



**PURCHASE ORDER GRANTS GIVEN**  
**STATE OF COLORADO**  
Department of Natural Resources

Page 1 of 1

<b>ORDER</b>		<b>** IMPORTANT **</b>	
Number: POGG1 PDAA 20150000000000000130		The order number and line number must appear on all invoices, packing slips, cartons and correspondence	
Date: 08/13/14			
Description: inundation mapping for 3 dams Bergin Dit sev tax grant		<b>BILL TO</b>	
<b>BUYER</b>		COLORADO WATER BOARD CONSERVATION	
Buyer: Steven Shull		1313 SHERMAN STREET, ROOM 718	
Email: steven.shull@state.co.us		DENVER, CO 80203	
<b>VENDOR</b>		<b>SHIP TO</b>	
BERGEN DITCH & RESERVOIR COMPANY		COLORADO WATER BOARD CONSERVATION	
9329 LARK SPARROW TRL		1313 SHERMAN STREET, ROOM 718	
HIGHLANDS RANCH, CO 80126-5230		DENVER, CO 80203	
Contact: .		<b>SHIPPING INSTRUCTIONS</b>	
Phone: .		Delivery/Install Date:	
		F.O.B:	
		<b>VENDOR INSTRUCTIONS:</b>	

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	\$0.00	\$14,000.00	<input type="checkbox"/>
Description: inundation mapping for 3 dams Bergin Dit sev tax grant						
Start Date: 08/12/14                      End Date: 06/15/15						
<b>TERMS AND CONDITIONS</b>						
<a href="https://www.colorado.gov/osc/purchase-order-terms-conditions">https://www.colorado.gov/osc/purchase-order-terms-conditions</a>						

**DOCUMENT TOTAL = \$14,000.00**

July 29, 2014

Project: Inundation Mapping for the Bergin Ditch and Reservoir Company

Vendor: Bergin Ditch and Reservoir Company  
Mr. Robert Easton  
9329 Lark Sparrow Trail  
Highlands Ranch, CO 80126

Consultant: W.W. Wheeler & Associates, Inc.  
Mr. John Treacy, P.E.  
3700 S. Inca Street  
Englewood, CO 80110-3405  
Phone: (303) 761-4130

CWCB funding source: Severance Tax Operational Account

#### SCOPE OF WORK

W.W. Wheeler, Inc. (Consultant), at the direction of the Bergin Ditch and Reservoir Company (Vendor), will perform a dam breach modeling study and flood inundation mapping for three dams within the Vendor's system. The three dams to be modeled are the Bergin Dam No. 1, Bergin Dam No. 2, and Polly Deane Dam, all located in Jefferson County in the South Platte River Basin. Bergin Dams Nos. 1 and 2 are off-stream reservoirs located at Weaver Gulch and are tributary to Bear Creek. Polly Deane Dam is an off-stream reservoir located at Lilley Gulch and is tributary to Dutch Creek.

Consultant or Vendor will submit the final report and mapping to the Colorado Division of Water Resources, Dam Safety Branch, for approval. Grant funds will not be disbursed until the project has been approved by the Dam Safety Branch.

#### PROPOSED METHODOLOGY

The Consultant shall perform a clear dam breach analyses in accordance with the State of Colorado Rules and Regulations for Dam Safety and Dam Construction (1/1/2007), and the Dam Safety Guidelines for Dam Breach Analysis (2/10/2010). Correspondence shall be with Ryan Schoolmeesters, P.E., of the Colorado Division of Water Resources, Dam Safety Branch, to present preliminary dam breach parameters, water surface profile modeling, and inundation mapping and to determine if field measurements are necessary for critical bridges.

Inundation mapping for High Hazard dams shall show the calculated extents of the dam breach flood wave. Include cross sections at critical locations showing lateral and vertical flood extents, flood wave velocity, and flood wave arrival time. Inundation mapping shall be extended downstream to a location where no potential for loss of life and/or no significant property damage exist.

Inundation mapping for Significant Hazard dams shall show the route of the dam breach flood wave, the estimated time of arrival of the flood wave at critical sections and the estimated lateral extent of inundation. The inundation mapping shall be extended downstream to a location where no significant property damage exists. The inundation mapping requirements for Significant Hazard dams may be modified for good cause, with the approval of the State Engineer.

#### DELIVERABLES

For each reservoir, the Vendor shall provide the CWCB electronic copies of the following: a final report for the inundation mapping analysis stamped by a licensed Colorado professional engineer; digital files of the inundation limits, maps and supporting spreadsheets; and hydraulic/hydrologic models.

Additionally the Vendor shall provide a copy of the project's Colorado Division of Water Resources, Dam Safety Branch, approval letter.

#### SCHEDULE

Work may initiate on the date of the State's Purchase Order. Deliverables are due no later than June 15, 2015.

#### BUDGET

The Consultant will complete the work described for a not-to-exceed budget of \$27,400 as shown below. The Consultant shall invoice Vendor on a Time and Materials basis for services performed. See attached Cost Estimate for a detailed cost projection.

Task	Budget
Bergen Dam Nos. 1 & 2 Report and Inundation Maps	\$17,400
Polly Dean Dam Report and Inundation Map	\$10,000
TOTAL	\$27,400

#### PAYMENT

The State shall pay Vendor up to \$14,000 (51% of Project Cost) for Consultant's project related invoices following receipt of final deliverables. The Vendor is responsible for all expenses in excess of the State's contribution. Any overages or increases in project costs shall be the responsibility of the Vendor.

##### Estimated Project Cost Sharing:

Owner Match	\$ 13,400
CWCB Grant	<u>\$ 14,000</u>
TOTAL	\$ 27,400

CWCB shall issue payment following receipt and processing of Vendor's Request for Payment submittal. The Request for Payment must include: a summary of Consultant's labor effort and direct costs in accordance with the attached estimate, copies of corresponding invoices from Consultant, and identification of any major issues with proposed or implemented corrective actions. The Deliverable, including the Dam Safety Branch's approval letter, must be provided to the CWCB as part of project documentation prior to CWCB issue of payment.