Water Supply Reserve Fund – Grant and Loan Program
Water Activity Summary Sheet
July 15, 2020
Agenda Item 16(f)

Applicants & Grantee:	Nicholas & Ann Charchalis
Water Activity Name:	Drescher Dam Rehabilitation – Engineering Design
Water Activity Purpose:	Agriculture/Implementation
County:	Moffat
Drainage Basin:	Yampa
Water Source:	unknown
Amount Requested:	$10,000 Yampa/White/Green Basin Account
Matching Funds:	Applicant Match (cash & in-kind) = $6,000 • 60% of the Basin Account request (meets 25% min)

Staff Recommendation:

Staff recommends approval of up to $10,000 from the Yampa/White/Green Basin Account to help fund the project titled: Drescher Dam Rehabilitation – Engineering Design.

Water Activity Summary: WSRF grant funds, if approved, will assist Nicholas and Ann Charchalis obtain an engineering design solution to the current fill restriction and to perform immediate risk reduction measures (rehabilitation) on the existing dam, such as placing riprap on the emergency spillway, and mitigate rodent burrows in the dam. Current production is approximately 70 ac irrigated alfalfa. Once all repairs and approvals are complete irrigated acres will increase to 120 under pivot and an additional 30 ac in a new sideroll system totaling 150 ac.

Discussion: This effort will assist the Yampa/White/Green Basin Roundtable meet the goals of: "Maintenance of Historical Use, Protection of Water Supplies for Future Demands, and Environmental Protection"; "Protect and encourage agricultural uses of water in the YWG Basin within the context of private property rights"; "Improve agricultural water supplies to increase irrigated land and reduce shortages"; and "Restore, maintain, and modernize water storage and distribution infrastructure" as called for in the Yampa/White/Green Basin implementation Plan.

Issues/Additional Needs: None.

Eligibility Requirements: The application meets requirements of all eligibility components: General Eligibility, Entity Eligibility, Water Activity Eligibility, and Eligibility Based on Match Requirements.

Evaluation Criteria: n/a

Funding Sources/Match	**Cash**	**In-kind**	**Total**	**Status**
Nicholas & Ann Charchalis	$4,000	$2,000	$6,000	Secured
WSRF Yampa/White/Green Basin Account	$10,000	$0	$10,000	Secured
Total Project Costs	**$14,000**	**$2,000**	**$16,000**	

CWCB Project Manager: Craig Godbout

Yampa-White-Green Basin Roundtable

May, 27, 2020

Re; Drescher Dam Rehabilitation,Nick and Ann Charchalis

To Whom It May Concern,

On behalf of the Yampa-White-Green Basin Roundtable, we are writing to express our support for the Drescher Dam Rehabilitation Basin WSRF funding request of $10,000 for this two (2) phase dam rehabilitation. Phase 1 includes, Reduction Measures and Engineering Design, and Phase 2 Long-Term Dam Rehabilitation. Support was not unanimous with one vote of non-support due to one party benefiting and having limited public benefit from the project.

As shared by Mr. Charchalis during the May 13, 2020 BRT meeting the present structure is operating at restricted capacity. Upon completion the rehabilitation of Drescher Dam will restore the original storage capacity of 240 Acre-feet of Pre-Compact Water to irrigate up to 180 acres of agricultural land.

This project fits in well with YWG BRT Basin Implementation Plan goals and objectives. The project is on private land aligning with all YWG BRT goals; 1) Protect the YWG Basin from the Colorado River Compact curtailment of existing decreed water uses, 2) Protect and encourage agricultural uses of water in the YWG Basin within the context of private property rights, 3) Improve agricultural water supplies to increase irrigated land and reduce shortages, 4) ability to address Municipal and Industrial water shortages, 5) Quantify and protect non-consumptive water uses, 6) Maintain and consider the existing natural range of water quality that is necessary for current and anticipated water uses, 7) Restore, maintain, and modernize water storage and distribution infrastructure, 8) Develop an integrated system of water use, storage, administration and delivery to reduce water shortages and meet environmental and recreational needs.

Please look favorably on this grant request to help in the completion of this valuable project.

