Water Supply Reserve Fund
Water Activity Summary Sheet
September 19, 2018
Agenda Item 12(k)

Applicant & Grantee:	Kendall Reservoir Company
Water Activity Name:	Investigations & Engineering Design of Kendall Reservoir Rehabilitation Improvements
Water Activity Purpose:	Environmental, Recreational, and Agricultural Study
Counties:	Mesa
Drainage Basin:	Colorado
Water Source:	Kenny Creek
Amount Requested:	$18,900 Colorado Basin Account
Matching Funds:	Applicant Match (cash & in-kind) = $10,500 • 55.5% of the basin request (meets 25% min) • 35.7% of the total project cost of $29,400

Staff Recommendation:
Staff recommends approval of up to $18,900 from the Colorado Basin Account to fund the project titled: Investigations & Engineering Design of Kendall Reservoir Rehabilitation Improvements.

Water Activity Summary: WSRF grant funds, if approved, will assist Kendall Reservoir Company pursue field and engineering services to develop construction drawings and specifications to rehabilitate the Kendall Reservoir dam and reservoir. The State Engineer's Office conducted an inspection of Kendall Dam in June 2016 and identified recommendations for improving the condition and safety of the structure and extending the useful life of the dam. Conditions observed during the inspection resulted in an overall rating of "unsatisfactory" with the existing storage level of zero storage. The zero storage restriction has since been removed (due to a change in the dam's classification from a jurisdictional dam to a non-jurisdictional dam) however rehabilitation of the reservoir still need to occur to support the agricultural and recreational uses.

Kendall Reservoir (also referred to as Kenney Creek Reservoir) is located on the Grand Mesa in Mesa County Colorado, just south of Vega Reservoir. The reservoir stores approximately 87 acre-feet (AF) of water used primarily for mid-summer application of water to about 250 acres of alfalfa, meadow hay and pasture. This reservoir also supports the US Forest Services' recreational uses. The water rights associated with Kendall Reservoir are owned by both private interests and the US Forest Service. The private water rights owners are the applicants for this grant and hold the easements for reservoir access with the US Forest Service. The Reservoir Company and US Forest Service have a good working relationship and coordinate regularly to maintain access to and condition of the reservoir.

Discussion: As described in the Colorado Basin Roundtable (CBRT) chair's recommendation letter, this project was supported and recommended for approval on July 23, 2018. The reservoir offers agricultural and recreational benefits, both which comport with tenants of the Colorado Roundtable Basin Implementation Plan. The State Engineers Office at one time placed a storage restriction on the dam, which was later modified to allow storage. Nevertheless, the work specified by the State Engineers Office needs to occur, beginning with engineering work supported by the CBRT. The original request for $37,800 was halved by the CBRT to $18,900 as an economy move with limited WSRF basin account funds.

Issues/Additional Needs: No additional needs have been identified.

Eligibility Requirements: The application meets requirements of all eligibility components.

Evaluation Criteria: Staff has determined this activity satisfies the Evaluation Criteria.

Funding Summary / Matching Funds:

Funding Source	**Cash**	**In-Kind**	**Total**
USFS	$0	$8,200	$8,200
Kendall Reservoir Company	$0	$2,300	$2,300
WSRF Colorado Basin Account	$18,900	n/a	$18,900
Totals	**$18,900**	**$10,500**	**$29,400**

CWCB Project Manager: Megan Holcomb

THE COLORADO BASIN ROUNDTABLE
C/O P.O. BOX 1120
GLENWOOD SPRINGS, COLORADO 81602

July 27, 2018

Colorado Water Conservation Board
WSRF Grants
1313 Sherman Street
Denver CO
(303) 866-3441
megan.holcomb@state.co.us

Dear Staff:

The Colorado Basin Roundtable voted unanimously at its July 23, 2018 meeting to approve an $18,900 Water Supply Reserve Fund Basin Fund allocation to the Kendall Reservoir Co. to support engineering work required to make necessary repairs to the 87 acre-foot reservoir on the Grand Mesa.

The reservoir offers agricultural and recreational benefits, both which comport with tenants of the CBRT Basin Implementation Plan.

The State Engineers Office at one time placed a storage restriction on the dam, which was later modified to allow storage. Nevertheless, the work specified by the SEO needs to occur, beginning with engineering work supported by the CBRT. (Note: the original request for $37,800 was halved by the CBFT to $18,900 as an economy move with limited WSRF).

Sincerely yours,

Jim Pokrandt
Chair, Colorado Basin Roundtable

Last Update: January 9, 2018 (d.vigil)

Colorado Water Conservation Board	
Water Supply Reserve Fund	
Exhibit A - Statement of Work	
Date: (include all edit date)	**5/14/18, 7/30/18**
Water Activity Name:	**Investigations & Engineering Design of Kendall Reservoir Rehabilitation Improvements**
Grant Recipient:	Kendall Reservoir Company
Funding Source:	Colorado Basin Roundtable

Water Activity Overview: (Please provide brief description of the proposed water activity (no more than 200 words). Include a description of the overall water activity and specifically what the WSRF funding will be used for.

Kendall Reservoir (also referred to as Kenney Creek Reservoir) is located on the Grand Mesa in Mesa County Colorado, just south of Vega Reservoir. The reservoir stores approximately 87 acre-feet (AF) of water used primarily for mid-summer application of water to about 250 acres of alfalfa, meadow hay and pasture. This reservoir also supports the US Forest Services' recreational uses.

The water rights associated with Kendall Reservoir are owned by both private interests and the US Forest Service. The private water rights owners are the applicants for this grant and hold the easements for reservoir access with the US Forest Service. The Reservoir Company and US Forest Service have a good working relationship and coordinate regularly to maintain access to and condition of the reservoir.

The State Engineer's Office conducted an inspection of Kendall Dam in June 2016 and identified recommendations for improving the condition and safety of the structure and extending the useful life of the dam (see attached report). Conditions observed during the inspection resulted in an overall rating of "unsatisfactory" with the existing storage level of zero storage. The zero storage restriction has since been removed (due to a change in the dam's classification from a jurisdictional dam to a non-jurisdictional dam) however rehabilitation of the reservoir still need to occur to support the agricultural and recreational uses.

The WSRF request will include field survey, investigation and testing, planning and engineering design services to develop construction drawings and specifications for construction of the identified dam rehabilitation by the SEO.

Objectives: (List the objectives of the project)

Retain field and engineering services to develop construction drawings and specifications to rehabilitate the Kendall Reservoir dam and reservoir.

Tasks

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

Last Update: January 9, 2018 (d.vigil)

Task 1 - Conduct Field Investigations
Description of Task:
1. Conduct field survey to support the engineering design 2. Conduct geotechnical survey and soils analysis
Method/Procedure:
1. Retain field services to investigate the outlet pipe, develop site survey data and topography, and geotechnical surveys and soils analysis to support the engineering designs.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Site-specific data that will inform the detailed engineering designs for the necessary reservoir rehabilitation. 1. Test fill results, updated leak data 2. Soil survey results
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
Specific survey reports will be included in the engineering drawings and specifications package for the reservoir rehabilitation design.

