

**Water Supply Reserve Account – Grant and Loan Program**  
**Water Activity Summary Sheet**  
**March 16-17, 2016**  
**Agenda Item 14(ab)**

**Applicant & Fiscal Agent:** Crosho Lake Corporation

**Water Activity Name:** Crosho Lake and Reservoir (Simon #1) Dam Outlet Replacement

**Water Activity Purpose:** Implementation/Consumptive (Ag) & Nonconsumptive

**County:** Rio Blanco

**Drainage Basin:** Yampa/White/Green

**Water Source:** Crosho Lake & North and Middle Hunt Creeks

**Amount Requested/Source of Funds:** \$30,000 Yampa/White/Green Basin Account  
 \$108,380 Statewide Account  
 \$138,380 Total Grant Request

**Matching Funds:** Basin Account Match (\$30,000) = 21.7% of total grant request (meets 5% min);  
 Applicant Match (\$61,620) = 44.5% of total grant request (meets 5% min);  
 Basin Account & Applicant Match (\$91,620) = 66% of total grant request (meets 25% min)  
 (refer to *Funding Summary/Matching Funds* section)

**Staff Recommendation:**

Staff recommends approval of up to \$30,000 from the Yampa/White/Green Basin Account; and \$108,380 from the Statewide Account to help fund the project titled: Crosho Lake and Reservoir (Simon #1) Dam Outlet Replacement.

**Water Activity Summary:** WSRA funds, if approved, will be expended to complete the replacement of the outlet works at Crosho Lake Reservoir, known also as the Simon #1 Dam, which was constructed in 1917. The age of the outlet infrastructure, inspection observations, and previous observations and knowledge lead to the conclusion that the outlet works are severely deteriorated and in need of replacement. Their current state and the observations of leakage into the tower and seepage around the outlet headwall represent an active failure mode that will eventually lead to failure of the dam. The current deteriorated state of the outlet works is advanced enough that it is a significant dam safety concern and needs to be addressed as immediately as possible.

The proposed outlet will include an 18” PVC pipe conduit encased in concrete flow fill with an upstream control gate. An inclined slide gate will be installed on a new concrete intake structure. The gate stem and an air vent will be encased in a concrete grade beam on the upstream dam embankment. A lockable handwheel will be mounted to a new concrete block on the dam crest, preventing unauthorized operation of the outlet. A new staff gage will be installed on the concrete grade beam. A sand filter diaphragm will be installed towards the downstream end of the conduit to intercept any seepage traveling along or near the conduit. Seepage entering the diaphragm will be

collected in a perforated drain pipe and carried to the downstream toe of the dam. The outlet pipe will discharge into a concrete structure located at the dam toe. From this point discharge water will be conveyed in a new 24 inch PVC pipe that will tie into the existing ditch pipe downstream.

**Discussion:** This project aligns well with several of the Goals and Measurable Outcomes as addressed in the Yampa/White/Green Basin Implementation Plan, such as: Protect and encourage agriculture uses of water in the YWG Basin within the context of private property rights; Improve agricultural water supplies to increase irrigated land and reduce shortages (The agricultural needs study of the YWG BRT identified an additional 14,805 acres of potential new agricultural production in the future); Quantify and protect environmental and recreational water uses at locations identified in the non-consumptive needs study of the YWG BRT; Restore, maintain, and modernize water storage and distribution infrastructure; Develop an integrated system of water use, storage, administration and delivery to reduce water shortages and meet environmental and recreational needs (YWG BIP; Section 1.2.2: YWG Basin Goals, page 1-7). While this project has not been identified as an IPP in the YWG BIP, it is staff's opinion that this activity furthers the Goals of the YWG BIP and Colorado's Water Plan.

In addition this effort advances Agricultural Viability as presented in Colorado's Water Plan by: Develop and implement policies and strategies that support meaningful agricultural viability statewide; and upgrading irrigation and diversion systems (CWP; Chapter 6.5.2, pages 6-138 thru 6-144). Furthermore, this activity supports the storage goals of Colorado's Water Plan as presented in Section 6.5.3: Storage, and Section 6.5.4: Maintenance of Existing Projects and Methods (CWP; pages 6-145 thru 6-156). The proposed Crosho Lake improvements also furthers several of the Measurable Objectives, such as: D. Agriculture & E. Storage (CWP; Chapter 10.2: Measurable Objectives and Adaptive Management; pages 10-5 thru 10-7); and Critical Goals and Actions introduced in Colorado's Water Plan, such as: A. Supply-Demand Gap: Meet Colorado's Water Gaps: Use a grassroots approach to formulate projects and methods that avoid some of the undesirable outcomes of the supply-demand gaps. The plan addresses the gap from multiple perspectives (e.g., water storage, reuse, recycling, integrated water management, restoration, and conservation); D. Agriculture: Maintain Agricultural Viability: Maintain Colorado's agricultural productivity, support of rural economies, and food security (through meaningful incentives and grassroots efforts); and Support Agricultural Conservation and Efficiency: Support Colorado's agricultural industry to make it more efficient, resilient, and able to reduce water consumption without impacting agricultural productivity; and E. Storage: Promote Additional Storage and Infrastructure: Assess and promote opportunities for multipurpose and multi-partner storage projects that address strategic needs. (CWP: Chapter 10.3: Critical Goals and Actions; ages 10-8 thru 10-15).

**Issues/Additional Needs:** No issues or additional needs have been identified.

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

**Tier 1-3 Evaluation Criteria:**

This project has undergone review and evaluation and staff has determined that this request satisfies the Evaluation Criteria. Further analysis of the project, and how the project will meet Tiered Evaluation Criteria, is provided by the applicant in the WSRA Application.

**Funding Summary/Matching Funds:**

<b><u>Funding Source</u></b>	<b><u>Cash</u></b>	<b><u>In-kind</u></b>	<b><u>Total</u></b>
Colorado River Water Conservation District	\$20,000	\$0	\$20,000
Upper Yampa Water Conservancy District	\$16,000	\$0	\$16,000
Croshe Lake Company	\$25,435	\$185	\$25,620
Subtotal Applicant & 3 <sup>rd</sup> Party Matches	\$61,435	\$185	\$61,620
WSRA Yampa/White/Green Basin Account	\$30,000	n/a	\$30,000
WSRA Statewide Account	\$108,380	n/a	\$108,380
<b>Total Project Costs</b>	<b>\$199,815</b>	<b>\$185</b>	<b>\$200,000</b>

**CWCB Project Manager:** Craig Godbout

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.