Sincerely,

Alden Vanden Brink

Alden Vanden Brink
Yampa-White-Green BRT Chair

Last Update: July 31, 2018

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 recommended for approval 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 WSRF Grant Program Manager (for all Roundtables):

Craig Godbout
craig.godbout@state.co.us
303-866-3441 x3210 (office)
303-547-8061 (cell)

WSRF Submittal Checklist (Required)

X	I acknowledge this request was recommended for CWCB approval by the sponsoring roundtable.
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)
Application Documents	
X	Exhibit A: Statement of Work(2) *(Word – see Template)*
X	Exhibit B: Budget & Schedule(2) *(Excel Spreadsheet – see Template)*
	Letters of Matching and/or Pending 3rd Party Commitments(2)
X	Map(2)
X	Photos/Drawings/Reports
	Letters of Support
Contracting Documents(3)	
	Detailed/Itemized Budget(3) *(Excel Spreadsheet – see Template)*
	Certificate of Insurance(4) *(General, Auto, & Workers' Comp.)*
	Certificate of Good Standing(4)
X	W-9 Form(4)
X	Independent Contractor Form(4) *(If applicant is individual, not company/organization)*
X	Electronic Funds Transfer (ETF) Form(4)

(1) Click "Grant Agreements". For reference only/do not fill out or submit/required for contracting
(2) Required with application if applicable.
(3) Additional documentation providing a Detailed/Itemized Budget maybe required for contracting. Applicants are encouraged to coordinate with the CWCB Project Manager to determine specifics.
(4) Required for contracting. While optional at the time of this application, submission can expedite contracting upon CWCB Board approval.

Last Update: July 31, 2018

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:	July 2020
Desired Notice to Proceed Date:	August 1, 2020

Water Activity Summary	
Name of Applicant	Nicholas & Ann Charchalis
Name of Water Activity	Drescher Dam Rehabilitation – Engineering Design

Approving Roundtable(s)	Basin Account Request(s)(1)
Yampa White Green	$10,000.00
Basin Account Request Subtotal	$10,000.00
Statewide Account Request(1)	$
Total WSRF Funds Requested (Basin & Statewide)	$
Total Project Costs	$16,000.00

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

Last Update: July 31, 2018

Grantee and Applicant Information	
Name of Grantee(s)	Nicholas and Ann E. Charchalis
Mailing Address	6795 Highway 394
FEIN	522-84-3533
Grantee's Organization Contact(1)	Nicholas Charchalis
Position/Title	Owner/operators
Email	charchalisfarms@gmail.com
Phone	970-629-1745
Grant Management Contact(2)	Nicholas Charchalis
Position/Title	operator
Email	charchalisfarms@gmail.com
Phone	
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 Oh yeah yeah yes we are going B staff.

