Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
Consent Agenda Item 5.d

Applicant: Montezuma Valley Irrigation Company

Water Activity Name: Groundhog Reservoir Bathymetric Survey

Water Activity Purpose: Non-Structural Water Project

County: Montezuma

Drainage Basin: Dolores

Water Source: Dolores

Amount Requested: $35,000

Source of Funds: Southwest Basin Account

Matching Funds: $122,500 (applicant)

Staff Recommendation
Staff recommends approval of up to $35,000 from the Southwest Basin Account to help complete the Groundhog Reservoir Bathymetric Survey.

Water Activity Summary:
Montezuma Valley Irrigation Company (MVIC) is currently engaged in a system–wide analysis that will identify needs pertaining to the accurate measurement of diversions and usage. The two reservoirs owned and operated by MVIC, Narraguinnep and Groundhog, are the focus of this application.

The flume located in Beaver Ditch, a feeder ditch where 150 cfs of MVIC absolute water is conveyed into Groundhog, is in need of repair. MVIC plans to fix this flume to accurately gauge the diversion. Furthermore, MVIC intends to locate a remote measuring device at this flume to acquire real-time data for historic use. Also at the outlet structure, MVIC is working with the Colorado Department of Natural Resources (DNR) to install a satellite telemetry device to accurately record releases from Groundhog. In addition, MVIC intends to conduct a bathymetric survey of the reservoir.

The USGS bathymetric survey process would use an integrated multi-beam and motion sensor sonar. Rather than getting single pass cross sections along a line at some interval, the multi-beam collects the bottom surface as a 3D model along a line across the reservoir. The multi-beam passes are overlapped to provide a complete bottom surface model of the reservoir. From this model it is easy to calculate the elevation-storage curve or any other type of volume calculation on the modeled surface, such as the approximate volume of an underwater delta formed by sedimentation. The final product will also include a map of the modeled surface below water line and it would be extended to some point above water line, such as some specified flood elevation. The prospective WSRA funding will pay for this survey to accurately establish the volume of Groundhog Reservoir at any elevation when data would be needed.

For Narraguinnep Reservoir, MVIC is currently building a structure to house Rubicon Gates to control flow into the Lone Pine Canal. The reservoir also supplies water to the canal through the west outlet of the reservoir. Better management of the canal may reduce the water needs in the reservoir. At this location, there will be a remote device to regulate flow and send data to our SCADA system so that we can accurately read releases and gather historical real-time data. MVIC is working with DNR to provide real-time monitoring of both discharges from Naraguinnep Reservoir and the flow in the Lone Pine Canal just downstream of the reservoir.

Threshold and Evaluation Criteria
The application meets all four Threshold Criteria.

Discussion:
As identified in the SWSI findings, small agricultural water users often lack the financial ability to adequately address infrastructure needs without financial aid. This project will improve irrigation efficiency and increase water available for agricultural use. Both of these are identified in SWSI and the Southwest Basin's consumptive needs assessments. Specifically, the Basin recognizes the need to improve and maintain existing infrastructure. In addition, this project seeks to maintain the use of a pre-Colorado River Compact water right. The proposed project effectively meets the objectives of HB 1177 and the consumptive needs of the Southwest Basin by rehabilitating existing infrastructure to preserve agricultural water use.

Issues/Additional Needs:
No issues or additional needs remain.

Staff Recommendation:
Staff recommends approval of up to $35,000 from the Southwest Basin Account to help complete the Groundhog Reservoir Bathymetric Survey.

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: 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.

Final Deliverable: 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.