Last Update: January 9, 2018 (d.vigil)

Tasks
Provide a detailed description of each task using the following format:
Task 2 - Engineering Design and Construction Drawings and Specifications Package (Bid Documents, Technical Only)
Description of Task:
1. Hire an engineering firm to assist in completion of the project 2. Develop 60% Design Drawings 3. Meet with the USFS and Reservoir owners to obtain buy-in and support of the 60% Design 4. Coordinate and communicate with the US Forest Service regarding the project permitting and schedule (access, etc.) 5. Develop 100% Design Drawings and Specifications for Construction 6. Develop Engineer's Estimate of Probable Construction Costs
Method/Procedure:
1. Communicate within the ownership group to develop plans and objectives for the project. 2. Identify and retain the engineering firm best capable to develop the design drawings. 3. Conduct a site visit and meet with the engineering firm to provide information and answer questions. 4. Meet with US Forest Service representatives to assure easement requirements are met and any requirements are satisfied. Inform the engineering firm about any design, access, and/or construction restrictions, etc.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
1. 100% Design Drawings and Technical Specifications for the reservoir rehabilitation. 2. Permitting documents and access recommendations from USFS
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
1. 100% Design Drawings and Technical Specifications for the reservoir rehabilitation. 2. Construction Cost estimate based upon final design. 3. Copy of engineering documents 4. Status on permitting and access 5. Status on contracting and processes

Last Update: January 9, 2018 (d.vigil)

Tasks
Provide a detailed description of each task using the following format:
Task 3 – Reservoir Leak Test and Project Management/Grant Administration
Description of Task:
1. Conduct a test fill of the reservoir for leak and operational analysis 2. Provide Grant Administration and Project Management of the engineering investigations and design
Method/Procedure:
1. Conduct a reservoir leak test to determine the water losses from the reservoir and locations.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
1. Leak Test Data
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
1. Leak Test Summary report 2. Invoice and Progress Reporting Submittals to CWCB

Budget and Schedule
Exhibit B - Budget and Schedule: This Statement of Work shall be accompanied by a combined Budget and Schedule that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format. A separate excel formatted Budget is required for engineering costs to include rate and unit costs.

Reporting Requirements
Progress Reports: The grantee shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status 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. The CWCB may withhold reimbursement until satisfactory progress reports have been submitted.
Final Report: At completion of the project, the grantee shall provide the CWCB a Final Report on the grantee's letterhead that: • Summarizes the project and how the project was completed. • Describes any obstacles encountered, and how these obstacles were overcome. • Confirms that all matching commitments have been fulfilled. • Includes photographs, summaries of meetings and engineering reports/designs.

Payments

Payment will be made based on actual expenditures, must include invoices for all work completed and must be on grantee's letterhead. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the water activity and purchase order or contract will be closed without any further payment. Any entity that fails to complete a satisfactory Final Report and submit to CWCB within 90 days of the expiration of a purchase order or contract may be denied consideration for future funding of any type from CWCB.

Performance Requirements

Performance measures for this contract shall include the following:
(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit B. Per Grant Guidelines, the CWCB will pay out the last 10% of the budget when the final deliverable is completed to the satisfaction of CWCB staff. Once the final deliverable has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.
(b) Accountability: Per the Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per the Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.
(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.
(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

Last Update: 10/17/17

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Water Supply Reserve Fund

EXHIBIT B - BUDGET AND SCHEDULE - Direct & Indirect (Administrative) Costs

Date: 7-30-18

Water Activity Name: Investigations & Engineering Design of Kendall Reservoir Rehabilitation Improvements

Grantee Name: Kendall Reservoir Company

Task No.[1]	Description	Start Date[2]	End Date	Matching Funds (cash & in-kind)[3]	WSRF Funds (Basin & Statewide combined)[3]	Total
1	Conduct Field Investigations	10/1/2018	8/1/2019	$0.00	$4,900.00	$4,900.00
2	Engineering Design and Construction Drawings and Specifications Package	6/1/2019	9/1/2019	$8,200.00	$14,000.00	$22,200.00
3	Leak testing and Grant Administration	10/1/2018	10/1/2019	$2,300.00	$0.00	$2,300.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
			Total	$10,500.00	$18,900.00	$29,400.00

(1) The single task that include costs for Grant Administration must provide a labor breakdown (see Indirect Costs tab below) where the total WSRF Grant contribution towards that task does not exceed 15% of the total WSRF Grant amount.

(2) Start Date for funding under $100K - 45 Days from Board Approval; Start Date for funding over $100K - 90 Days from Board Approval.

(3) Round values up to the nearest hundred dollars.

• Reimbursement eligibility commences upon the grantee's receipt of a Notice to Proceed (NTP)

• NTP will not be accepted as a start date. Project activities may commence as soon as the grantee enters contract and receives formal signed State Agreement.

The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of the CWCB staff project manager. Once the Final Report has been accepted, the final payment has been issued, the water activity and purchase order (PO) or contract will be closed without any futher payment. Any entity that fails to complete a satisfactory Final Report and submit to the CWCB with 90 days of the expiration of the PO or contract may be denied consideration for future funding of any type from the CWCB.

• Additonally, the applicant shall provide a progress report every 6 months, beginning from the date of contract execution

• Standard contracting proceedures dictate that the Expiration Date of the contract shall be 5 years from the Effective Date.

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Water Supply Reserve Fund

Exhibit B - BUDGET AND SCHEDULE - Indirect Costs (Grant Administration)

Date: 5-14-18

Water Activity Name: Investigations & Engineering Design of Kendall Reservoir Rehabilitation Improvements

Grantee Name: Kendall Reservoir Company

Task No. [1]	Title	Description (Grant Administration)	$/hour	Hours	Total
1	**Conduct Field Investigations**	Grant administration	$20	15	$300
2	**Engineering Design and Construction Drawings and Specifications Package**	Grant administration	$20	25	$500
3	**Leak testing and grant administration**	Grant administration	$20	5	$100
					$0
					$0
					$0
					$0
					$0
					$0
					$0
					$0
					$0
					$0
				Total	$900
				Total WSRF Grant Amount[2]	$18,900
				Indirect Costs as a percent of Total WSRF Grant amount	4.8%

(1) Grant Administration costs must be submitted as a single task and may not exceed 15% of the Total WSRF Grant amount.

(2) Total WSRF Grant amount equals all Basin Account requests and all Statewide Account requests.

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Last Update: August 3, 2017

Colorado Water Conservation Board

Water Supply Reserve Fund Grant Application

Instructions

All WSRF grant applications shall conform to the current 2016 WSRF Criteria and Guidelines.

To receive funding from the WSRF, a proposed water activity must be approved by a Roundtable(s) **AND** the Colorado Water Conservation Board (CWCB). The process for Roundtable consideration and recommendation is outlined in the 2016 WSRF Criteria and Guidelines. The CWCB meets bimonthly according to the schedule on page 2 of this application.

If you have questions, please contact the current CWCB staff Roundtable liaison:

Arkansas	**Gunnison | North Platte | South Platte | Yampa/White**	**Colorado | Metro | Rio Grande | Southwest**
Ben Wade	Craig Godbout	Megan Holcomb
ben.wade@state.co.us	craig.godbout@state.co.us	megan.holcomb@state.co.us
303-866-3441 x3238	303-866-3441 x3210	303-866-3441 x3222

WSRF Submittal Checklist (Required)

	I acknowledge this request for funding was recommended for CWCB approval by the sponsoring Basin Roundtable(s).
X	I acknowledge I have read and understand the 2016 WSRF Criteria and Guidelines.
X	I acknowledge the Grantee will be able to contract with CWCB using the Standard Contract.(1)
Exhibit A	
X	Statement of Work(2) *(Word – see Exhibit A Template)*
X	Budget & Schedule(2) *(Excel Spreadsheet – see Exhibit A Template)*
	Letters of Matching and/or Pending 3rd Party Commitments(2)
Exhibit C	
X	Map(2)
	Photos/Drawings/Reports
X	Letters of Support
	Certificate of Insurance(3) (General, Auto, & Workers' Comp.)
Contracting Documents	
	Certificate of Good Standing(3)
	W-9(3)
	Independent Contractor Form(3) (If applicant is individual, not company/organization)
	Electronic Funds Transfer (ETF) Form(3)

(1) Click "Grant Agreements". For reference only/do not fill out or submit/required for contracting
(2) Required with application if applicable.
(3) Required for contracting. While optional at the time of this application, submission can expedite contracting upon CWCB Board approval.

