LA PLATA WATER CONSERVANCY DISTRICT
555 RiverGate Lane, Suite B4-82
Durango, CO 81301

May 23, 2017

Craig Godbout
Program Manager
Colorado Water Conservation Board,
Water Supply Planning Section
1313 Sherman St., Room 721
Denver, CO 80203

RE: WSRA Joseph Freed and Red Mesa Ditch Lining and Red Mesa Supply Ditch Headgate Automation Project

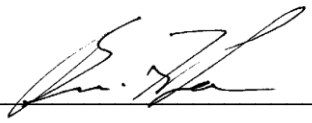
Dear Craig:

The La Plata Water Conservancy District (LPWCD) received a grant (Grant No.POGGI PDAA 201700000460) from the Colorado Water Conservation Board (CWCB) in 2016 for the purpose of lining sections of the Joseph Freed and Red Mesa Ditch and upgrading the Red Mesa Supply Ditch headgate with automation software and equipment. The LPWCD would like to thank the CWCB for funding this project. It has provided an opportunity to conduct water efficiency and conservation projects in the La Plata River Basin that will benefit the state and local irrigators. Please see the attached final report outlining work performed and success of the project.

Sincerely,

LA PLATA WATER CONSERVANCY DISTRICT

Brice F. Lee, President

By 

Cc: Anna Mauss, CWCB Water Project Loan Program

BĪKIS Water Consultants
a division of SGM

JOSEPH FREED DITCH AND RED MESA SUPPLY DITCH LINING AND RED MESA SUPPLY DITCH AUTOMATION PROJECT – THE LA PLATA WATER CONSERVANCY DISTRICT
CWCB GRANT NO. POGG1 PDAA 201700000460
FINAL SUMMARY REPORT

Prepared for:

Mr. Craig Godbout
Program Manager
Colorado Water Conservation Board
Water Supply Planning Section
1313 Sherman St., Room 721
Denver, Colorado 81203

and

Mr. Bruce Whitehead
Executive Director Southwestern Water Conservation District
West Building – 841 East Second Avenue
Durango, Colorado 81301

Prepared by:
Bikis Water Consultants, a division of SGM
info@BikisWater.com
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May 2017

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1.0 INTRODUCTION/PURPOSE

The 1922 La Plata River Compact, approved by Congress in 1925, requires the State of Colorado to deliver one-half of the daily mean flow of the La Plata River measured at the Hesperus stream gage to the La Plata River State Line gage the following day from February 15th to December 1st (Compact period), not to exceed 100 cubic feet per second. Each state has an unrestricted right of use to La Plata River (LPR) water between December 1st and February 15th. Historically, Colorado has not always been able to satisfy the Compact due to a variety of factors, including low stream flows, surface flow loss to groundwater, evapotranspiration and increasing water demands. Moreover, attempting to deliver water to meet the Compact from Hesperus results in significant delivery losses to the system.

In order to help meet Compact requirements and limit delivery losses, the La Plata Water Conservancy District (LPWCD) completed the construction of the Bobby K. Taylor (BKT) Reservoir to provide a more efficient delivery mechanism. This efficiency will allow Colorado water users to divert water that would otherwise be curtailed by Compact delivery obligations. To increase water efficiency and water conservation in the La Plata River Basin, improvements to the delivery systems and infrastructure updates are essential. Several of the ditches in the La Plata River Basin are old, open ditches and experience significant losses due to seepage.

The LPWCD was awarded $55,000 from a Colorado Water Supply Reserve Account (WSRA) grant authorized by the Southwest Basin Roundtable under Contract No. POGG1 PDAA 201700000460 in 2016 to complete the Joseph Freed Ditch and Red Mesa Supply Ditch Lining and Red Mesa Supply Ditch Headgate Automation Project. The LPWCD was also awarded $60,000 by the Southwestern Water Conservation District (SWCD) to help fund this work. Matching funds and in-kind contributions were provided by the LPWCD and the U.S. Bureau of Reclamation (USBR). SGM (formerly Bikis Water Consultants) was contracted by the LPWCD to oversee the project. The work is on the list of identified projects and processes (IPP) for the La Plata River (LPR) basin, outlined in the Southwest Basin Roundtable Basin Implementation Plan (BIP), dated April 17, 2015. These IPPs include:

- ID 15-LaP. Includes LPR ditch lining projects that would increase efficiency of Compact deliveries.