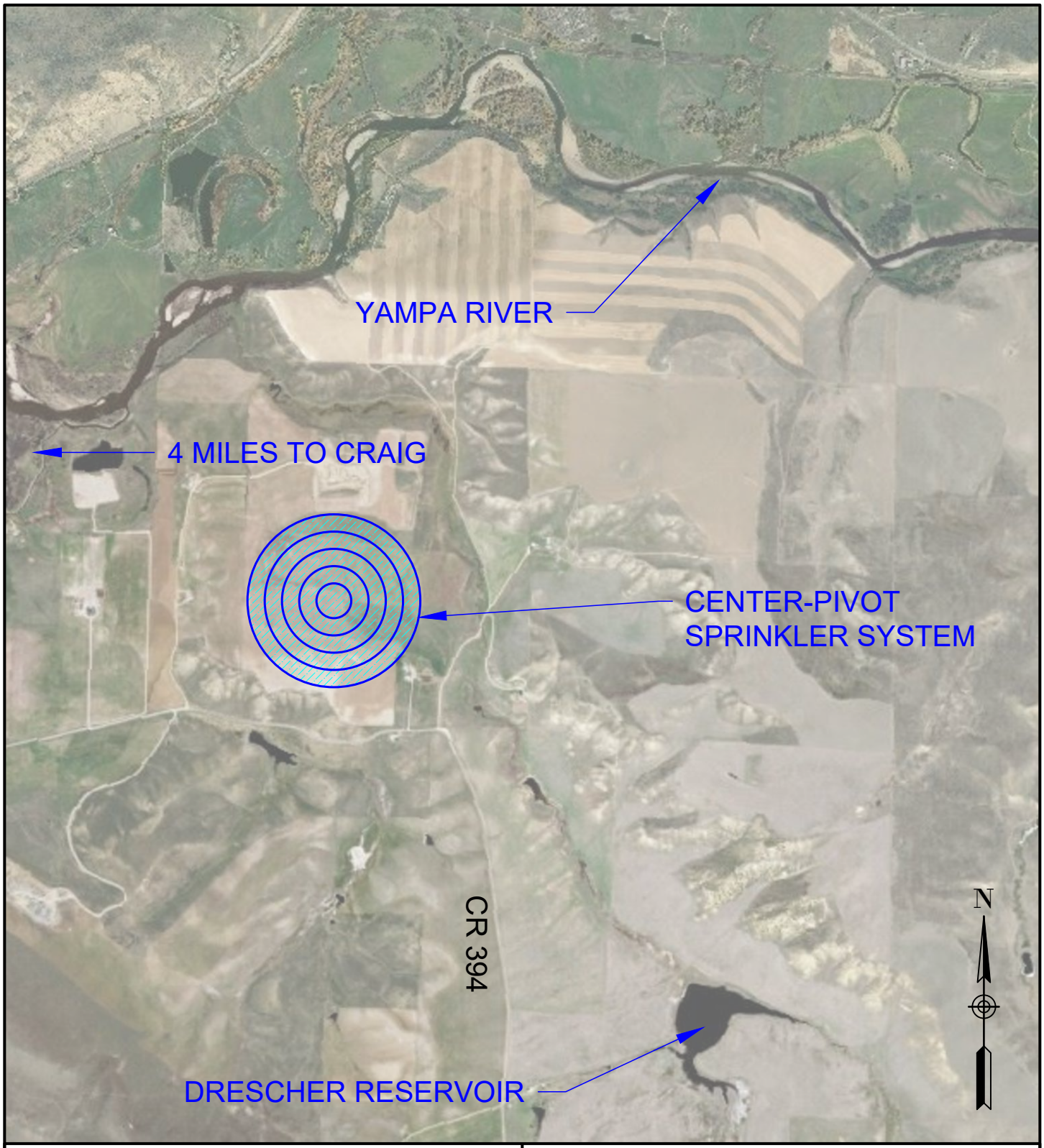
Description of Grantee
Provide a brief description of the grantee's organization (100 words or less).
Grantee is an operating farm/cattle ranch individualy owned by Nick and Ann Charchalis. Total acreage is approximately 3000 consisting of 1500 Ac of expirirng CRP,(converting to improved grazing land), 400 Ac of dryland hay 120 Ac of irrigated hay and the balance of 980 Ac in native pasture. The current goal is to increase the mother cow herd to 175 from the current 80 head. For the last 20+ years we have worked closely with the DOW now CPW hosting several studies on different species of wildlife. Sage Grouse/Sharptail Grouse to critical severe winter habitat for Elk, annual Deer capture and tagging and Antelope counts to determine qauantity of hunting permits to be issued. Over the last 5 years we have improved the original CRP monoculture by interseeding the fields to much more palatable and grazing preffered verieties of grasses, forbes and lugumes. The grant request is for the storage reservoir that we use to irrigate, by center-pivot, hayfields next to the Yampa River. The question was asked during the presentation "how does this benefit the public?". Agricultural producers have created superior forages, water sources and generally better habitat for virtualy all wildlife for over 100 years. Widlife does not occupy just public lands. We've committed our lives to the betterment of our land and water. Abundant wildlife the public enjoys is more plentiful to a great extent because of those improvements.

Last Update: July 31, 2018

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
	Private Incorporated: mutual ditch companies, homeowners associations, corporations
X	**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)	
	Study
X	Implementation

Category of Water Activity (check all that apply)		
	Nonconsumptive (Environmental)	
	Nonconsumptive (Recreational)	
X	Agricultural	
	Municipal/Industrial	
	Needs Assessment	
	Education & Outreach	
	Other	Explain:



HEADWATER
ENGINEERING & CONSULTING

Prepared By:
Headwater Engineering
Craig, CO 81625

Prepared For:
Nick and Ann Charchalis
6795 Hwy 394
Craig CO, 81625

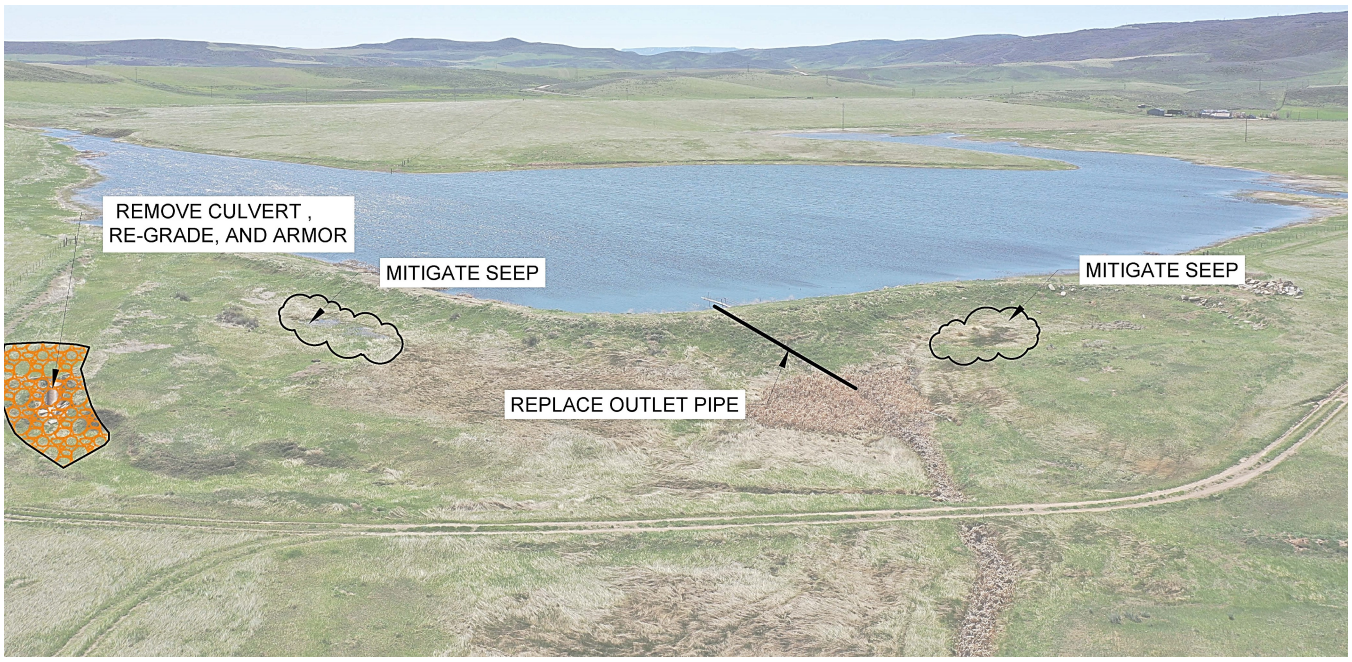
0 1K' 2K'
GRAPHIC SCALE (FEET)

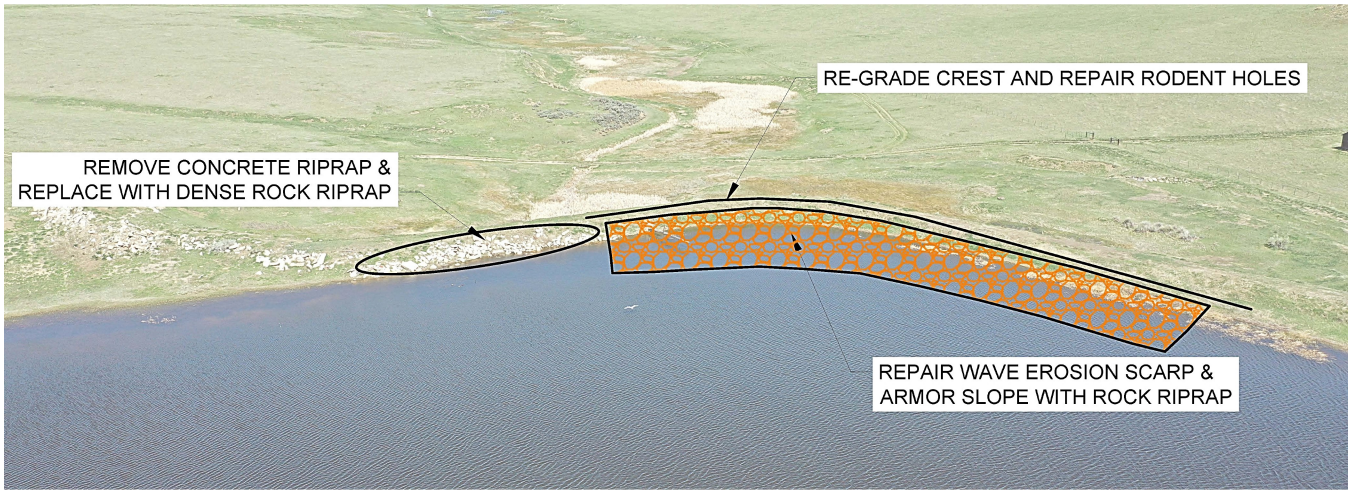
Drawing Coordinates:
Modified CO83NF

Location:

DRESCHER DAM REPAIRS
SECTION 12,
T 6 N - R 90 W, 6TH P.M.
MOFFAT COUNTY, COLORADO

File:			Revised:
Drawn By: WAM	Checked By: WAM	Date:	Revised:


REMOVE CULVERT ,
RE-GRADE, AND ARMOR
MITIGATE SEEP
MITIGATE SEEP
REPLACE OUTLET PIPE


RE-GRADE CREST AND REPAIR RODENT HOLES
REMOVE CONCRETE RIPRAP &
REPLACE WITH DENSE ROCK RIPRAP
REPAIR WAVE EROSION SCARP &
ARMOR SLOPE WITH ROCK RIPRAP

ENGINEER'S INSPECTION REPORT

INSPECTOR: DSM

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:	DRESCHER			T: 060N	R: 0900W	S: 12	COUNTY: MOFFAT	DATE OF INSPECTION:	6/25/2019
DAM ID:	440120	YRCompl:	1904	DAM HEIGHT(FT):	24.0	SPILLWAY WIDTH(FT):	27.0	PREVIOUS INSPECTION:	5/9/2013
CLASS:	Low hazard			DAM LENGTH(FT):	612.0	SPILLWAY CAPACITY(CFS):	770.0	NORMAL STORAGE (AF):	240.0
DIV:	6	WD:	44	CRESTWIDTH(FT):	10.0	FREEBOARD (FT):	4.9	SURFACE AREA(AC):	30.0
EAP:	Not Required			CRESTELEV(FT):	6380.0	DRAINAGE AREA (AC.):	4516.0	OUTLET INSPECTED:	

CURRENT RESTRICTION: 8.0 SPILLWAY

OWNER:	CHARCHALIS, NICK	OWNER REP.:	NICK CHARCHALIS
ADDRESS:	6795 HIGHWAY 394	CONTACT NAME:	NICK CHARCHALIS
	CRAIG CO 81625-	CONTACT PHONE:	(970) 824-8874

INSPECTION PARTY : Nick Charchalis; Will Myer; Tyler McWilliams, Dana Miller

REPRESENTING : Owner; Headwater Engineering; DWR

FIELD CONDITIONS OBSERVED

WATER LEVEL: BELOW DAM CREST 8 FT. Below Spillway 4 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) DEPRESSIONS OR BULGES [ ] (7) SLIDES

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

Historical observations include (1), (2) no riprap on a significant portion of the embankment, with large scarps. Concrete rubble riprap left of the outlet bridge, but with no filter material. (9) Muskrat dens at current water line, approximately 3.5 feet below spill.

Current observations similar. Scarping is largely obscurred by high grasses and vegetation.

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

CREST

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

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

Historical observations include: (15) a narrow crest in the scarped area (minimum 7 feet); (18) a poorly draining, uneven surface; and (19) large rodent holes, especially towards the right side.

Current observations similar.

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

[ ] (25) APPEARS TOO STEEP [x] (26) DEPRESSIONS OR BULGES [ ] (27) SLIDE [x] (28) SOFT AREAS [x] (29) OTHER Seepage, wet embankment, groin; hole with seepage

Historical observations include: (21) possible old livestock trails causing damage; (26) old slumps, especially towards the left side, causing an uneven surface; and (28), (29) seepage in the left groin and on the right side of the embankment causing soft material.

Current observations similar. (26) Pronounced slump right of the outlet around mid slope in the historical seepage area. Does not appear new. (29) Rodent hole with seepage (20 gpm) 12 feet off the crest right of the outlet. See Seepage.

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

SEEPAGE

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

[x] (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 amount and quality of discharge. [ ] (37) FLOW INCREASED / MUDDY [ ] (38) DRAIN DRY / OBSTRUCTED

[ ] (39) OTHER

Historical observations include: (31), (32) embankment saturated about 1/3 of the way up on the right side; seepage from the left groin; and (34) seepage along most of the toe.