Last Update: August 3, 2017

Schedule		
CWCB Meeting	**Application Submittal Dates**	**Type of Request**
January	December 1	Basin Account; BIP
March	February 1	Basin/Statewide Account; BIP
May	April 1	Basin Account; BIP
July	June 1	Basin Account; BIP
September	August 1	Basin/Statewide Account; BIP
November	October 1	Basin Account/BIP

Desired Timeline	
Desired CWCB Hearing Month:	September 2018
Desired Notice to Proceed Date:	October 1, 2018

Water Activity Summary	
Name of Applicant	Kendall Reservoir Company
Name of Water Activity	Investigations & Engineering Design of Kendall Reservoir Rehabilitation Improvements
Approving Roundtable(s)	Basin Account Request(s)(1)
Colorado Basin Roundtable	$18,900
Basin Account Request Subtotal	$18,900
Statewide Account Request(1)	$0
Total WSRF Funds Requested (Basin & Statewide)	$18,900
Total Project Costs	$29,400

(1) Please indicate the amount recommended for approval by the Roundtable(s)

Last Update: August 3, 2017

Grantee and Applicant Information	
Name of Grantee(s)	Kendall Reservoir Company
Mailing Address	977 Mancos Way, Fruita, Colorado 80465
FEIN	82-4011764
Grantee's Organization Contact(1)	Harold Teff
Position/Title	President
Email	hteff11@gmail.com
Phone	303-697-8922
Grant Management Contact(2)	Harold Teff
Position/Title	President, Kendall Reservoir Company
Email	hteff11@gmail.com
Phone	303-697-8922
Name of Applicant (if different than grantee)	
Mailing Address	
Position/Title	
Email	
Phone	

(1) Person with signatory authority
(2) Person responsible for creating reimbursement invoices (Invoice for Services) and corresponding with CWCB staff.

Description of Grantee

Provide a brief description of the grantee's organization (100 words or less).

Kendall Reservoir Company is a non-profit mutual reservoir company recently formed by the owners of the Kendall Reservoir water rights. Members of the Kendall Reservoir Company include: Harold Teff, President; Julie Shiflett, Secretary; and Sylvia Spangler, Treasurer.

Kendall Reservoir has stored water since the mid-1930s. Water from Kendall Reservoir is used to irrigate approximately 250 acres of alfalfa fields, hay meadows, and pasture lands. The organization also maintains easements to public lands and works closely with the US Forest Service, an owner of Kendall Reservoir water rights. A summary of the amount of water and %-ownership of the total water rights are outlined in the table below.

Last Update: August 3, 2017

Kendall Ownership percentages as of 12-1-2014		
Name	**Acre-ft**	**% ownership***
US Forest Service	27.7	32
Sylvia Spangler	9.47	11
Julia and Dustin Shiflett	4.22	5
Harry Teff	2.11	2
Harry Teff(Weiser purchase)	43.5	50
	87	100
*Percentages are rounded		

Type of Eligible Entity (check one)	
	Public (Government): municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
	Public (Districts): authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises
X	**Private Incorporated:** mutual ditch companies, homeowners associations, corporations
	Private Individuals, Partnerships, and Sole Proprietors: are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.
	Non-governmental organizations: broadly, any organization that is not part of the government
	Covered Entity: as defined in Section 37-60-126 Colorado Revised Statutes

Type of Water Activity (check one)	
X	Study
	Implementation

Category of Water Activity (check all that apply)		
X	Nonconsumptive (Environmental)	
X	Nonconsumptive (Recreational)	
X	Agricultural	
	Municipal/Industrial	
	Needs Assessment	
	Education & Outreach	
X	Other	Explain: Engineering and design of reservoir rehabilitation work for 2019 construction.

Last Update: August 3, 2017

Location of Water Activity	
Please provide the general county and coordinates of the proposed activity below in **decimal degrees**. The Applicant shall also provide, in Exhibit C, a site map if applicable.	
County/Counties	Mesa County, Colorado
Latitude	39.11416667
Longitude	107.8069444

Water Activity Overview
Please provide a summary of the proposed water activity (200 words or less). Include a description of the activity and what the WSRF funding will be used for specifically (e.g. studies, permitting, construction). Provide a description of the water supply source to be utilized or the water body affected by the activity. Include details such as acres under irrigation, types of crops irrigated, number of residential and commercial taps, length of ditch improvements, length of pipe installed, area of habitat improvements. If this project addresses multiple purposes or spans multiple basins, please explain. The Applicant shall also provide, in Exhibit A, a detailed Statement of Work, Budget, and Schedule.
Kendall Reservoir (also referred to as Kenney Creek Reservoir) is located on the Grand Mesa in Mesa County Colorado, just south of Vega Reservoir. The reservoir stores approximately 87 acre-feet (AF) of water used primarily for mid-summer application of water to about 250 acres of alfalfa, meadow hay and pasture. This reservoir also supports the US Forest Services' recreational uses. The water rights associated with Kendall Reservoir are owned by both private interests and the US Forest Service. The private water rights owners are the applicants for this grant and hold the easements for reservoir access with the US Forest Service. The Reservoir Company and US Forest Service have a good working relationship and coordinate regularly to maintain access to and condition of the reservoir. The State Engineer's Office conducted an inspection of Kendall Dam in June 2016 and identified recommendations for improving the condition and safety of the structure and extending the useful life of the dam (see attached report). Conditions observed during the inspection resulted in an overall rating of "unsatisfactory" with the existing storage level of zero storage. The zero storage restriction has since been removed (due to a change in the dam's classification from a jurisdictional dam to a non-jurisdictional dam) however rehabilitation of the reservoir still need to occur to support the agricultural and recreational uses. The WSRF request will include field survey, investigation and testing, planning and engineering design services to develop construction drawings and specifications for construction of the identified dam rehabilitation by the SEO.

Last Update: August 3, 2017

Measurable Results		
To catalog measurable results achieved with WSRF funds please provide any of the following values.		
	New Storage Created (acre-feet)	
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive	
X (87 AF)	Existing Storage Preserved or Enhanced (acre-feet)	
	Length of Stream Restored or Protected (linear feet)	
	Efficiency Savings (indicate acre-feet/year OR dollars/year)	
X (87 AF)	Area of Restored or Preserved Habitat (acres)	
	Length of Pipe/Canal Built or Improved	
	Other	Explain:

Last Update: August 3, 2017

Water Activity Justification
Provide a description of how this water activity supports the goals of Colorado's Water Plan, the most recent Statewide Water Supply Initiative, and the respective Roundtable Basin Implementation Plan and Education Action Plan (1). The Applicant is required to reference specific needs, goals, themes, or Identified Projects and Processes (IPPs), including citations (e.g. document, chapters, sections, or page numbers). For applications that include a request for funds from the Statewide Account, the proposed water activity shall be evaluated based upon how well the proposal conforms to Colorado's Water Plan criteria for state support (CWP, Section 9.4, pp. 9-43 to 9-44;) (Also listed pp. 4-5 in 2016 WSRF Criteria and Guidelines).
The **Colorado Basin Roundtable Basin Implementation Plan (BIP)** identified 6 overarching themes for supporting the values and needs of the Colorado River Basin stakeholders (#1 - Protect and Restore Healthy Streams, Rivers, Lakes and Riparian Areas; #2 - Sustain Agriculture; #3 - Secure Safe Drinking Water; #4 - Encourage a High Level of Basinwide Conservation; #5 - Develop Local Water Conscious Land Use Strategies; and #6 - Assure Dependable Basin Administration). This project aligns with Theme #1 through: 1) the protection and rehabilitation of Kendall Reservoir which provides riparian habitat for terrestrial and aquatic species; 2) preservation of high quality recreational waters; and 3) offering water quality benefits of Grand Mesa water through reservoir detention processes. This project also aligns with Theme #2 through: 1) reducing agricultural water shortages by storing water for mid- to late- summer use; and 2) minimizing the potential for transfer of agricultural water rights to municipal uses by putting the water rights to beneficial use. This project also aligns with Theme #4 through promotion of agricultural conservation water rights by rehabilitation of the reservoir to store the water to maintain and support agricultural production and viability. This project also aligns with Theme #5 by promoting regional cooperation efforts with the US Forest Service to enhance environmental and recreational amenities. The Colorado BIP also recognizes the importance of maintaining existing small storage reservoirs high in the headwaters to promote viable agricultural, recreation, municipal, and environmental benefit. Building and maintaining partnerships that support collaborative projects is another important aspect of implementing the **BIP and Colorado Water Plan**. This project has both elements which rank it even more among viable projects (CBRT, April 2015; Section 2). The **Colorado Education Action Plan** supports the continued use of partnerships to promote and encourage collaborative projects (http://cwcbweblink.state.co.us/weblink/0/doc/201046/Electronic.aspx?searchid=241e67a4-20c8-41a7-9dc5-fb7dc15e3fc1). The **Colorado Water Plan** (Section 10.1, Colorado's Water Values) recognizes three overarching values that will move implementation forward including: 1) a productive economy that supports vibrant and sustainable cities; viable and productive agriculture; …2) efficient and effective water infrastructure (specifically, the need to maintain aging reservoirs, canals, and distribution systems); and 3) a strong environment that includes healthy watersheds, rivers, streams, and wildlife. Section 10.2, Measurable Objectives and Adaptive Management, Action D, Agriculture sets an objective that agricultural economic productivity will keep pace with growing state needs. This project aims to keep agricultural production and support the state's growing food supply (human and livestock consumption) demands. Action E, Storage, sets a measurable objective of attaining 400,000 AF of water storage in order to manage and share conserved water and the yield of the IPPs by 2050; supported by an 80 percent success rate for these planned projects. This project aims to maintain an existing storage reservoir by supporting the design and construction of the dam. The **2010 SWSI Study** (pp.ES-40 – 42; and Section 8) provides several recommendations for meeting the state's consumptive and nonconsumptive water supply needs, specifically, encouraging multiple purpose projects (Kendall Reservoir rehabilitation maintains and improves agricultural, recreation, and environmental uses), supporting meeting Colorado's nonconsumptive water needs by working with stakeholders to "…protect or enhance environmental and recreational values that benefit local and statewide economies; encourage multi-purpose projects that benefit both water users and native species; and recognize the importance of environmental and recreational benefits derived from agricultural water use, storage reservoirs…". Overall, Kendall Reservoir has a reserve pool of the reservoir which provides limited fishing for the people that camp near the reservoir. The project proponents have demonstrated sustained interest in this project by working with the State Division of Water Resources to maintain the reservoir per their recommendations while it was in restricted status, incorporating the private owners into a nonprofit mutual corporation, and consulting with local, State and Federal resources to seek solutions to its restricted status. Finally, when the reservoir is filled to its normal level it will help avoid adverse effects to the environmental and recreational areas above and below the dam. Basin Theme 1(A) is to Protect and rehabilitate healthy rivers, streams, lakes and riparian areas.

(1) Access Basin Implementation Plans or Education Action Plans from Basin drop down menu.

Last Update: August 3, 2017

Matching Requirements: Basin Account Requests	
Basin (only) Account grant requests require a 25% match (cash and/or in-kind) from the Applicant or 3rd party and shall be accompanied by a **letter of commitment** as described in the 2016 WSRF Criteria and Guidelines (submitted on the contributing entity's letterhead). Attach additional sheet if necessary.	
Contributing Entity	Amount and Form of Match (note cash or in-kind)
USFS	$8,200 (in-kind)
Kendall Reservoir Company	$2,300 (in-kind)
Total Match	$10,500 (22% of $48,300)
If you requested a Waiver to the Basin Account matching requirements, indicate the percentage you wish waived.	

Matching Requirements: Statewide Account Requests	
Statewide Account grant requests require a 50% match as described in the 2016 WSRF Criteria and Guidelines. A minimum of 10% match shall be from Basin Account funds (cash only). A minimum of 10% match shall be provided by the applicant or 3rd party (cash, in-kind, or combination). The remaining 30% of the required match may be provided from any other source (Basin, applicant, or 3rd party) and shall be accompanied by a **letter of commitment.** Attach additional sheet if necessary.	
Contributing Entity	Amount and Form of Match (note cash or in-kind):
Total Match	$
If you requested a Waiver to the Statewide Account matching, indicate % you wish waived. (Max 50% reduction of requirement).	

Last Update: August 3, 2017

Related Studies
Please provide a list of any related studies, including if the water activity is complimentary to or assists in the implementation of other CWCB programs.
Kendall Dam State Engineer's Office Inspection Report (June 2016) provides the justification and need for this project.

Previous CWCB Grants
List all previous or current CWCB grants (including WSRF) awarded to both the Applicant and Grantee. Include: 1) Applicant name; 2) Water activity name; 3) Approving RT(s); 4) CWCB board meeting date; 5) Contract number or purchase order
None

Tax Payer Bill of Rights
The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.
Not applicable

USDA United States Department of Agriculture
Forest Service
Grand Valley Ranger District
2777 Crossroads Boulevard, Suite 1
Grand Junction, CO 81506
970-242-8211
Fax: 970-263-5819

File Code: 1580
Date: May 11, 2018

COLORADO BASIN ROUNDTABLE
JIM POKRANDT, DIRECTOR OF COMMUNITY AFFAIRS
201 CENTENNIAL STREET, PO BOX 1120,
GLENWOOD SPRINGS, CO 81602

Dear Mr. Pokrandt,

The United States Forest Service (USFS) supports the Kendall Reservoir Company's application to the Colorado Water Conservation Board for a Water Supply Reserve Fund grant. Funding from this grant will help to repair the dam on Kendall Reservoir to provide for public safety, for the Kendall Reservoir Company to store water for decreed purposes, for the USFS to maintain a reserve pool to provide fish habitat and public recreation.

The USFS will continue to partner with the Kendall Reservoir Company to rehabilitate Kendall Reservoir by developing a memorandum of understanding that will provide USFS assistance to the project where possible. Items that may be included in this MOU are agreements to assist with access, materials, and project permitting.

Sincerely,

WILLIAM EDWARDS
District Ranger

MARK A. HERMUNDSTAD
P.O. Box 2539
Grand Junction, CO 81502
(970) 623-1208

May 10, 2018

To whom it may concern,

This letter is written to support the WSRF grant application of the Kendall Reservoir Company for the Kendall Reservoir Rehabilitation project.