- ID 4-LaP. Includes work that will complement existing infrastructures to conserve water used for irrigation and domestic augmentation.

The construct and installation work for the project was completed on March 15, 2017.

It is expected that the work will:

1) Increase efficiency of water delivery.

2) Conserve water.

3) Help to support native fish species.

4) Help to administer Compact compliance.

2.0 DESCRIPTION OF WORK

The scope of work for the project includes the following elements:

2.1 TASK 1: LINE APPROXIMATELY 2,160 FEET OF THE RED MESA SUPPLY DITCH.

The LPWCD contracted Tony Meador for the Red Mesa Supply Ditch lining project. Work began on August 29, 2016. A total of 117 tons of bentonite and 50 tons of lime were purchased from H&H Environmental, Inc., and Colorado Lime Company, respectively, and delivered to the staging area from August 29 through September 3, 2016. Approximately 440 cubic yards of clayey soil were hauled from the borrow area adjacent to the Red Mesa Reservoir spillway.

Work was initiated by removing the overgrown vegetation in the ditch for approximately 2,160 feet and the ditch was re-shaped to work in the soil amendments. The clayey soils were incorporated into the upper 15 inches of the ditch with the bentonite and lime. The natural moisture will help bind and hydrate the bentonite to the lime and clayey soil to help reduce leakage in the ditch. The lime will help to reduce rodents from burrowing in and along the ditch which will also help to reduce seepage in the ditch.

The work for the Red Mesa Supply Ditch lining was completed on September 6, 2016. See attached photos in Appendix A.

2.2 TASK 2: LINE APPROXIMATELY 5,000 FEET OF THE JOSEPH FREED DITCH.

Tony Meador was also contracted for the Joseph Freed Ditch lining project. Work began on October 17, 2016. A total of 120 tons of bentonite and 60 tons of lime were purchased from H&H Environmental, Inc., and Colorado Lime Company, respectively and delivered to the staging area from October 6 through October 16, 2016.

Work was initiated by removing the excessive weeds and re-shaping the ditch along the identified sections. Existing soil was used to incorporate the bentonite and lime into the upper 15 inches of the ditch. The natural moisture will help bind and hydrate the bentonite to the lime and clayey soil, thereby helping to reduce leakage in the ditch. The lime will help to reduce rodents from burrowing in and along the ditch which will also help to reduce seepage in the ditch.

The work for the Joseph Freed Ditch lining was completed on October 28, 2016. See attached photos in Appendix B.

2.3 TASK 3: INSTALL AUTOMATION AND TELEMETRY CONTROLS AT THE RED MESA HEADGATE.

The LPWCD and SGM staff worked collaboratively with the USBR to upgrade the existing Red Mesa Supply Ditch headgate. Work began on December 15, 2016 by the LPWCD removing the stem nuts from both headgates and sending them to the USBR IT Specialist office in Provo, Utah to build the new gear. The parts list for the automation was provided by the USBR and was purchased by SGM staff during January and February 2017. The LPWCD dug a trench and laid conduit from the existing stilling well to the headgate at the beginning of March in preparation for the installation of automated headgates.

USBR IT staff traveled from Provo, Utah to install the customized headgates and telemetry equipment on March 13, 2017. It took approximately two days to complete the installation. USBR staff provided training to the LPWCD and Red Mesa Supply Ditch Rider for use of the software program and equipment. There are several parameters that can be easily changed by the operator including designating a set-time for opening and closing the gates. The gates can be adjusted for gate height or cubic feet per second by cell phone or computer.

The Red Mesa Supply Ditch headgate automation project was completed on March 15, 2017. See attached photos in Appendix C.

3.0 BUDGET

The proposed total budget for this project was estimated at $196, 899 (see Appendix D). The total actual costs for the work were $199,322 (see Table 1). The difference was due to an increase in the cost of the Red Mesa Supply Ditch automation project by $2,423 from the original bid in 2015.

