FINAL REPORT Water Quality & Conservation Grant FY21 Coronado Soil and Water Conservation District Restoration of Suela [Ciruela] Lateral Las Acequias de Placitas



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PROJECT TITLE: Restoration of Suela [Ciruela] Lateral

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PROJECT OVERVIEW

PROJECT SUMMARY: The Water Quality and Conservation Grant was used to restore the Suela [Ciruela] Lateral in Las Acequias de Placitas (LAdP), located in the Village of Placitas, Sandoval County, NM, within the boundaries of the Coronado Soil and Water Conservation District. The lateral stretches between 16 and 22 Paseo de San Antonio, Placitas, NM. The lateral eventually terminates at the irrigation spur into Arroyo Suela [Ciruela] North of State Highway 165. The project focused on improving the irrigation needs for farmers serviced by the Lateral. Accomplished work included heavy-duty equipment dirt work along the ditch bank, clearing of invasive species, stumps and noxious weeds from the bank, and removal and replacement of an old undersized culvert.



FROM RIGHT (UPHILL) THE SUELA [CIRUELA] LATERAL BEGINS BETWEEN 16 AND 22 PASEO DE SAN ANTONIO, PLACITAS, NEW MEXICO, AT THE CONTROLS. THE ACEQUIA LATERAL TRAVELS THRU THE LOWER REACHES OF PLACITAS AND CROSSES NUMEROUS ARROYOS/WASHES ON ITS WAY. THE ACEQUIA THEN INTERSECTS HIGHWAY 165 AND CONTINUES NORTH THRU SEVERAL PROPERTIES. THE IRRIGATION WATER IS THEN RETURNED TO THE ORIGINAL PATH OF THE SUELA [CIRUELA] ARROYO AS IT TERMINATES.

JUSTIFICATION: This extensive restoration improved water delivery to farmers, reduced ongoing noxious weeds and invasive species, improved pedestrian safety on ditch banks, and aids in conserving water.

METHODS AND APPROACHES: Assisting in this project were LAdP, its mayordomo, farmers, and community volunteers The Coronado SWCD utilized a combination of volunteer labor and some contracted work. The majority of labor was done by volunteers and grant funds were used to hire skilled labor. The entirety of the goals was broken down into phases and scheduled throughout the past fiscal year.

EVALUATION: The project outcomes have been reflected in field records, crop viability and Mayordomo reports. Coronado's evaluation of the project is based upon observation, written project evaluations by volunteers, LAdP Commission and interviews with landowners.

ACCOMPLISHED OBJECTIVES

CLEARING AND GRUBBING

The improvement of acequia efficiency and workability was a primary objective. Throughout 3,648 feet of the Suela [Ciruela] Lateral there were overgrown noxious weeds, invasive species, and hazardous stumps. These created an accessibility hazard, reduced workability, and caused excess water loss through transpiration. Their cumbersome removal has created a bank which is walkable and allows for more efficient water flow. To manage the acequia properly it is important for appropriate access of machinery. Removing the overgrowth and stumps allowed for both walkability and machine accessibility. Community volunteer labor was used to trim overgrowth, shovel silt and remove litter. Grant funds were used to rent chipper equipment, and four volunteers chipped for three days. A local arborist was hired to appropriately manage trees and chip wood.



AFTER



AFTER







WORKABILITY

Traditional hand-dug ditch cleaning has led to a precarious bank and problematic heaps. Dirt work along the Suela [Ciruela] Lateral included realignment and leveling of the bank, which was necessary for safety, adequate walkability and machine access. The installation of gates at property lines has allowed property owner privacy while maintaining ditch access and workability for equipment. Two access ramps were created, one in the middle and one toward the end of the accequia to facilitate equipment access. Grant funds were used to rent a small tractor and the Mayordomo was the operator to level the bank.

Before

AFTER



GATES RAMP

WATER BREAKS

Silt infiltration and clogging was a consistent problem. The installation of water breaks at arroyo crossings now controls the infiltration of sediment into the acequia. Equipment and an operator were used to create water breaks and upstream arroyo crossing for silt infiltration.



AFTER



CULVERTS

Culverts had been placed throughout the system ad hoc. Most were undersized, collapsed or missing. This made the acequia susceptible to silt infiltration and reduced head pressure. Of the six culverts in need of replacement, two were updated and reworked. These two culvert locations were critical for acequia operation and efficiency.



WEIRS

Old and leaking turnouts reduced head pressure and wasted water. The replacement of key turnouts has increased efficiency of the system, saving water and time.









FUTURE OBJECTIVES

The work completed in this report was done as part of phase one of the Suela [Ciruela] Lateral project. Future objectives fall under phase two. These with will build on the work already accomplished. An FY2022 WQ&C grant was applied for and received. The water breaks put in will be updated with gabion blocks for a more permanent fix for sediment collection and flooding of the acequia. Lining the acequia is another objective that will reduce water loss. This will be essential as drought continues.



DESIRED GABION DESIGN

EXAMPLE OF LINED ACEQUIA AT SAN ANTONIO MISSION CHURCH





APPENDIX

BEFORE

























AFTER

