I am an attorney licensed to practice law in Colorado. I practiced with the law firm of Williams, Turner & Holmes, P.C. for over 36 years before retiring from the firm at the end of 2016. My practice concentrated on water rights law. I was also appointed to be Mesa County's representative on the Colorado Basin Roundtable several years ago, a position I continue to hold today.

While in private practice I represented the principals in the Kendall Reservoir Company as they began their efforts to rehabilitate the Kendall Reservoir. While I represented them they spent considerable time and effort to work with the U.S. Forest Service and others to develop a plan for rehabilitating the reservoir. Accordingly, I am familiar with the rehabilitation project based on my work for the private owners of the reservoir and on information that they have subsequently provided to me.

The grant application filed by the Kendall Reservoir Company sets forth in detail the many benefits that will result from the rehabilitation of the reservoir. Those benefits include supplemental irrigation water for 250 acres of land in the Plateau Creek drainage and water for recreation and fishing. While this reservoir is relatively small, it provides important storage opportunities for both the private owners of the reservoir and the Forest Service. Once rehabilitated the reservoir will further several important objectives of the Colorado Basin Roundtable BIP, the Colorado Water Plan and other state policies, as more fully described in the grant application.

This dry year clearly demonstrates the critical need for more storage. Kendall Reservoir has been in existence since the 1930's and unfortunately has fallen into disrepair over the years. The current owners are committed to restoring the reservoir's original capacity so that it can once again perform the purposes for which it was built. The grant for which they have applied is a critical first step in this process.

I fully support the grant application filed by the Kendall Reservoir Company and urge that the application be granted. Please do not hesitate to contact me if I can provide any further information or assistance regarding this grant application.

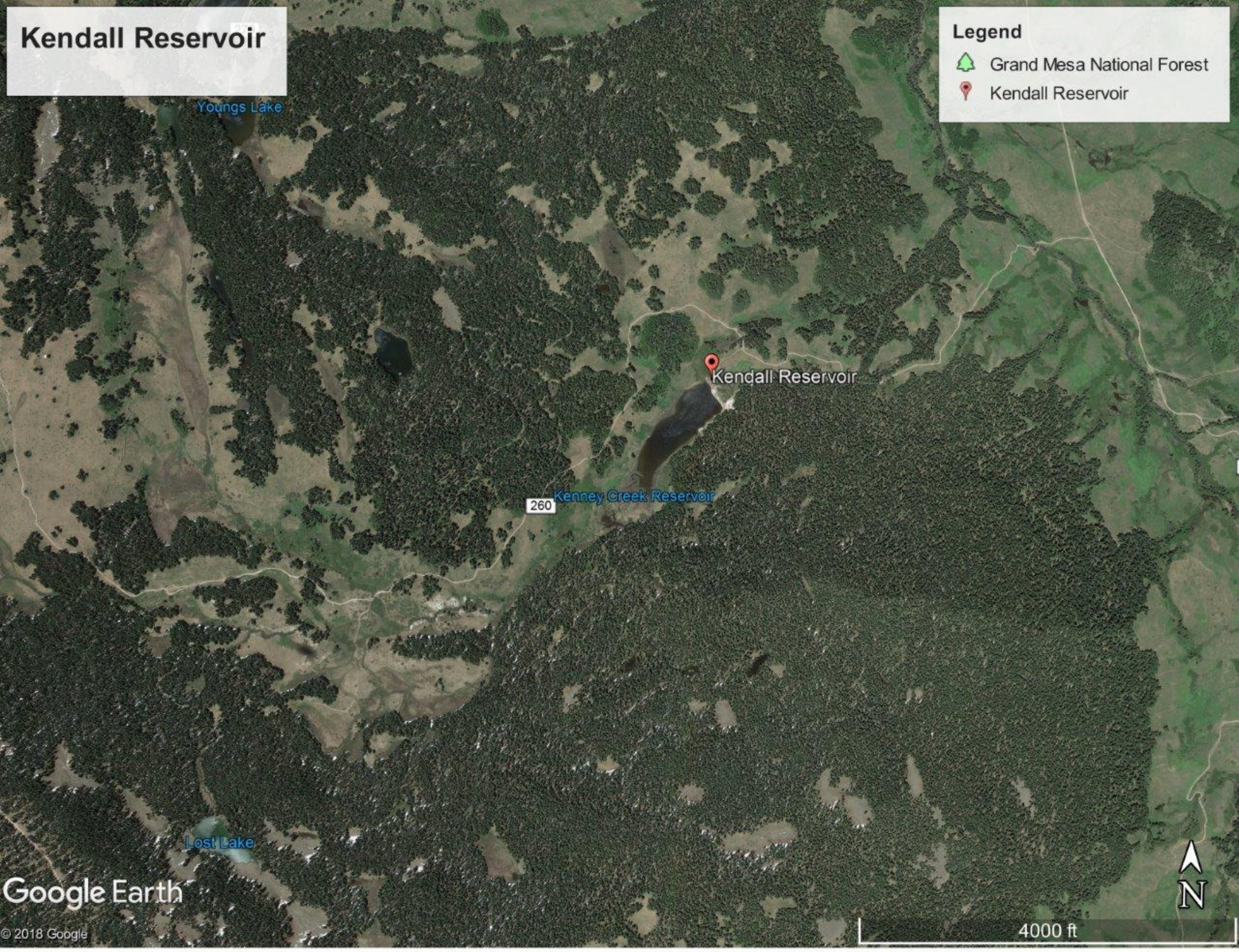
Very truly yours,

Mark A. Hermundstad

To Whom it May Concern:
A paragraph from Ben Felt, CPW(Colorado Parks and Wildlife)
Received via email on May 11, 2018

Based on the preliminary plans CPW has received regarding the proposed evaluation and repairs on the Kendall Reservoir Dam, this project would likely be eligible for a Fishing is Fun grant. The selection process for Fishing is Fun grant funds is often very competitive and there is no guarantee that this project would be selected for funding. This program exists to funds projects that improve angling opportunities. Awards in 2017 included funds for projects that were geared towards improved access, restoration and lake renovation, and creating new piers and new ponds. CPW is willing to work with the applicant to identify opportunities for improving angling through this project to make it as competitive as possible for Fishing is Fun funding.

Ben Felt, CPW


Kendall Reservoir
Legend
Grand Mesa National Forest
Kendall Reservoir
Youngs Lake
Kendall Reservoir
Kenney Creek Reservoir
260
Lost Lake
Google Earth
© 2018 Google
N
4000 ft

COLORADO
Division of Water Resources
Department of Natural Resources

Dam Safety Branch

July 29, 2016

Mr. Harry Teff
21860 Rinconada Road
Morrison, CO 80465
hteff11@gmail.com

SENT VIA EMAIL

When replying, please refer to:
KENDALL DAM, DAMID: 720203,
Water Division 5, Water District 72

SUBJECT: Transmittal of 2016 Engineer's Inspection Report

Dear Harry,

It was a pleasure meeting you during our recent inspection of Kendall Dam on June 14, 2016. The dam inspection was performed in accordance with Section 37-87-107 of the Colorado Revised Statutes, which assigns to the State Engineer's Office responsibility for determining safe storage levels for all reservoirs in the State of Colorado.

Attached is a copy of the Engineer's Inspection Report (EIR), including photos taken during the inspection. The EIR summarizes the conditions observed during the inspection and identifies actions required to improve the condition and extend the useful life of the structure. Please review the EIR carefully and implement the recommendations listed under the section titled, "Items Requiring Action by Owner to Improve the Safety of the Dam" (page 3), which are provided to help you maintain a safe structure. After you have reviewed the report and recommendations, *please return a signed and dated copy of page 3 of the Inspection Report to this office, via electronic or postal mail*, acknowledging your receipt and review of the EIR.