Table 1. Final Budget for the Joseph Freed and Red Mesa Ditch Lining and Red Mesa Supply Ditch Headgate Automation Project

Item	Description	WSRF Funding	SWCD Funding	Matching Funds	Total Costs
Task 1	Line 5,000 feet of Joseph Freed Ditch including labor, materials, and equipment.	$ 33,577	$ -	$ 37,975	$ 71,552
Task 2	Line 2,160 feet of Red Mesa Supply Ditch including labor, material, and equipment.	$ -	$ 60,000	$ 38,347	$ 98,347
Task 3	Red Mesa headgate automation including labor, materials, and equipment.	$ 21,423	$ -	$ -	$ 21,423
Task 4	Project Management	$ -	$ -	$ 8,000	$ 8,000
Total Costs		**$ 55,000**	**$ 60,000**	**$ 84,322**	**$ 199,322**

Note:
Matching funds include $6,000 in-kind from BOR, $8,000 in-kind from LPWCD, and $70,322 in cash from LPWCD.

4.0 SUMMARY

The completed work is identified in the BIP on the list of IPPs: ID 15-LaP and ID 4-LaP. The ditch lining work will benefit individual irrigators and the state by increasing water conservation and water-use efficiency through a reduction of seepage losses. The work will complement the existing infrastructure to conserve water used for irrigation. The installation of the automated headgate at the Red Mesa Supply Ditch will provide more accurate measurements and account of water, as well as provide water savings and increased operational efficiency. Management of the LPR will improve by diverting and releasing diurnal fluctuations in the river flows. Compact deliveries to New Mexico will thereby be more uniform and predictable, as will deliveries to Colorado ditches.

The Joseph Freed Ditch will be used as an alternate conveyance to the BKT Reservoir which will not only assist with Compact deliveries but help to promote and support the native fish species (roundtail chub, bluemouth sucker, and flannelmouth sucker) in the LPR below Long

Hollow. The reduction of seepage loss from the lining work will increased water savings to help to ensure that the LPWCD and Colorado Parks and Wildlife maintain the required bypass flows downstream of the reservoir for these identified sensitive species.

The LPWCD performed transit loss measurements of the Joseph Freed Ditch on March 22, 2017 from the headgate to below the ditch lining work. The results were compared to 2016 measurements at the same points along the ditch. In 2016, there was a 14.5 percent loss per mile from the headgate to below the proposed work and in 2017 after lining there was a 7.1 percent loss per mile; an overall 49 percent per mile of water savings. See the results in Table 2 below.

Table 2. Transmission Loss Calculations – Joseph Freed Ditch

Date	Point A[1] (Headgate)	Point B[2] (T&S Pond)	Point C (T&K)	Reach A to B[3]				Reach B to C[4]				Reach A to C[5]			
				Total Reach Loss	Loss Per Mile	Total %	% per Mile	Total Reach Loss	Loss Per Mile	Total %	% per Mile	Total Reach Loss	Loss Per Mile	Total %	% per Mile
3/21/2016	8.68	7.36	6.23	1.32	1.0	15.2	11.3	1.1	1.9	15.4	25.8	2.45	1.3	28.23	14.5
3/22/2017	9.54	9.52	8.23	0.02	0.01	0.2	0.2	1.3	2.2	13.6	22.8	1.31	0.7	13.73	7.1
			Average	**0.67**	**0.5**	**7.7**	**5.7**	**1.2**	**2.0**	**14.5**	**24.3**	**1.9**	**1.0**	**21.0**	**10.8**

Notes:
cfs = cubic feet per second
Point A measurement taken approximately 60 ft south of flume.
Point B streamflow measurement taken approximately 25 ft up stream of gate to pond.
Point C measurement 30 ft upstream of gate.

Footnotes:
1) Staff gage measured in 2017: 7.53 cfs; 2 cfs difference from actual flow. In 2016: staff gage measured 7.15 cfs; 1.53 cfs difference from actual measurement of 8.68 cfs.
2) Gate to T&S Pond was closed but there was visible leaking under and around gate. The loss was estimated at 0.15 cfs and was added to Point C measurement.
3) Reach A to B distance = 7,139 feet (1.35 miles).
4) Reach B to C distance = 3,138 feet (0.59 miles).
5) Reach A to C distance = 10,277 feet (1.94 miles).

The savings will help to increase non-irrigation season deliveries to the BKT Reservoir thereby increasing irrigation exchange supplies and improving efficiency of Compact deliveries.

