Walden Reservoir Company
P.O. Box 15
Cowdrey, Colorado 80434

September 20, 2011

Mr. Greg Johnson
Colorado Water Conservation Board
Water Supply Planning Section
1580 Logan Street, Suite 200
Denver, CO 80203

RE: Walden Reservoir Company Structure for Water Control
Purchase Order Number: OE PDA 11000000087

Dear Greg:

NRCS inspected the structure on 9/20/10 and certified it as complete and meeting their standards and specifications for Structure For Water Control. Attached is their certification document.

This completes our obligations within our contract with the Colorado Water Conservation Board. Thank you for the opportunity to work with your department and the funding of the project. Also attached are the final Statement of Work and Completed Budget documents for the project.

Total Funds Requested & Allocated from WSRA: $36,000.00
Actual Project Cost: $29.500.00

First Partial Payment Request: $12,656.70
(Gates - Warrant No. 00049759647 - 6/30/11)

Final Payment Request: $11,243.30
(Completion of Structure - Concrete/Fill/Riprap)

Applicant / Landowner Contribution: $5,600.00

Any questions, please feel free to contact me.

Sincerely,

Carl Trick II
President

Final Deliverable

Walden Reservoir Company
Structure For Water Control

Reference: Purchase Order Number OE PDA 11000000087

Project Completion and Certification
9/20/2011

Practice is complete and all materials and installation conforms with NRCS Specification #587 - Structure For Water Control

Walls:

- 8” thick
- #5 bars on 12” centers
- Chamfered 3/4 inch
- Min compressive strength of 300 psi @ 28 days or equivalent

Rock Riprap:

- Angular in shape
- Greatest dimension not larger than 2.5 times the least dimension
- Non-woven filter fabric under riprap

Gates:

- (2) 60” x 60” self contained, flange back, galvanized, Fresno fabricated Slide Gates or equivalent
- Attached per manufac-tures specifications

Grate Walkways:

- (2) 3 feet x 6 feet
- 19 W 4 Grating
- 1 $^{1/4"}$ x $^{3/8"}$ bars
- Innovative Ironworks Manufactured or equivalent

Earth Fill::

- To specified or ground elevation
- Clay type material with sufficient moisture to form a ball
- Compacted with a minimum of 3 passes with a jumping Jack, Vibrating Plate Compactor or Hand Directed Sheepsfoot Roller in lifts not greater than 6”


Before


After

Walden Reservoir Company
Structure For Water Control

Statement of Work

WATER ACTIVITY NAME – Walden Reservoir Company Structure for Water Control

GRANT RECIPIENT – Walden Reservoir Company

FUNDING SOURCE – WSRA: North Platte Basin Roundtable Allocation

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)

The Walden Reservoir Company proposes to replace a deteriorated Structure for Water Control on the current Reservoir Delivery Ditch. The structure plays a critical role in controlling the flow of water into the reservoir, as well as preventing water from back flowing out of the reservoir during peak storage levels.

Currently the existing structure is incapable of regulating water to the control level needed. A new check structure will effectively and efficiently check the water entering into the reservoir and prevent back flow from occurring. This higher degree of control and efficiency will benefit all consumptive and non-consumptive uses of the reservoir water.

The installation of the Structure for Water Control will address both the agricultural and environmental water needs in a cost effective, collaborative way. The Walden Reservoir provides irrigation water to six different individuals, ranches and entities that irrigate approximately 5,000 acres of hay and pasture land in Jackson County. In the future, it may also supply municipal water to the town of Walden. In addition to irrigating the highly valuable hayland, the reservoir and

irrigation ditches create irrigation induced wetlands and riparian areas that provide habitat for many species of big game, waterfowl and upland birds, including the Greater Sage Grouse. The reservoir, irrigation ditches, wetlands and riparian areas all provide a wide variety of recreational opportunities as well.

OBJECTIVES:

1. To install a Structure for Water Control that will efficiently and effectively control the amount of water entering into and back-flowing out of the Walden Reservoir.
2. To provide the water users and commissioner with a better means of controlling and administering the water rights and flows associated with the Walden Reservoir.

