COLORADO
Colorado Water Conservation Board
Department of Natural Resources
1313 Sherman Street, Room 718
Denver, CO 80203

August 18, 2017

Leon Lake Ditch & Reservoir Company
Attn: Gerald Figueroa, President
P.O. Box 399
Cedaredge, CO 81413

RE: Notice to Proceed – WSRF Grant – POGG1 2018-243 Leon Lake Reservoir/Groin Seep Hole Repair Project

Dear Gerald,

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

With the executed agreement, you are now able to proceed with the project and invoice the State of Colorado for costs incurred through December 31, 2018. Please provide the project name, POGG1 number, and basin when corresponding with or invoicing for your project along with back-up documentation of cost incurred for the WSRF portion of the grant according to the original scope of work. 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.

Please refer to the current WSRF Criteria & Guidelines on our website for the six month progress report and final deliverable requirements in order to avoid a delay in payment. A 60-day advance notice is required in the event you are seeking an additional amendment to the term of this agreement. An official letter of request to the CWCB project manager briefly describing the need for the extension, updated insurance certificates (if applicable) and an updated schedule reflecting the specific tasks that require additional time to complete is required.

If you have any questions or concerns regarding the project, please contact Craig Godbout, Project Manager at 303-866-3441 3210 or at Craig.Godbout@state.co.us. Please send the 6 month progress reports and invoices directly to Craig and cc me at Dori.vigil@state.co.us.

You can contact me at 303-866-3441 ext. 3250 for additional invoicing and payment disbursement questions.

Thank you.

Sincerely,

//s//

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

STATE OF COLORADO
Department of Natural Resources

ORDER
Number: POGG1 PDAA 201800000246
Date: 08/17/17
Description:
PDAA WSRF Leon Lake Reserv/
DamGroinSeepHoleRepair in Gunn
Effective Date: 08/18/17 Expiration Date: 12/31/18

BUYER
Buyer:
Email:

VENDOR
LEON LAKE DITCH AND RESERVOIR COMPANY
PO BOX 399
CEDAREDGE, CO 81413

Contact: GERALD L FIGUEROA
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	$41,000.00	☐

Description: PDAA WSRF Leon Lake Reserv/DamGroinSeepHoleRepair in Gunn

Service From: 08/18/17 Service To: 12/31/17

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

DOCUMENT TOTAL = $41,000.00

Exhibit A

Statement of Work

Date: April 4, 2017

WATER ACTIVITY NAME: Leon Lake Dam Abutment/Groin Seepage Repair

GRANT RECIPIENT: Leon Lake Ditch & Reservoir Company

FUNDING SOURCE: CWCB Water Supply Reserve Account

INTRODUCTION AND BACKGROUND:

Results of DWR's 2016 Annual 'High Hazard Class' Dam Safety Inspection (Exhibit C1) imposed a fill restriction (Exhibit C2) on Leon Lake Reservoir due to the development of a left dam abutment/groin seepage entry point at the 14' water elevation level and pairing increased seepage flow from dam downstream monitoring points. The entry point is adjacent to a previous 2009 abutment seepage repair (membrane patch) and near the left dam groin. For several decades, Leon Lake Dam left abutment seepages have been monitored and considered as acceptable (within limits) by DWR Dam Safety Engineers. Three seepage monitoring points have been used to record seepage. Geological composition of the abutment – mainly that of volcanic rocks/tuft and soil – was regarded as causal to seepages, without material piping and therefore acceptable. However, in 2009, downstream monitoring revealed significant increases in seepage, along with discovery of an abutment entry point located well away from the dam structure. Seepages were clear, without material piping. The entry point was at the 13' – 15' water level of the reservoir. An engineer designed and DWR approved liner patch repair was conducted with successful seepage elimination. Within the past two years' seepage records showed a significant downstream seep increase concurrent with this past 2016's season discovery of a new seep entry point adjacent to the seam of the previous patch repair. Resource Engineering (RE), Glenwood Springs, CO, involved with the previous patching, was contracted for a repair design of this new seep. RE inspected the abutment area for the entry point and seepage, and produced a repair design in September 27, 2016 (Exhibit D1). That design was subsequently approved by DWR, Chief, Dam Safety Branch, 'Approval of Emergency Repair' (Exhibit D2). Leon Lake Reservoir's fill restriction is not to exceed 13' water elevation level – effecting a ~50% storage reduction.