Figures

P:\ Project Files \ 002-06 LPWCD \ Mapping \ ArcMap_files \ 2016 \ HesperusToStateLine.mxd

35N 13W
35N 13W
35N 12W
35N 11W
34N 13WA
34N 12WA
34N 11WA
34N 12W
34N 13W
33N 13W
33N 12W
33N 11W
32N 13 1/2W
32N 13W
32N 12W

160
Hesperus
La Plata River at Hesperus
140
COUNTY 105 ROAD
COUNTY 120 ROAD
COUNTY 110 ROAD
COUNTY 113 ROAD
COUNTY 100 ROAD
COUNTY 109 ROAD
COUNTY 141 ROAD
COUNTY 136 ROAD
COUNTY 138 ROAD
Breen
Red Mesa Ward Reservoir
Red Mesa Ward Supply Ditch
Cherry Creek
Joseph Freed Ditch
Kline
La Plata River
Marvel
Long Hollow
Red Mesa
Bobby K Taylor Reservoir
La Plata River at CO NM State Line
Colorado
New Mexico

Map Sources:
Background - hillshade from USGS 10 DEM
Roads - CDOT
Rivers- CDOW/USGS
Towns and County - ESRI
Ditch - San Juan RC&D and CDSS
Gaging Station - CDSS

Map Legend
- Ditch Headgate
- Gaging Station
- Ditch
- County Road
- State Highway
- Proposed Lining Section
- River/Stream
- Reservoir
- County/State Boundary
- Township/Range

BIKIS Water Consultants
a division of SGM
555 RiverGate Lane, Suite B4-82
Durango, CO 81301
(970) 385-2340ph 385-2341fx
www.BikisWater.com

0 4,000 8,000 16,000 Feet

1 inch = 8,000 feet

Designed by: KCH
Checked by: EAB
Date: 5/20/2016
Scale: 1:96,000

La Plata Water Conservancy District
La Plata River Basin
Vicinity Map

Figure 1

Appendix A:
Red Mesa Supply Ditch Lining Project
Photos

Red Mesa Supply Ditch Lining Project
La Plata Water Conservancy District

Photo 1. Stockpile area near ditch.

Photo 2. Ditch before work began.

Photo 3. Removing vegetation in ditch.

Photo 4. Beginning to re-work the ditch soil.

Photo 5. Clayey soil hauled from borrow area.

Photo 6. Applying layers of bentonite.

Photo 7. Bentonite was worked into the soil approximately 15 inches deep.

Photo 8. The natural moisture will help bind and seal the bentonite to the lime and clayey soil to help reduce leakage in the ditch.

Photo 9. Lime being worked into the soil and bentonite.

Photo 10. The lime will help bind bentonite to soil and as well as help to reduce rodents from burrowing in and along the ditch.

Photo 11. Red Mesa Supply Ditch after completion of work.

Photo 12. Completed lining project by amending the soil with approximately 440 cubic yards of clayey soils, 110 tons of bentonite, and 25 tons of lime.

Appendix B:
Joseph Freed Ditch Lining Project
Photos

Joseph Freed Ditch Lining Project
La Plata Water Conservancy District

Photo 1. Bentonite being delivered on-site.

Photo 2. Bentonite and lime being staged along the 5,000-foot section to be lined.

Photo 3. All material was delivered in approximate 1-ton TOTE bags, making placement more efficient.

Photo 3. A section of the ditch that has been re-shaped prior to lining.

Photo 5. Re-shaping ditch by grading back some of the slopes to better retain the lining material.

Photo 6. Ditch after removal of excessive weeds and re-shaping work.

Photo 7. Material being spread over the work area.

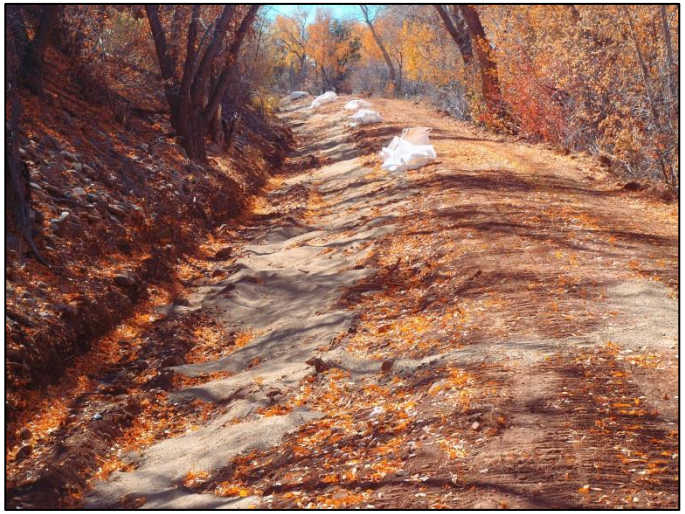

Photo 8. View of ditch after bentonite has been spread .