TASKS:

TASK 1 – Determination of Project Need and Feasibility (COMPLETED)

Description of Task – Determine the need and feasibility of installing a new Structure for Water Control in the Reservoir Delivery Ditch

Method/Procedure – Site visit: Walden Reservoir Company contact person and a NRCS Representative

- ✓ assess the current condition of the existing structure and consider the need, feasibility and cost of installing a new structure.

Deliverable – Project was determined to be needed and feasible

TASK 2 – Engineering Survey and Design (COMPLETED)

Description of Task - Perform the on-site engineering survey and design planned Structure for Water Control.

Method/Procedure - Follow-up visit: NRCS staff

- ✓ an engineering survey will be performed

Deliverable – An engineering plan, draft structure design and copies of NRCS's

Standards and Specifications were provided to the company contact.
Reference: the attached NRCS Structure for Water Control design

TASK 3 – Project Construction and Installation (COMPLETED)

Description of Task – The planned Structure for Water Control shall be installed

Method/Procedure – On site: Contractor (NRCS staff and contact person when needed)

- ✓ the structure shall be constructed/installed
- ✓ the site shall be smoothed and reseeded

Deliverable – A completed and functioning Structure for Water Control

Practice is complete and meets NRCS's standards and specifications for Structure For Water Control #587. The Final Report is attached.

Debbi Heeney 9-20-11

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.

- ✓ ***A final report will be provided to the CWCB after the construction and installation of the project is completed.***

Walden Reservoir Company
Structure For Water Control

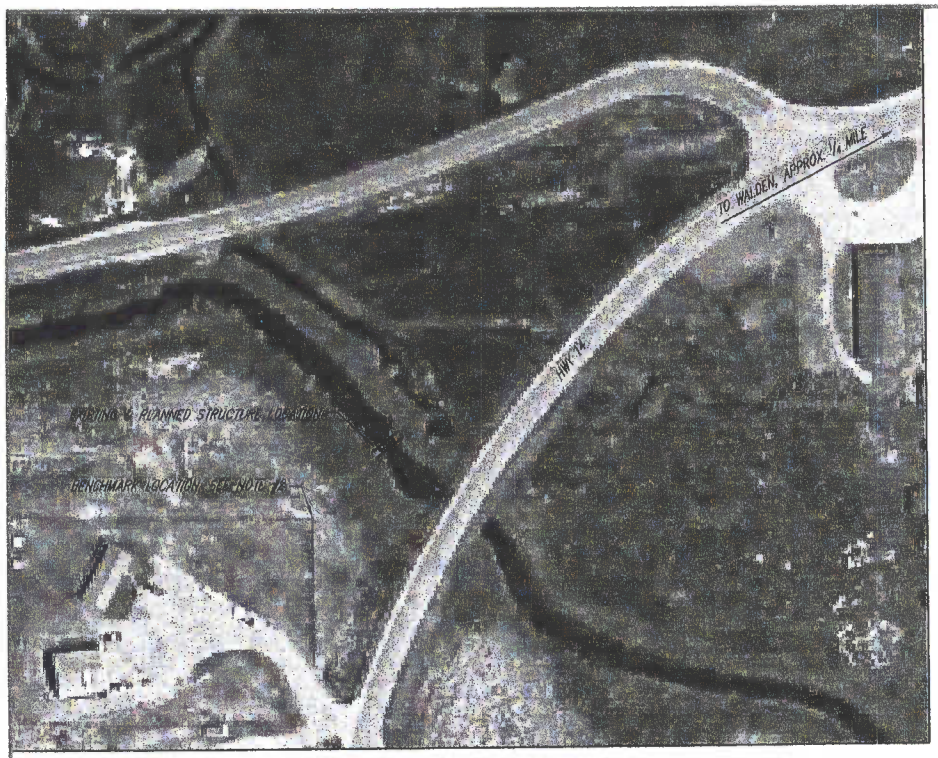
Budget

* Total Cost Estimate		
	* *Labor/Equipment/Materials*	*Cost*
Task 1 – Need and Feasibility	NRCS staff: In-Kind Contribution Project Contact Person: In-Kind Contribution	300.00
Task 2 – Survey and Design	NRCS staff: In-Kind Contribution	2,000.00
Task 3 – Construction and Installation	Contractor : Concrete Riprap Bar Grates (cat walk) Gates	24,000.00 1,600.00 1,000.00 15,000.00
Total Cost Estimate:		**43,900.00**
Contributions		
Applicant / Landowner Contribution: 5,600.00 **NRCS In-Kind Contribution: 2,300.00** **WRSA Contribution: 36,000.00 (ACTUAL: 23,900.00)**		