OBJECTIVES:

Reduce Leon Lake's water level to zero elevation by August 1st to allow drying and use of lake bed material for repair of the abutment/groin seepage. Expect construction/repair to begin mid-late August. As the repair includes injecting a foam type grout into the seep entry point, installing an impermeable membrane liner as barriers between lake water and abutment structure it is expected that seeps will be abated. Once the repairs are completed and engineering as-builts are submitted to

CO DWR, Chief, Dam Safety Branch, it is expected that Leon Lake Reservoir's fill restriction will be removed. When the fill restriction is removed, Leon Lake Reservoir will be able to store its full decree and integrity of this High Hazard class Dam Safety will be also be assured. Hence, full multi-use storage decree will be available to Company's shareholders – further safeguarding Colorado's water rights.

It is worthy to note that due to the remoteness of Leon Lake Reservoir's location and short high altitude weather window of opportunity it is critical that this repair activity be conducted during the months of August, September, and October. As this is an emergency and time critical repair, it will be necessary that it be accomplished prior to the normally scheduled funding approval time-line. LLDRC requests, if possible, consideration be given that will allow this repair to be accomplished without jeopardy to funding approval.

TASKS:

Task 1 – Mobilization

Description of Task: Notify appropriate agencies (DWR, USFS, Engineers, etc.) of inclusive repair dates. Stage equipment and materials at repair site.
Method/Procedure: Initiate formal (phone & written) communication with all concerned at appropriate intervals (90/60/30 days) prior to work. Mid. August position equipment to Leon Lake, and begin accumulating and staging suitable lake bed soil material near repair area. Over excavate 20'x30' repair area to ~3' below grade.
Deliverables: Engineering as-built reports (incl. photos/drawings) by RE and Div. 5 Dam Safety.

Task 2 – Site Preparation/excavation.

Description of Task: Accumulate repair soil material and excavate repair area.
Method/Procedure: Excavate and stage suitable lake bed sol material near repair area. Over excavate 20'x30' repair area to ~3' below grade.
Deliverables: Engineering as-built report (incl. photos/drawings) by RE and Div. 5 Dam Safety.

Task 3 – Dam Groin Plugging.
Description of Task: Seep entry point grouting.
Method/Procedure: Apply 3 step grout application via pipe/funnel pouring into seep entry point(s). Each step is done through successive increases mixture (viscosity) ratios of water and foam grout compound to best penetrate and fill void(s). Specified time for absorption and curing between each step will be in accordance with manufacturer's directions.
Deliverable: Engineer and Dam Safety Inspector as-built reports.

Task 4 – Under-bedding.

Description of Task: Placement/compaction of under-bedding soil into 20'x30' excavated area.
Method/Procedure:

1) Placement of ~2' deep native soil material in 8-inch compacted lifts. Each lift to be tested by qualified/licensed geotechnical engineer to 95% per ASTM D698 specifications.

2) After third lift is compacted & tested, smooth surface for placement of liner system.

3) Excavate an 18"wide by 12" deep liner anchor trench around the perimeter of the repair area for keying of liners into trench as a cut off system.

Deliverable: Engineer and DWR Dam Safety Inspector as-built reports.

Task 5 - Liner System Installation.

Description of Task: Placement of non-woven filter fabric underneath 45 mil EPDM Pondgard Liner.
Method/Procedure: Place 8 oz. non-woven filter fabric onto smoothed/compacted under-bedding. Install Pondgard liner on top of filter fabric, ensuring perimeters are keyed into anchor trench to form a cut off system.
Deliverables: Engineer and DWR Dam Safety Inspector as-built reports.