Conditions observed during the inspection resulted in an overall rating of *Unsatisfactory* with the existing restricted storage level of *Zero Storage* to remain in effect, meaning that the dam may not be used to store water above the outlet and the outlet should remain fully open at all times.

We appreciate your interest in rehabilitating the dam and look forward to working with you toward this goal. Hopefully the meeting we had at the dam site was helpful.

If you have any questions regarding this report or require assistance with dam safety related issues, please feel free to contact me at (970) 945-5665, ext. 5016.

Sincerely,

Robyn C. Brown, P.E.
Division 5 Dam Safety Engineer

Enc: Engineer's Inspection Report and Photos

ec: Alan Martellero, Division Engineer
Bill McCormick, Chief, Dam Safety Branch
Bruce Michaelson, Water Commissioner
Ben Krause, Supervising Water Commissioner
Harry Teff, Majority Owner, hteff11@gmail.com
Dustin & Julie Shiflett, Part Owner, julie@juniperconsulting.com
Michelle Steele, US Forest Service, Part Owner, mlsteele@fs.fed.us

ENGINEER'S INSPECTION REPORT

INSPECTOR: RCB

OFFICE OF THE STATE ENGINEER - DIVISION OF WATER RESOURCES - DAM SAFETY BRANCH 1313 SHERMAN STREET, ROOM 818, DENVER, CO 80203, (303) 866-3581

DAM NAME:	KENDALL	T: 110S	R: 0930W	S: 8	COUNTY:	MESA	DATE OF INSPECTION:	6/14/2016	
DAM ID:	720203	YRCompl: 1926	DAM HEIGHT(FT):	16.0	SPILLWAY WIDTH(FT):	12.0	PREVIOUS INSPECTION:		
CLASS:	Low hazard		DAM LENGTH(FT):	420.0	SPILLWAY CAPACITY(CFS):	402.0	NORMAL STORAGE (AF):	76.0	
DIV:	5	WD: 72	CRESTWIDTH(FT):	6.0	FREEBOARD (FT):	4.0	SURFACE AREA(AC):	14.0	
EAP:	Not Required		CRESTELEV(FT):	9903.5	DRAINAGE AREA (AC.):	1664.0	OUTLET INSPECTED:		

CURRENT RESTRICTION: Zero Storage Restriction

OWNER:	TEFF, HARRY	OWNER REP.:	HARRY TEFF
ADDRESS:	21860 RINCONADA ROAD	CONTACT NAME:	HARRY TEFF
	MORRISON CO 80465	CONTACT PHONE:	(303) 697-8922X

INSPECTION PARTY	Harry Teff	Atiq Syed, Bill Edwards, Patrick Marah	Robyn Brown, Garrett Jackson
REPRESENTING :	Owner	USFS	CO DNR-DWR Dam Safety

FIELD CONDITIONS OBSERVED

WATER LEVEL: BELOW DAM CREST 6+/- FT. Above Spillway 0 FT. GAGE ROD READING

GROUND MOISTURE CONDITION: [x] DRY [ ] WET [ ] SNOWCOVER OTHER

DIRECTIONS: MARK AN X FOR CONDITIONS FOUND AND UNDERLINE WORDS THAT APPLY

UPSTREAM SLOPE

PROBLEMS NOTED [ ] (0)NONE [x] (1)RIPRAP - MISSING, SPARSE, DISPLACED, WEATHERED [x] (2) WAVE EROSION - WITH SCARPS

[ ] (3) CRACKS WITH DISPLACEMENT [ ] (4) SINKHOLE [ ] (5) APPEARS TOO STEEP [ ] (6) DEPRESSION OR BULGES [ ] (7) SLIDES

[ ] (8) CONCRETE FACING - HOLES CRACKS, DISPLACED, UNDERMINED [ ] (9) OTHER

(1) and (2): Missing and sparse riprap has allowed wave erosion damage to occur. Upstream slope very steep and narrow on right side.

CONDITIONS OBSERVED: [ ] Good [ ] Acceptable [X] Poor

CREST

PROBLEMS NOTED [ ] (10) NONE [ ] (11) RUT OR PUDDLES [ ] (12) EROSION [ ] (13) CRACKS - WITH DISPLACEMENT [ ] (14) SINKHOLES

[ ] (15) NOT WIDE ENOUGH [x] (16) LOW AREA [ ] (17) MISALIGNMENT [x] (18) IMPROPER SURFACE DRAINAGE [ ] (19) OTHER

Narrow crest on right side is a concern for dam stability.

(16): Low area around outlet operator persists.

(18): Crest drains to the downstream slope (opposite the direction it is supposed to) in the area of the outlet operator.

CONDITIONS OBSERVED: [ ] Good [ ] Acceptable [X] Poor

DOWNSTREAM SLOPE

PROBLEMS NOTED [ ] (20) NONE [x] (21) LIVESTOCK DAMAGE [ ] (22) EROSION OR GULLIES [ ] (23) CRACKS - WITH DISPLACEMENT [ ] (24) SINKHOLE

[x] (25) APPEARS TOO STEEP [ ] (26) DEPRESSION OR BULGES [x] (27) SLIDE [x] (28) SOFT AREAS [ ] (29) OTHER

(21): Livestock damage across entire downstream slope.

(25): Slope on right side appears too steep, contributing to overall dam stability issues.

(27): Previously observed slide/slough area to right of outlet near top of dam persists, with no apparent change.

(28): Ground downstream of toe across entire length of dam was saturated. Some standing water observed.

CONDITIONS OBSERVED: [ ] Good [ ] Acceptable [X] Poor

SEEPAGE

PROBLEMS NOTED [ ] (30) NONE [ ] (31) SATURATED EMBANKMENT AREA [ ] (32) SEEPAGE EXITS ON EMBANKMENT

[ ] (33) SEEPAGE EXITS AT POINT SOURCE [x] (34) SEEPAGE AREA AT TOE [ ] (35) FLOW ADJACENT TO OUTLET [ ] (36) SEEPAGE INCREASED / MUDDY

DRAIN OUTFALLS SEEN [x] No [ ] Yes Show location of drains on sketch and indicate [ ] (37) FLOW INCREASED / MUDDY [ ] (38) DRAIN DRY / OBSTRUCTED

[ ] (39) OTHER

(34): Entire area downstream of the toe was saturated with seepage and standing water was observed in multiple locations.

CONDITIONS OBSERVED: [ ] Good [ ] Acceptable [X] Poor

OUTLET

PROBLEMS NOTED ☐ (40) NONE ☐ (41) NO OUTLET FOUND ☐ (42) POOR OPERATING ACCESS ☐ (43) INOPERABLE

☐ (44) UPSTREAM OR DOWNSTREAM STRUCTURE DETERIORATED (45) OUTLET OPERATED DURING INSPECTION ☐ YES ☑ NO

INTERIOR INSPECTED ☐ (120) NO ☐ (121)YES ☐ (46) CONDUIT DETERIORATED OR COLLAPSED ☐ (47) JOINTS DISPLACED ☐ (48) VALVE LEAKAGE

☑ (49) OTHER erosion near outlet pipe, brush in channel

(49): Erosion observed on left side of downstream end of outlet pipe.

Outlet pipe was flowing full at the time of inspection. However, previous reports note that the outlet pipe may be collapsing. An outlet inspection should be performed.