* The Applicant/Landowner shall be responsible for any and all cost over-rides.
* If the final project completion cost is less than the requested WRSA funds, the remaining funds will be returned to the Basin Account, but the Applicant/Landowner contribution will still remain $5,600.00.

SCHEDULE

Task	Estimated Start Date	Estimated Completion Date
1. Need and Feasibility	COMPLETED	
2. Survey and Design	COMPLETED	
3. Construction and Installation	COMPLETED	



NW ¼ SEC. 29, T. 9 N., R. 79 W.

LOCATION MAP

0 60 120

SCALE – FEET

NOTES:

1. The maximum design flow rate for the structure is 100 CFS.
2. The benchmark is located top of 1" X 2" wooden stake, set at H brace in fenceline, approximately 100 feet southwest of existing structure. Elevation 100.0 (assumed).
3. Materials and installation shall be in conformance with NRCS Specification 587 – Structure For Water Control.
4. The concrete shall be proportioned to have a minimum compressive strength of 3000 psi at 28 days. All exposed concrete edges shall be chamfered ¾ of an inch.
5. The approximate concrete volume of the structure as shown is 7.3 cubic yards.
6. The concrete reinforcing steel shall consist of #5 bars on 12 inch centers, each way, placed in the center of the section. The bars shall be continuous or spliced from floor and wall into adjacent floor and wall. The minimum splice length shall be 15 inches. The minimum distance from the reinforcing bars to the face of the concrete shall be 2 inches for formed surfaces and 3 inches for surfaces formed against earth.
7. Metal ties within the forms shall be equipped with cones that permit their removal to a depth of at least one inch without injury to the concrete. Ties designed to break off below the surface shall not be used without cones. After the forms are removed, the cones shall be removed and the holes patched with non-shrink grout.
8. All spaces excavated and not occupied by the structure shall be backfilled up to the specified elevation or up to the ground surface. The backfill shall be clay-type material with sufficient moisture to form a ball in the hand without crumbling. The backfill shall be firmly compacted with a minimum of 3 passes with a Jumping Jack, Vibrating Plate Compactor, or hand directed Sheepsfoot Roller in lifts not greater than 6 inches.
9. The gates shall be 2 – 60" X 60", self contained, flange back, galvanized, (material combination 2) Fresno Fabricated Slide Gates (or equal). The gates shall be attached to the concrete per the gate manufacturer's specifications. See attached manufacturer's installation manual.
10. The structure shall be equipped with 2 bar grate walkways. Each grate shall be 3' wide X 6' long, 19 W 4 Grating (1 ¼" X 3/16" bars), Innovative Ironworks manufactured (or equal). Grates shall be coated with approved epoxy zinc paint.
11. The rock riprap shall be sound, durable, and angular in shape with the greatest dimension not larger than 2.5 times the least dimension. The gradation of the rock shall be as follows:

Size (inches)	Percent Passing
15"	100
12"	75
6"	0

The approximate riprap volume as shown is 22 cubic yards. Mirafi 180N (or equal), non-woven filter fabric, shall be placed under the rock riprap.

I agree, as Landowner and/or Group Representative, to construct this project according to these plans and specifications. Land and water rights, permits, easements and rights-of-way have been obtained from all landowners and properties involved. No changes will be made to the project design or location without prior approval of an NRCS Representative.

Signature WALDEN RES. CO. Date Feb 24, 11

I realize that as a landowner, I and/or the contractor I hire, may be liable for any damage to utilities during construction. NRCS makes no representation that utilities shown on plans are exactly located or that all utilities are shown

I will provide NRCS with the Utility Notification Center of Colorado (UNCC) ticket number my contractor has acquired prior to start of construction.