Photo 9. Completed ditch lining with soil amendments of bentonite and lime.

Photo 10. Soil amendments were incorporated into the upper 15 inches of existing soils to bind materials.

Appendix C
Red Mesa Supply Ditch Headgate
Automation Project Photos

Red Mesa Headgate Automation Project
La Plata Water Conservancy District

Photo 1. Digging the trench from the flume to the headgate.

Photo 2. Customized headgate and telemetry equipment.

Photo 3. Custom gear boxes.

Photo 4. USBR staff installing the final pieces of equipment for operation.

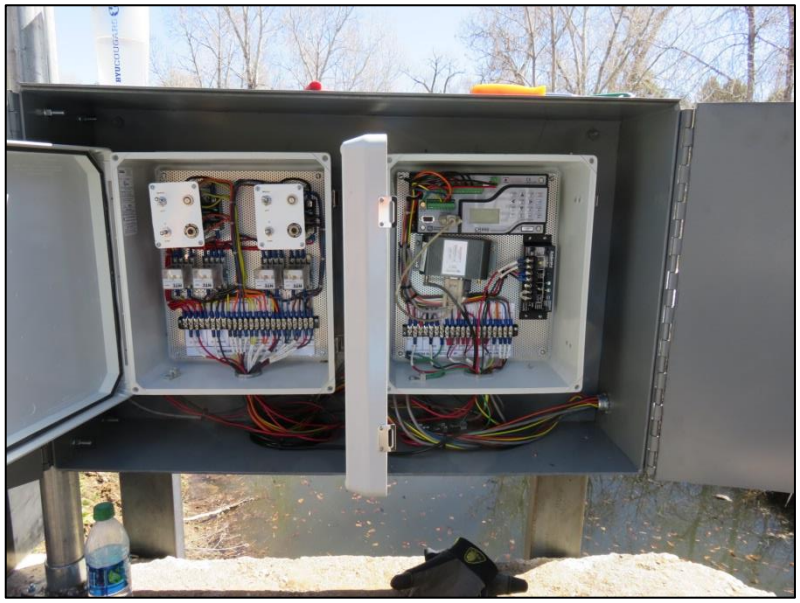

Photo 5. Automation controls that can be adjusted by cell phone or computer. The gates can be set for height or cubic feet per second.

Photo 6. Sensor housed at the flume.

Appendix D

CWCB Notice to Proceed Grant No. POGG12017-460

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street, Room 718
Denver, CO 80203

October 5, 2016

La Plata Water Conservancy District
P.O. Box 71
Marvel, CO 81329

Mr. Eric Bikis, Project Manger
555 River Gage Lane, Suite Br-82
Durango, CO 81301

RE: Official Notice to Proceed – WSRF Grant – **POGG1 2017-460 –**
Joseph Freed & Red Mesa Headgate and Ditch Improvement Project in the Southwest River Basin

Dear Eric,

This letter is to inform you that the purchase order to assist in the above WSRF grant project has been approved. The documents attached to the email serve as your original contracting documents.

With the executed purchase order you are now able to proceed with the project and invoice the State of Colorado for costs incurred through your expiration date. Please reference the project name, contract number, and basin when corresponding with or invoicing for your project. Upon receipt of your invoice(s), the State of Colorado will provide payment no later than 30 days after review and signed approval of the project manager.

If an extension to this project is necessary, a formal letter of request must be submitted to the project manager with a proposed completion date **30 days** prior to the current expiration date.

If you have any questions or concerns regarding the project, please contact Anna Mauss, Project Manager at 303-866-3441 x3224 or at anna.mauss@state.co.us. You can also contact me at 303-866-3441 ext. 3250 for invoicing and payment disbursement questions.

Thank you.