CONDITIONS OBSERVED: ☐ Good ☐ Acceptable ☒ Poor

SPILLWAY

PROBLEMS NOTED ☐ (50) NONE ☐ (51) NO EMERGENCY SPILLWAY FOUND ☐ (52) EROSION WITH BACKCUTTING ☐ (53) CRACK - WITH DISPLACEMENT

☐ (54) APPEARS TO BE STRUCTURALLY INADEQUATE ☐ (55) APPEARS TOO SMALL ☐ (56) INADEQUATE FREEBOARD ☑ (57) FLOW OBSTRUCTED

☐ (58) CONCRETE DETERIORATED / UNDERMINED ☑ (59) OTHER brush in channel

(57): Debris observed on right side of mouth of spillway.

(59): Brush observed in and encroaching on spillway channel.

CONDITIONS OBSERVED: ☐ Good ☒ Acceptable ☐ Poor

MONITORING

EXISTING INSTRUMENTATION FOUND ☐ (110) NONE ☐ (111) GAGE ROD ☑ (112) PIEZOMETERS ☐ (113) SEEPAGE WEIRS / FLUMES

☐ (114) SURVEY MONUMENTS ☐ (115) OTHER

MONITORING OF INSTRUMENTATION ☑ (116) NO ☐ (117) YES PERIODIC INSPECTIONS BY: ☐ (118) OWNER ☐ (119) ENGINEER

(112): One piezometer was found in the boggy area on the right side of the toe, but was not read. It is reported to be silted in.

CONDITIONS OBSERVED: ☐ Good ☐ Acceptable ☒ Poor

MAINTENANCE AND REPAIRS

PROBLEMS NOTED ☐ (60 NONE ☐ (61) ACCESS ROAD NEEDS MAINTENANCE ☑ (62) CATTLE DAMAGE

☐ (63) BRUSH ON UPSTREAM SLOPE, CREST DOWNSTREAM SLOPE, TOE ☐ (64) TREES ON UPSTREAM SLOPE, CREST DOWNSTREAM SLOPE, TOE

☐ (65) RODENT ACTIVITY ON UPSTREAM SLOPE, CREST DOWNSTREAM SLOPE, TOE ☐ (66) DETERIORATED CONCRETE - FACING, OUTLET SPILLWAY

☐ (67) GATE AND OPERATING MECHANISM NEED MAINTENANCE ☑ (68) OTHER debris and brush in spillway

No maintenance appears to have been performed on the dam since the previous inspection.

(62): Cattle damage on the downstream slope contributes to poor condition of dam.

(68): Debris and brush was noted in the spillway.

CONDITIONS OBSERVED: ☐ Good ☐ Acceptable ☒ Poor

Go to next page for Overall Conditions and Items Requiring Actions

ENGINEER'S INSPECTION REPORT DATE. 6/14/2016

DAM NAME: KENDALL DAM I.D.: 720203

OVERALL CONDITIONS

Overall, the dam is in poor condition. The crest width has been narrowed due to wave erosion and lack of adequate riprap cover on the upstream slope. Seepage and ponded water is prevalent across the entire toe and area downstream of the dam. And, it has previously been reported that the oulet pipe may be collapsing.

We appreciate your interest in repairing the dam and exploring avenues to restore the dam to a satisfactory condition. In the meantime, however, it is imperative that the reservoir level be maintained at or below the restricted level, with the outlet fully open.

Based on this Safety Inspection and recent file review, the overall condition is determined to be:

☐ (71) SATISFACTORY ☐ (72) CONDITIONALLY SATISFACTORY ☑ (73) UNSATISFACTORY

ITEMS REQUIRING ACTION BY OWNER TO IMPROVE THE SAFETY OF THE DAM

The State Engineer, by providing this dam safety inspection report, does not assume responsibility for any unsafe condition of the subject dam. The sole responsibility for the safety of this dam rests with the reservoir owner or operator, who should take every step necessary to prevent damages caused by leakage or overflow of waters from the reservoir or floods resulting from a failure of the dam.

MAINTENANCE - MINOR REPAIR - MONITORING

- ☐ (80) PROVIDE ADDITIONAL RIPRAP:
- ☐ (81) LUBRICATE AND OPERATE OUTLET GATES THROUGH FULL CYCLE
- ☑ (82) CLEAR TREES AND/OR BRUSH FROM: **spillway**
- ☐ (83) INITIATE RODENT CONTROL PROGRAM AND PROPERLY BACKFILL EXISTING HOLES:
- ☐ (84) GRADE CREST TO A UNIFORM ELEVATION WITH DRAINAGE TO THE UPSTREAM SLOPE:
- ☐ (85) PROVIDE SURFACE DRAINAGE FOR:
- ☑ (86) MONITOR: **right side of dam for signs of instability, seepage areas for increased flow, and outlet pipe for signs of distress or further deterioration**
- ☐ (87) DEVELOP AND SUBMIT AN EMERGENCY ACTION PLAN:
- ☑ (88) OTHER **maintain the reservoir at the restricted level**
- ☐ (89) OTHER

ENGINEERING - EMPLOY AN ENGINEER EXPERIENCED IN DESIGN AND CONSTRUCTION OF DAMS TO: (Plans and Specifications must be approved by State Engineer prior to construction.

- ☑ (90) PREPARE PLANS AND SPECIFICATIONS FOR REHABILITATION OF THE DAM: **For either option: (1) rehabilitate dam by providing wider, more stable crest with upstream slope protection and more gradual downstream slope, and a comprehensive toe and chimney drain system, as well as rehabilitated outlet works; or (2) breach the dam.**
- ☐ (91) PREPARE AS -BUILT DRAWINGS OF:
- ☐ (92) PERFORM A GEOTECHNICAL INVESTIGATION TO EVALUATE THE STABILITY OF THE DAM:
- ☐ (93) PERFORM A HYDROLOGIC STUDY TO DETERMINE REQUIRED SPILLWAY SIZE:
- ☐ (94) PREPARE PLANS AND SPECIFICATIONS FOR AN ADEQUATE SPILLWAY:
- ☐ (95) SET UP A MONITORING SYSTEM INCLUDING WORK SHEETS, REDUCED DATA AND GRAPHED RESULTS:
- ☑ (96) PERFORM AN INTERNAL INSPECTION OF THE OUTLET:
- ☐ (97) OTHER:
- ☐ (98) OTHER:
- ☐ (99) OTHER:

SAFE STORAGE LEVEL: RECOMMENDED AS A RESULT OF THIS INSPECTION

- ☐ (101) FULL STORAGE
- ☐ (102) CONDITIONAL FULL STORAGE
- ☐ (103) RECOMMENDED RESTRICTION
- ☑ (104) CONTINUE EXISTING RESTRICTION

RESTRICTED LEVEL
~~OFFICIAL ORDER TO FOLLOW~~

_____ FT. BELOW DAM CREST
_____ FT. BELOW SPILLWAY CREST
_____ FT. GAGE HEIGHT
☑ NO STORAGE-MAINTAIN OUTLET FULLY OPEN
☐

REASON FOR RESTRICTION

ACTIONS REQUIRED FOR ~~CONDITIONAL FULL STORAGE~~ OR CONTINUED STORAGE AT THE RESTRICTED LEVEL:

Engineer's Signature _____ INSPECTED BY

Owner's Signature _____ OWNER/OWNER'S REPRESENTATIVE DATE: ___/___/___

GUIDELINES FOR DETERMINING CONDITIONS

CONDITIONS OBSERVED - APPLIES TO UPSTREAM SLOPE, CREST, DOWNSTREAM SLOPE, OUTLET, SPILLWAY

GOOD
In general, this part of the structure has a near new appearance, and conditions observed in this area do not appear to threaten the safety of the dam.

