Statement of Work

WATER ACTIVITY NAME – Manassa Land & Irrigation – Conejos North Branch Water Conservation and Management

GRANT RECIPIENT – Manassa Land and Irrigation Company

FUNDING SOURCE – Water Supply Reserve Account, Rio Grande Basin Account

INTRODUCTION AND BACKGROUND
Provide a brief description of the project. (Please limit to no more than 200 words; this will be used to inform reviewers and the public about your proposal).

This project improves irrigation efficiency, reduces water loss, and refines the delivery of water by replacing two 100-year-old head gates and installing measuring weirs on five laterals of the Manassa Land and Irrigation (MLI) system. The recent Conejos Stabilization Project successfully eliminated channel instability on the Conejos North Branch diversion, repairing the Conejos bifurcation, balancing flows between the main channel and the North Branch, and reducing operational difficulties for MLI in obtaining its decreed water rights. However, with mounting pressure to account for water use and to maximize ground water recharge, MLI has no method to account for water loss or to quantify recharge or the delivery of water as it responds to priority calls for 18,000 primary acres. MLI seeks $75,000 of Basin funds to complete the modernization of the 100-year-old irrigation system, replacing the gate and adding a concrete core at Headgate #3, replacing Headgate #98, and adding Parshall flumes at the head and midway down each of five laterals. These measures will restore full operating capacity to an irrigation system which has served six generations of water users on the Conejos and which is integral to fulfilling Colorado's compact obligations.

OBJECTIVES
List the objectives of the project

(1) Quantify flows within the MLI system for more uniform/efficient water distribution
(2) Conserve water and protect water resources, greatly improving irrigation efficiency
(3) Restore optimal performance of the irrigation system.
(4) Improve MLI's ability to respond to changing needs for water for 18,000 irrigated acres
(5) Reduce the propagation of maintenance issues for multiple ditch companies
(6) Support recent improvements in the North Branch Diversion by meeting multiple objectives
(7) Reduce the burden of repeated and ineffective maintenance efforts
(8) Restore full operational capacity to a system which has reached the end of its useful life
(9) Enable MLI to obtain decreed water rights and meet priority calls
(10) Help meet agricultural demands for a sustainable water supply by quantifying use/recharge

TASKS
Provide a detailed description of each task using the following format

TASK 1 – Remove Core at Headgate #3

Description of Task

Mobilize two trackhoes, one with a thumb attachment and one with a jackhammer attachment and one dump truck
Remove #3 Core

Method/Procedure

Demolish existing #3 Core
Crush material and stockpile for use as rip-rap on the new structure
Put site to grade

Deliverable

Core at #3 Headgate has been removed and site has been graded

TASK 2 – Place Forms to Install Concrete on #3 Headgate

Description of Task

Place forms to install concrete

Method/Procedure

Contractor and 4 workers will construct framing for concrete in compliance with NRCS engineering specifications.

Deliverable

Ready to pour concrete formed structure on #3 Headgate

TASK 3 – Pour Concrete for Headgate #3

Description of Task

Pour Concrete for Headgate #3

Method/Procedure

27.92 cubic yards of concrete delivered to site
Contractor and 4 workers pour concrete for headgate
39.04 cubic yards of concrete delivered to site
Contractor and 4 workers pour concrete for core
Allow to cure for one week

Deliverable

Concrete structure is ready for installation of new Headgate #3

TASK 4 – Build and install radial gate for #3 diversion structure

Description of Task

Build radial gate for #3 diversion structure and install.

Method/Procedure

During winter months, Contractor will custom build 12'x4' radial gate conforming to NRCS specifications.

Prior to Spring of 2011, Contractor will install radial gate in #3 diversion structure.

Deliverable

Diversion #3 has been replaced and upgraded, enabling MLI to meet irrigation deliveries in priority.

TASK 5 – Remove #98 Headgate

Description of Task

Remove #98 Headgate

Method/Procedure

Mobilize two track hoes, one with thumb attachment and one with jackhammer attachment, and dump truck.
Demolish existing #98 Headgate
Crush material and stockpile for use as rip-rap on the new structure
Put site to grade

Deliverable

#98 Headgate has been removed and site has been graded

TASK 6 – Place Forms to Install Concrete at #98 Headgate

Description of Task

Place forms to install concrete at #98 Headgate

Method/Procedure

Contractor and 4 workers will construct framing for concrete in compliance with NRCS engineering specifications.

Deliverable

Ready to pour concrete formed structure at #98 Headgate

TASK 7 – Pour Concrete for Headgate #98

Description of Task

Pour Concrete for Headgate #98

Method/Procedure

27.92 cubic yards of concrete delivered to site
Contractor and 4 workers pour concrete for headgate into forms. Allow to cure for one week.

Deliverable

Concrete structure is ready for installation of new Headgate #98

TASK 8 –Build and install radial gate at Headgate #98

Description of Task

Build radial gate and install at Headgate #98 diversion structure

Method/Procedure

During winter months, Contractor will custom build 12'x4' radial gate conforming to NRCS specifications.

Prior to Spring of 2011, Contractor will install radial gate at #98 diversion structure.

Deliverable

Diversion #98 has been replaced and upgraded, enabling MLI to meet irrigation deliveries in priority.

TASK 9 – Custom build ten Parshall flume measuring weirs

Description of Task

Over winter, Contractor builds ten Parshall flumes in accordance with NRCS engineering specifications (Exhibit C).

Method/Procedure

Under NRCS supervision, Contractor constructs ten Parshall Flumes per specifications.
Four will measure 8' in width
Six will measure 5' in width

Deliverable

Ten measuring weirs are ready to install.

TASK 10 – Contractor installs Parshall flume measuring weirs on 5 laterals

Description of Task

Ten Parshall flumes will be installed at the head and midway down the length of five laterals.

Method/Procedure

In preparation for irrigation season, in spring of 2011, Contractor will install ten Parshall flume measuring weirs on each of five laterals, one at the head and one at the midpoint of each lateral.

The installation will start from the west and work eastward.

Deliverable

Ten Parshall flumes are installed, creating the ability to distribute water by measured volume, thus greatly increasing operational efficiency and enabling quantification of water use and recharge.

REPORTING AND FINAL DELIVERABLE

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 statement 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.

SCHEDULE

TASK / Season	Fall 2010	Winter 2010	Spring 2011	Winter 2011
	Matching $	Matching $	**Notice to Proceed**	
1 Remove #3 Headgate				
2 Place forms # 3				
3 Pour concrete # 3				
4 Build radial gate #3				
Install gate #3				
5 Remove # 98 Headgate				
6 Place forms # 98				
7 Pour concrete # 98				
8 Build radial gate #98				
Install gate #98				
9 Build 10 measuring weirs				
10 Install 10 measuring weirs				

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. 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 help promote the development of a common technical platform.