Sincerely,

Doriann Vigil
Program Assistant II
O 303-866-3441 ext. 3250
1313 Sherman Street, Rm. 719, Denver, CO 80203
Dori.vigil@state.co.us / cwcb.state.co.com

Attachments

STATE OF COLORADO
Department of Natural Resources

ORDER
Number: POGG1 PDAA 201700000460
Date: 09/29/16
Description:
PDAA 2500 WSRF LPWCD_JOESPH FREED 8 RED MESA IMPROVE PROJECT
Effective Date: 10/03/16 Expiration Date: 08/31/18

BUYER
Buyer:
Email:

VENDOR
LA PLATA WATER CONSERVANCY DIST
PO BOX 71
MARVEL, CO 81329

Contact: .
Phone: .

**** IMPORTANT ****
The order number and line number must appear on all invoices, packing slips, cartons and correspondence

BILL TO
COLORADO WATER BOARD CONSERVATION
1313 SHERMAN STREET, ROOM 718
DENVER, CO 80203

SHIP TO
COLORADO WATER BOARD CONSERVATION
1313 SHERMAN STREET, ROOM 718
DENVER, CO 80203

SHIPPING INSTRUCTIONS
Delivery/Install Date:
F.O.B: FOB Dest, Freight Allowed
VENDOR INSTRUCTIONS:

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	0.00	$55,000.00	☐

Description: PDAA 2500 WSRF LPWCD_JOESPH FREED 8 RED MESA IMPROVE PROJECT

Service From: 10/03/16 Service To: 08/31/18

TERMS AND CONDITIONS
https://www.colorado.gov/osc/purchase-order-terms-conditions

DOCUMENT TOTAL = $55,000.00

Exhibit A
Statement of Work

WATER ACTIVITY NAME: Joseph Freed and Red Mesa Ditch Lining Project and Red Mesa Supply Ditch Headgate Automation

GRANT RECIPIENT: La Plata Water Conservancy District

FUNDING SOURCE: Basin Water Supply Reserve Account

INTRODUCTION AND BACKGROUND

The 1922 La Plata River Compact, approved by Congress in 1925, requires the State of Colorado to deliver one-half of the daily mean flow of the La Plata River measured at the Hesperus stream gage to the La Plata River State Line gage the following day from February 15th to December 1st (Compact period), not to exceed 100 cubic feet per second. Each state has an unrestricted right of use to La Plata River water between December 1st and February 15th. Historically, Colorado has not always been able to satisfy the Compact due to a variety of factors, including low stream flows, surface flow loss to groundwater, evapotranspiration and increasing water demands. Moreover, attempting to deliver water to meet the Compact from Hesperus results in significant delivery losses to the system.

In order to help meet Compact requirements and limit delivery losses, the LPWCD has completed the construction of the Bobby K. Taylor (BKT) Reservoir to provide a more efficient delivery mechanism. This efficiency will allow Colorado water users to divert water that would otherwise be curtailed by Compact delivery obligations. To increase water efficiency and water conservation in the La Plata River Basin, improvements to the delivery systems and infrastructure updates are essential. Several of the ditches in the La Plata River Basin are old, open ditches and experience significant losses due to seepage.

The proposed work is on the list of identified projects and processes (IPP) for the La Plata River (LPR) Basin, outlined in the Southwest Basin Roundtable Basin Implementation Plan (BIP), dated 04/17/2015. These IPPs include:

- ID 15-LaP. Includes LPR ditch lining projects that would increase efficiency of Compact deliveries.

- ID 4-LaP. Includes work that will complement existing infrastructures to conserve water used for irrigation and domestic augmentation. See Figure 1.

Ditch Lining to Reduce Seepage (ID 15-LaP)

The Joseph Freed and Red Mesa Supply Ditches are two ditches within the La Plata River Basin. These earthen ditches have been estimated to lose as much as 40 percent of conveyed water due to seepage through the cobble and gravel soils. The LPWCD proposes lining one section in each of these ditches where seepage losses are several. The ditches will be lined with soil amendments (bentonite and lime) that will be mixed with the existing clay soils on the ditch bottom and sides. Additional soil will need to be imported for the Red Mesa Supply Ditch. Bentonite is commonly used during construction of wells to seal casing and is a cost effective solution to lining ditches to reduce seepage. This work will benefit individual irrigators and the state by increasing water conservation and water-use efficiency. The Joseph Freed Ditch work will increase non-irrigation season deliveries to the BKT Reservoir thereby increasing irrigation exchange

supplies and improving efficiency of Compact deliveries. Increasing flows to BKT Reservoir will, in turn, improve water availability for the required bypass flows below the reservoir for the support of the native fish species (roundtail chub, bluemouth sucker, and flannelmouth sucker).

