioner must visit numerous diversions to determine the demand to compare with supply as measured at a streamgauge.

This request is to fund the equipment necessary to install telemetry equipment at 306 sites across Colorado. DWR will install the initial equipment funded through this request as an in-kind contribution over the next five years. The owners of each structure will be responsible for replacing the equipment in the future when it reaches end of life.

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P R O J E C T D E T A I L S	
<i>Project Cost:</i>	\$2,195,000
<i>NRI Funding Request:</i>	\$1,827,500
<i>Funding Source:</i>	Construction Fund
<i>Project Type:</i>	Equipment Installation
<i>Type of Grantee:</i>	State Agency

L O C A T I O N	
<i>Benefits:</i>	Statewide
<i>Water Source:</i>	Various
<i>Drainage Basin:</i>	All Basins