Signature Date 2/24/11 UNCC Ticket No. A105500347

CALL UNCC, 1-800-922-1987 TWO DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR MARKING OF UNDERGROUND UTILITIES

	Designed	Drawn	Checked	Approved
	VF	VF		
Date	2/11	2/11		

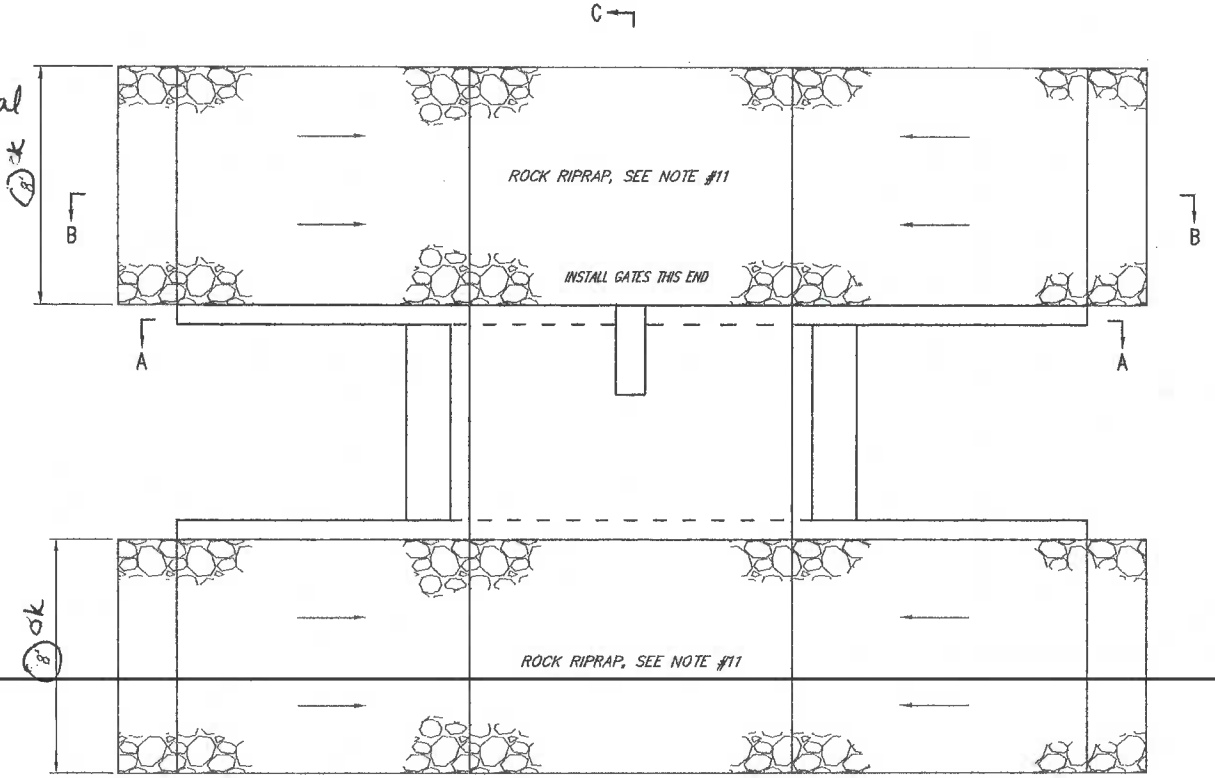
WALDEN RESERVOIR
CHECK STRUCTURE
JACKSON COUNTY COLORADO, 2011

USDA NRCS

File No.

Drawing No.