Automate Supply Ditch Headgate (ID 4-LaP)
This task will upgrade the existing Red Mesa Supply Ditch headgate by installing automation and telemetry equipment. Management of the LPR will improve by diverting and releasing diurnal fluctuations in the river flows. Compact deliveries to New Mexico will thereby be more uniform and predictable, as will deliveries to Colorado ditches. Automated headgates provide more accurate measurements and accounting of water, as well as providing water savings and increased operational efficiency.

OBJECTIVES

It is expected that the proposed work will:

1) Increase efficiency of water delivery.
2) Conserve water.
3) Help to support native fish species.
4) Help to administer Compact compliance.

TASKS

Task 1: Line approximately 5,000 feet of the Joseph Freed Ditch**. (This is the only WSRF funded task of this project)**

Description:

- Use soil amendments of bentonite, lime, and clay to line 5,000 feet of the Joseph
- Freed Ditch, which will be used to provide inflow and recharge to the BKT Reservoir.

Method:

- LPWCD contractor will use a dozer, backhoe, and excavator to grade and shape area of ditch that will be lined.
- The heavy equipment will be used to loosen the soils to incorporate a ratio of two to one of bentonite and lime.

Deliverables:

- Complete 5,000 feet of ditch lining. : 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.

Task 2: Line approximately 2,160 feet of the Red Mesa Supply Ditch.

Description:

- Line 2,160 feet of the Red Mesa Supply Ditch with soil amendments of bentonite, lime, and clay.

Method:

- Provide and haul approximately 200 truckloads clayey material to site.
- LPWCD contractor will use a dozer, backhoe, and excavator to grade and shape area of ditch that will be lined.
- The heavy equipment will be used to loosen the soils to incorporate a ratio of two to one of bentonite and lime.

Deliverables:

- Complete 2,160 feet of ditch lining.

Task 3: Install automation and telemetry controls at the Red Mesa headgate.

Description:

- Work collaboratively with the U.S. Bureau of Reclamation (USBR) to upgrade the existing Red Mesa Supply Ditch headgate by installing telemetric and automated equipment. The USBR has already contributed an unspecified amount of in-kind services (time) to research this task and specify materials.

Method:

- Existing gate will be removed by the LPWCD and sent to machinist in Salt Lake City to fit for new gear.
- LPWCD contractor will install transmission line between diversion and flume stilling well.
- USBR will install automation system and telemetry controls.

Deliverables:

- Complete automation of headgate.

BUDGET

The proposed ditch lining projects will be completed by an LPWCD contractor. The LPWCD Project Manager will oversee the work. The USBR will install Red Mesa headgate automation and telemetry system. In-kind contributions include the LPWCD and USBR. Qualifications of key personnel are available upon request.

Table 1. Total Costs

Task	Materials & Labor Cost (2)	Total Costs	In-Kind
1. Line 5,000 feet of Joseph Freed Ditch	$71,552	$71,552	-
2. Line 2,160 feet of Red Mesa Supply Ditch	$68,347	$68,347	
3. Mobilize and haul clayey	$30,000	$30,000	
4. Red Mesa headgate automation	$19,000	$19,000	-
5. Project Management	-	$8,000	-
Total Costs		$196,899	-
Basin Grant		$ 55,000	-
SWCD Grant		$ 60,000	-
Bureau of Reclamation		-	$6,000
LPWCD		$ 81,899	$8,000
LPWCD Matching Funds		-	$14,000

In-Kind contributions consist of time from LPWCD and BOR. These contributions are not quantified or counted as matching funds.

Joseph Freed & Red Mesa Headgate and Ditch Improvement Project

Budget Table 1b

Item	Description	WSRF Funding	SWCD Funding	Matching Funds	Total Costs
Task 1	Line 5,000 feet of Joseph Freed Ditch including labor, materials, and equipment.	$55,000	$-	$16,552	$71,552 (1)
Task 2	Line 2,160 feet of Red Mesa SupplyDitch including labor, material, and equipment.	$-	$60,000	$37,347	$98,347
Task 3	Red Mesa headgate automation including labor, materials,	$-	$-	$19,000	$19,000
	Project Management	$-	$-	$23,000	$8,000
Total		$55,000	$60,000	$95,899	$196,899

Note:

(1) Contractor costs are lump sum for mobilization, materials and labor for $71,552, $68,347 of lining, $30,000 for clayey soils, and $19,000 for materials and labor for automation and telemetry equipment.