ACCEPTABLE
Although general cross-section is maintained, surfaces may be irregular, eroded, rutted, spalled, or otherwise not in new condition. Conditions in this area do not currently appear to threaten the safety of the dam.

POOR
Conditions observed in this area appear to threaten the safety of the dam.

CONDITIONS OBSERVED - APPLIES TO SEEPAGE

GOOD
No evidence of uncontrolled seepage. No unexplained increase in flows from designed drains. All seepage is clear. Seepage conditions do not appear to threaten the safety of the dam.

ACCEPTABLE
Some seepage exists at areas other than the drain outfalls, or other designed drains. No unexplained increase in seepage. All seepage is clear. Seepage conditions observed do not currently appear to threaten the safety of the dam.

POOR
Seepage conditions observed appear to threaten the safety of the dam. Examples:
1) Designed drain or seepage flows have increased without increase in reservoir level.
2) Drain or seepage flows contain sediment, i.e., muddy water or particles in jar samples.
3) Widespread seepage, concentrated seepage, or ponding appears to threaten the safety of the dam.

CONDITIONS OBSERVED - APPLIES TO MONITORING

GOOD
Monitoring includes movement surveys and leakage measurements for all dams, and piezometer readings for Class I dams. Instrumentation is in reliable, working condition. A plan for monitoring the instrumentation and analyzing results by the owner's engineer is in effect. Periodic inspections by owner's engineer.

ACCEPTABLE
Monitoring includes movement surveys and leakage measurements for Class I 11 dams; leakage measurements for Class III dams. Instrumentation is in serviceable condition. A plan for monitoring instrumentation is in effect by owner. Periodic inspections by owner or representative. OR, NO MONITORING REQUIRED.

POOR
All instrumentation and monitoring described under "ACCEPTABLE" here for each class of dam, are not provided, or required periodic readings are not being made, or unexplained changes in readings are not reacted to by the owner.

CONDITIONS OBSERVED - APPLIES TO MAINTENANCE AND REPAIR

GOOD
Dam appears to receive effective on-going maintenance and repair, and only a few minor items may need to be addressed.

ACCEPTABLE
Dam appears to receive maintenance, but some maintenance items need to be addressed. No major repairs are requirecl

POOR
Dam does not appear to receive adequate maintenance. One or more items needing maintenance or repair has begun to threaten the safety of the dam.

OVERALL CONDITIONS

SATISFACTORY
The safety inspection indicates no conditions that appear to threaten the safety of the dam, and the dam is expected to perform satisfactorily under all design loading conditions. Most of the required monitoring is being performed.

CONDITIONALLY SATISFACTORY
The safety inspection indicates symptoms of structural distress (seepage, evidence of minor displacements, etc.), which, if conditions worsen, could lead to the failure of the dam. Essential monitoring, inspection, and maintenance must be performed as a requirement for continued full storage in the reservoir.

UNSATISFACTORY
The safety inspection indicates definite signs of structural distress (excessive seepage, cracks, slides, sinkholes, severe deterioration, etc.), which could lead to the failure of the dam if the reservoir is used to full capacity. The dam is judged unsafe for full storage of water.

SAFE STORAGE LEVEL

FULL STORAGE
Dam may be used to full capacity with no conditions attached.

CONDITIONAL FULL STORAGE
Dam may be used to full storage if certain monitoring, maintenance, or operational conditions are met.

RESTRICTION
Dam may not be used to full capacity, but must be operated at some reduced level in the interest of public safety.

HAZARD CLASSIFICATION OF DAMS

CLASS High hazard
Loss of human life is expected in the event of failure of the dam, while the reservoir is at the high water line.

CLASS Significant hazard
Significant damage to improved property is expected in the event of failure of the dam while the reservoir is at the high water line, but no loss of human life is expected.

CLASS Low hazard
Loss of human life is not expected, and damage to improved property is expected to be small, in the event of failure of the dam while the reservoir is at high water fine.

Class NPH hazard - No loss of life or damage to improved property, or loss of downstream resource is expected in the event of failure of the dam while the reservoir is at the high water line.

DAM OVERVIEW

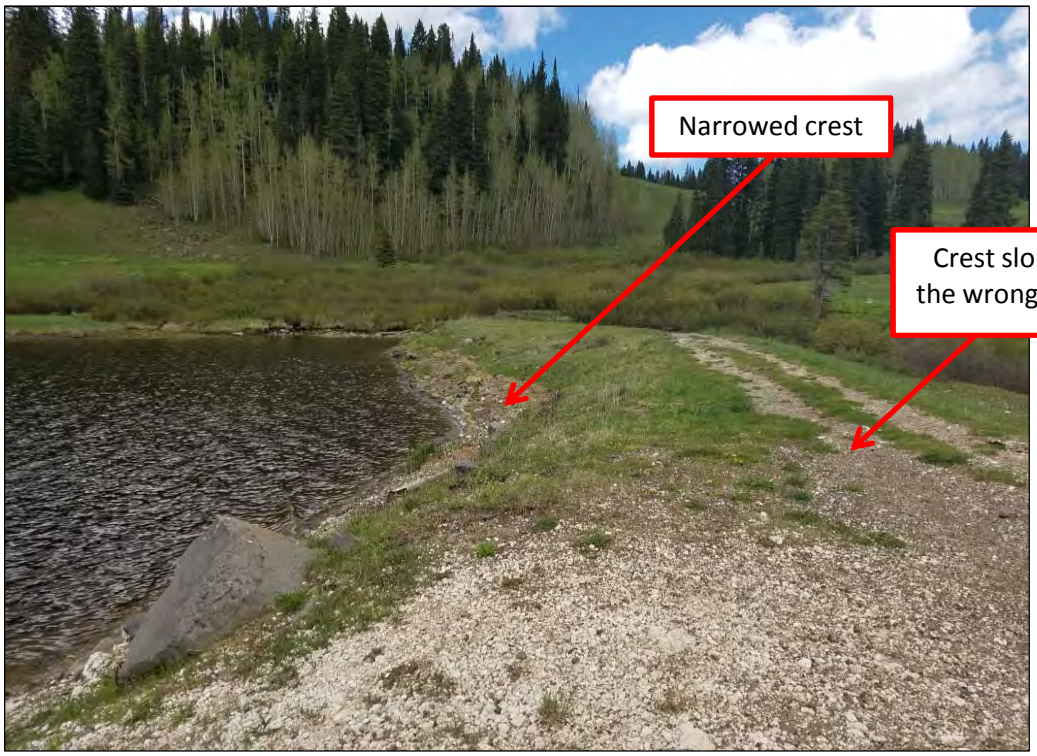
PHOTO #1

UPSTREAM SLOPE

Overview of upstream slope. Note sparse and missing riprap and steepened slope due to wave erosion.

PHOTO #2

CREST



Crest on right side is narrow and slopes toward the downstream side of the dam.

PHOTO #3

DOWNSTREAM SLOPE

Downstream slope is steepened on right side of dam.

PHOTO #4
SPILLWAY

Spillway has some wood debris and brush encroaching on the channel.

PHOTO #5
OUTLET

Outlet pipe flowing full at time of inspection. Note area of erosion on left side of pipe.

PHOTO #6

SEEPAGE

Prevalent seepage and areas of ponded water. Ground surface was spongy in some spots.