Current observations include: standing water at the toe on both the left and right side of the dam on the upper benches; saturated embankment along the toe of the maximum section extending above the outlet; evidence of historical seepage from the embankment about 1/3 of the way up, right of the toe, but left of the benched area; concentrated leak from a rodent hole towards the left side of this seepage area, approximately 12 feet below the crest, flowing approximately 20 gpm, currently clear.

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

ENGINEER'S INSPECTION REPORT

DAM NAME: DRESCHER

DATE. 6/25/2019

DAM I.D.: 440120

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 Pressurized by downstream valve

Historical observations include: (42), (43), (44) upstream gate and operator in poor condition, generally left open; (46) exposed downstream end of outlet conduit corroded and flaking; and (49) conduit pressurized by a valve on the downstream end.

Current observations generally the same. Connection between the steel outlet and PVC leaking due to back pressure from the closed valve downstream. Discussed the likely condition of the pipe, and the state's preference/recommendation to replace.

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

Historical observations include (52), (54) a half section of CMP placed in an eroded portion of the channel to form a sort of drop structure. Likely structurally inadequate for high spillway flows. Flow currently passes through a fence, but the channel could be regraded to direct flows more directly into the channel instead of following this alignment.

Current observations similar. (57) Berm forcing flow through the CMP section constricts the 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

CONDITIONS OBSERVED: ☐ Good ☒ Acceptable ☐ Poor

MAINTENANCE AND REPAIRS

PROBLEMS NOTED ☐ (60 NONE ☐ (61) ACCESS ROAD NEEDS MAINTENANCE ☐ (62) LIVESTOCK 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 Embankment/dam require rehabilitation.

Major rehabilitation is required on this structure to address upstream erosion, rodent damage, seepage, the outlet structure, and spillway condition.

CONDITIONS OBSERVED: ☐ Good ☐ Acceptable ☒ Poor

Go to next page for Overall Conditions and Items Requiring Actions

OVERALL CONDITIONS

Major rehabilitation is required on this structure to make it safe, with a compliance process started in 2013. Discussed today with the owner his desire to move forward. To recap items that will need to be addressed:
- Upstream slope erosion repair and protection;
- Embankment cross section repair (erosion, rodent damage, remove buried concrete rubble);
- Embankment seepage mitigation (downstream filter & buttress suggested);
- Spillway realignment (entrance) and stabilization;
- Filter collar around the outlet pipe (minimum) and/or replace the pipe.

Discussed a time frame for engineering to support grant applications. Preliminary engineering plan by this fall for local round table meeting; also for application to Upper Colorado Water Conservancy District for annual grant, due January 31. Could potentially design, review, and approve over winter 2019/20, ready for construction in summer 2020.

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

MAINTENANCE - ORDINARY REPAIR - MONITORING

☐ OTHER

6/25/2019 - **Lower the reservoir immediately and repair the leaking rodent hole from the upstream side with a clay plug. MARK this location on the downstream slope and MONITOR it when the reservoir is within 8 feet of spill.**

ENGINEERING - EMPLOY AN ENGINEER EXPERIENCED IN DESIGN AND CONSTRUCTION OF DAMS TO

☐ PREPARE PLANS AND SPECIFICATIONS FOR REHABILITATION OF THE DAM

6/25/2019 - **Begin the process by developing preliminary plans for rehabilitation, and a cost estimate for presentation to funding agencies. Make sure the plan is comprehensive and includes replacing the outlet conduit.**

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.

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 ~~(FEIGN ORDER TO FOLLOW~~ → 8 FT. BELOW DAM CREST
FT. BELOW SPILLWAY CREST
FT. GAGE HEIGHT
NO STORAGE-MAINTAIN OUTLET FULLY OPEN

REASON FOR RESTRICTION

Seepage and instability.

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

Engineer's Signature Dana Miller 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 High hazard 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 High and Significant hazard dams; leakage measurements for Low hazard 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

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.

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.

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.

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.

	Photo 1 – Upstream slope
	Photo 2 – Spillway drop structure
	Photo 3 – Leaking rodent hole about 12 feet off the crest, 10 feet right of the outlet, 20+/- gpm

Photo 4 – Downstream slope