Schedule

Task	Start Date	Finish Date
Line 5,000 feet Joseph Freed Ditch	Upon NTP	June 30, 2017
Line 2,162 feet Red Mesa Supply Ditch	Upon NTP	June 30, 2017
Install automation and telemetry equipment Red Mesa Supply Ditch headgate	Upon NTP	NTP + 6 months
Project management and documentation	Upon NTP	June 30, 2018
Total Project	NTP	AUGUST 31, 2018

NTP= Notice to Proceed

Appendix E
SWCD Financial Assistance and Document of Understanding

THE SOUTHWESTERN WATER CONSERVATION DISTRICT
Developing and Conserving the Waters of the
SAN JUAN AND DOLORES RIVERS AND THEIR TRIBUTARIES
IN SOUTHWESTERN COLORADO
West Building – 841 East Second Avenue
DURANGO, COLORADO 81301
(970) 247-1302

June 15, 2016

Eric Bikis
SGM – Bikis Water Consultants
La Plata Water Conservancy District
555 RiverGate Lane, Suite B4-82
Durango, CO 81301

Re: Freed and Red Mesa Ditch Linings, Red Mesa Headgate Automation Grant Request

Dear Mr. Bikis:

Thank you for the application for financial assistance, as well as your presentation to the Southwestern Water Conservation District Board of Directors at their June 7 meeting.

After discussing the merits of the application, the Board voted to approve the grant in the requested amount of $60,000, subject to annual appropriations. Enclosed with this letter is a *Document of Understanding* that outlines the conditions of the grant. Please review, sign, and return it at your earliest convenience.

We ask that La Plata Water Conservancy District request the funds when the money is needed in 2016-17. There is a *Request for Release of Funds* form enclosed that also needs to be signed and sent to our office (or lauras@swwcd.org).

If you have any questions, please contact the District office at (970) 247-1302.

Best Regards,

Bruce Whitehead
Executive Director

THE SOUTHWESTERN WATER CONSERVATION DISTRICT

Developing and Conserving the Waters of the
SAN JUAN AND DOLORES RIVERS AND THEIR TRIBUTARIES
IN SOUTHWESTERN COLORADO

Financial Assistance
Document of Understanding

Name: Brice Lee

Organization: La Plata Water Conservancy District

The following conditions apply to your request for financial assistance:

1) The grant funds will be used only for the purposes described in the application.

2) A final written report, including a description of work completed and a detailed accounting of the use of funds, will be due to Southwestern Water Conservation District within three (3) months of the final expenditure or by December 31, 2017, whichever occurs first.

3) La Plata Water Conservancy District will request funding when it is needed in 2016-17. Upon the District's receipt of the *Request for Release of Funds* form, the grant will be made available, subject to annual appropriations.

My signature indicates that I understand and agree to the conditions as outlined above.

_____ _____

Signature **Date**

If you have updated contact information, please include it below. Otherwise, you may leave this portion of the form blank.

Address _____
City, State, Zip Code _____
Phone _____
Fax _____
Email _____

THE SOUTHWESTERN WATER CONSERVATION DISTRICT

Developing and Conserving the Waters of the
SAN JUAN AND DOLORES RIVERS AND THEIR TRIBUTARIES
IN SOUTHWESTERN COLORADO

Financial Assistance
Request for Release of Funds

Date _____

Organization _____

Contact Person _____

I, the undersigned, do hereby request the release of funds in the amount of $_____.

By signing this document, I assure Southwestern Water Conservation District that the funds are needed at this time and will only be used for the specific purpose and amount indicated in my application.

I understand that if the intended use of grant funds changes, board approval will be necessary. I also understand that the District may require additional documentation regarding the use of the funds at its discretion.

I acknowledge the District's requirement for a final written report, including a description of work completed and a detailed accounting of the use of funds.

_____
Printed Name

_____ _____
Signature Date

Please mail this request to SWCD, 841 E. 2nd Ave., Durango, CO 81301 or e-mail lauras@swwcd.org.

SWCD Use Only:
Date Received _____
Check # _____
Approved _____
Acct Number_____

BIKIS
Water Consultants
a division of SGM

www.BikisWater.com