Task 6 – Backfilling.

Description of Task: Backfill, compact, and Geotechnical Test.
Method/Procedure: Backfill over liner system with 12" minimum native soil in two compacted lifts. Initial backfill to be 8" thick and Geotechnical tested to 95% per ASTMD 698 specs.
Deliverables: Engineer an DWR Dam Safety Inspector as-built reports.

Task 7 – Final Grading and Riprap.

Description of Task: Final grading and riprap.
Method/Procedure: Perform final machine grading to a smooth surface. Replace erosion control riprap rock.
Deliverable: Final Engineer and DWR Dam Safety as-built reports, including photos & drawings.

Task 8 – Area clean up and demobilization.

Description of Task: Removal of construction residuals and equipment.
Method/Procedure: Remove all construction residuals, waste and imported materials. Machine fill/smooth burrows/ruts and traces of equipment mobilization. Remove/stage all equipment, materials and supplies from Leon Lake Reservoir site.
Deliverables: Final Engineer and DWR Dam Safety as-built reports, including photos & drawings.

Task 9 – Engineering and Geotechnical Services

Description of Task: Develop In-process as-built reports and Geotech soil testing.
Method/Procedure: Monitor all phases of repair, including soil analysis, placement, and compact testing. Prepare step-by-step as-built narratives, detailed drawings and pictures of on-site engineer's monitoring and quality assurance.
Deliverables: Final engineer and Geotechnical testing as-built reports, including photos & drawings.

REPORTING AND FINAL DELIVEABLE

Reporting: Leon Lake D & R Co. will provide CWCB a progress and final report beginning from the date of the executed contract and upon project completion which-ever occurs first. As the project is not expected to extend over an 8-week period, it is anticipated that a final report will be the only report necessary. If a mid-period progress report is submitted, it will describe the completion and/or partial completion of the tasks identified in the statement of work including a description of any major issues that occurred and corrective action taken to address these issues.

Final Deliverable: At completion of the project, the Leon Lake D & R Co. shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report will contain photographs, summaries of meetings, engineering reports/designs and DWR's Dam Safety Inspection Reports (Including fill restriction status). A DWR Dam Safety report of a satisfactory repair and release of Leon Lake Reservoir's fill restriction is also anticipated.

BUDGET & SCHEDULE

TASK	Start Date/End Date:	Cost	WSRF Funding	LLDRC Funding
1. Mobilization/Demobilization	Aug 18, 2017/Dec 31, 2017	$33,500	$20,000	$13,500
2. Site preparation & excavation	Aug 18, 2017/Dec 31, 2017	$2,000	$2,000	$0
3. Grouting	Aug 18, 2017/Dec 31, 2017	$4,800	$4,800	$0
4. Site Under-bedding	Aug 18, 2017/Dec 31, 2017	$3,500	$3,500	$0
5. Install Liners	Aug 18, 2017/Dec 31, 2017	$8,500	$8,500	$0
6. Backfilling	Aug 18, 2017/Dec 31, 2017	$8,500	$2,200	$6,300
7. Final Grading & Riprap	Aug 18, 2017/Dec 31, 2017	$4,000	$0	$4,000
8. Engineering (Inspection & As-builts)	Aug 18, 2017/Dec 31, 2017	$5,240	$0	$5,240
9. Geotechnical Services	Aug 18, 2017/Dec 31, 2017	$4,500	$0	$4,500
Subtotal		$74,540	$41,000	$33,540
10. 10% Engineering & Construction contingencies	Aug 18, 2017/Dec 31, 2017	$7,450	$0	$7,450
Total		$81,990	$41,000	$40,990

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 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.

Google Maps Leon Lake

Exhibit B-1

Exhibit B &

Google Earth

miles 10
km 20

Exhibit B-3

Google Earth

miles
km

Marcott Creek

1

1 to Surface Creek