

**Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
Agenda Item 21d**

Applicant: El Codo Ditch Company

Water Activity Name: El Codo Ditch Diversion Rehabilitation

Water Activity Purpose: Structural Water Project

County: Conejos County

Drainage Basin: Rio Grande River

Water Source: San Antonio River

Amount Requested: \$65,000 (Rio Grande Basin Account)

Matching Funds: \$23,445 (\$12,445 from Applicant and \$11,000 from NRCS)

Staff Recommendation
The proposed project will meet a consumptive water supply need in the Rio Grande Basin. Staff recommends approval of up to \$65,000 from the Rio Grande Basin Account to partially fund the El Codo Ditch Diversion Rehabilitation for the El Codo Ditch Company contingent on resolution of the items in the issues/additional needs section.

Water Activity Summary:

For the past 20 years agricultural productivity along the lands of the El Codo Ditch Company (ECDC) has been declining due to the effects of the deterioration, improper placement and poor design of the existing rock structure at the diversion. The deteriorated diversion structure and dam has made diversion of the ECDC water rights difficult to regulate in time and amount. It has also resulted in severe erosion of the main channel and caused repeated flooding in nearby farms and communities. In response ECDC has been forced to engage in expensive and dangerous ongoing maintenance activities, which have proven to be ineffective in curing the problem. There is now an urgent need to address the underlying causes of these long-standing deficiencies at the El Codo Ditch diversion, as they have been exacerbated by drought conditions and repeated wash-outs and flooding. Flows on the Ditch range from as high as 87 cfs to less than 10 cfs. Little has been done, for over 150 years, to alter the physical characteristics of El Codo Ditch and its diversion.

This two-phase water activity (the Project) begins by using ECDC funds in early spring of 2009 for an urgently required Phase I. Phase I will address the severe erosion immediately upriver of the diversion where waters of the San Antonio threaten to overtop the river bank. If the riverbank is overtopped, as in 1992, it will flow into the bed of an old arroyo, causing flooding throughout the ECDC system and threatening the community of San Antonio and surrounding farms. The bank will be stabilized and two J-hooks will be placed about 300' upstream of the diversion, where the rip-rap is located, in order to contain the flows and redirect them toward the center of the main channel. In preparation for the next phase of work, this will aid in preventing further erosion and will stabilize the most impacted area.

The WSRA funds requested by this proposal will then be used for Phase II in the fall of 2009. Phase II will replace the problematic rock diversion structure in the main channel of the San Antonio with an NRCS-engineered concrete structure, as described in Attachment B of the application. This structure will be

positioned at a different angle from the current rock structure, directing flows more effectively toward the headgate and bypass headgate (Attachment C of the application). This will greatly improve control of irrigation water and stabilize river flows at the El Codo diversion. The existing bypass gate, with its inadequate system of manually inserting or removing boards, will be replaced with a gear/screw-controlled metal bypass headgate, providing much better control over diversions. The lower elevation of the new structure will also allow better passage of water in both normal and high water regimes. This will help stabilize flows and prevent the back-up of water. It will also better facilitate sediment transport, reduce the accumulation of woody debris, and facilitate the passage of fish in both directions.

Threshold and Evaluation Criteria

The application meets all four Threshold Criteria. No Statewide funds are being requested, therefore the evaluation criteria does not apply.

Funding Overview

Grant funding in the amount of \$65,000 is requested from the Rio Grande Basin Account. Funding from the WSRA constitutes roughly 73% of the overall project cost (\$88,445). In addition, the NRCS will contribute \$11,000 toward engineering and project oversight. The balance of the project's funding (\$12,445) will be provided by the applicant for Phase I.

Discussion:

At the present time, the ECDC gets water into the Ditch by using heavy equipment to push rocks, gravel and dirt up into a temporary diversion dam. When high flows come down the San Antonio this dam washes out and must be rebuilt, causing a constant maintenance problem. Since there is no way to adjust the height of this makeshift dam, water backs up during high flows and causes flooding, which jeopardizes water rights on the San Antonio river system below the El Codo diversion. In effect, this Project upholds existing water rights and defends them against repeated loss from flooding due to ECDC having little or no control over seasonal flows of the San Antonio River and the effects of these flows upon allocated water rights.

As identified in the SWSI findings, agricultural water users often lack sufficient funding to adequately address infrastructure needs without financial aid. The proposed project effectively meets the objectives of HB 1177 and the consumptive needs of the Rio Grande Basin by rehabilitating existing infrastructure to achieve significant savings of very senior agricultural water.

Issues/Additional Needs:

- Please include a more detailed budget and scope of work that further specifies the project's tasks and subtasks.
- Please include an updated project schedule that includes completion dates for key project milestones.

Staff Recommendation:

The proposed project will meet a consumptive water supply need in the Rio Grande Basin. Staff recommends approval of up to \$65,000 from the Rio Grande Basin Account to partially fund the El Codo Ditch Diversion Rehabilitation for the El Codo Ditch Company contingent on resolution of the items in the issues/additional needs section.

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.