Sheet 1 of 3



GATES NOT SHOWN, SEE NOTE #9

WALKWAYS NOT SHOWN, SEE NOTE #10

CHECK STRUCTURE PLAN VIEW

0 24 48
SCALE - INCHES

Date 2/11
Designed VF
Drawn VF 2/11
Checked
Approved

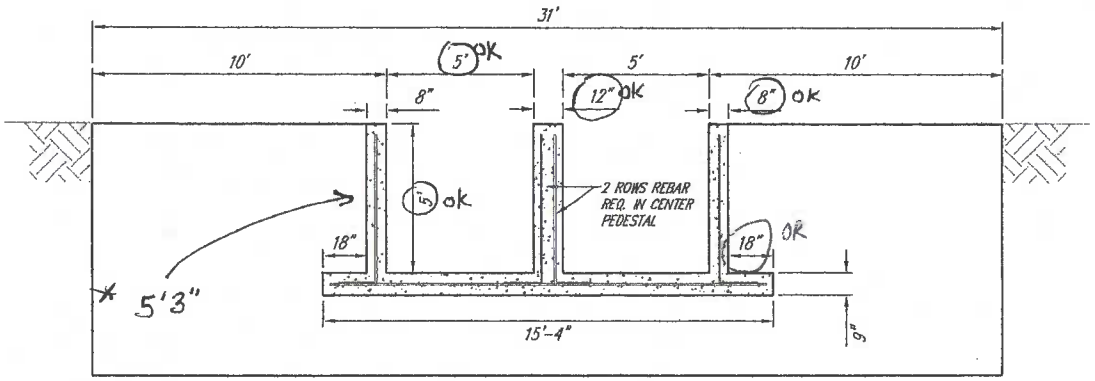
WALDEN RESERVOIR
CHECK STRUCTURE
JACKSON COUNTY COLORADO, 2011

ARCS

File No.

Drawing No.

Sheet 2 of 3



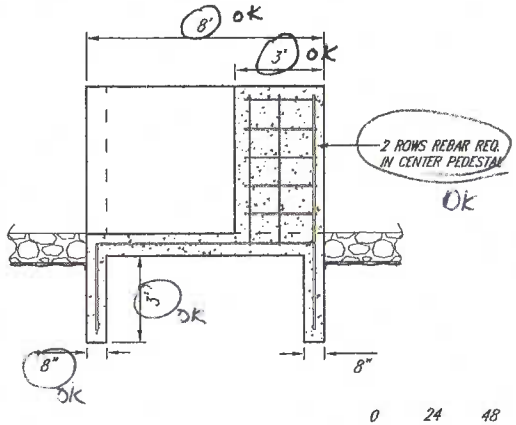
ELEVATION 85.50 TOP OF WALL

*

* additional 3" needed to install gates securely & correctly.

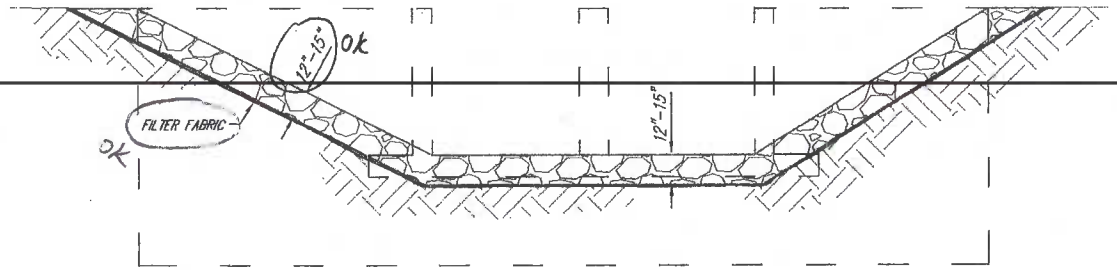
SECTION A – A

0 24 48
SCALE – INCHES



SECTION C – C

0 24 48
SCALE – INCHES



RIPRAP SECTIONAL VIEW, SEE NOTE #11

SECTION B – B

0 24 48
SCALE – INCHES

* Rebar & footer checked by Vance Fulton, structure dimensions & stability checked by Debbi Heeney.

* Built as specified DH. 9/20/11

Designed	VF	Date	2/11
Drawn	VF		2/11
Checked			
Approved			

WALDEN RESERVOIR
CHECK STRUCTURE
JACKSON COUNTY COLORADO, 2011

DRCS

File No.

Drawing No.

Sheet 3 of 3