



**Operations Committee Report**  
**Ron Leonard, Committee Chairman**  
[ronl@bigelkmeadows.org](mailto:ronl@bigelkmeadows.org)

**Written and submitted by: Paul Flanagan**

**Date: 19, August 2021**

**Charter:** To ensure the community is well maintained and Operations runs smoothly by overseeing day to day operations, expenses and priorities of both work orders and maintenance.

**Committee Members:** Ron Leonard as Chairman, Members as Paul Flanagan, Dustin Enny, Glenn Christensen.

**Water Treatment**

Our Monthly Water Tests are complete with good results. Lead & Copper Testing was completed and the results are well below MCL, half were BDL (Below Detectable Limits). Disinfection Byproduct Testing has been completed but results have not yet been received.

The Primary Air Compressor is running well with the new parts installed. Granulated Activated Carbon Filter (GAC) was changed out at the beginning of the Month. The Clean in Place (CIP) process for our Membrane Filters was performed with good results. We had two Leaks identified and resolved.

Johns Well was in for further planning of installation of the new Lake Intake Structure. As soon as the rest of the parts arrive installation will be coordinated with Aquatic Associates to install the new aeration system at the same time.

Zak Dirt is putting together a bid for the Steel Tank project. I hope to have the Bid in hand for the Board Meeting.

Source Water Protection Planning is proceeding with the next meeting in September.

**Roads**

The Main road was graded and ditch work completed after Rainstorm. Work order for South Aspen drainage and grading was completed as well. Hickory, Balsam, Hemlock and Aspen all received work with the Skid steer and additional Road base.

**General**

Boulder County Chipping Operations has been completed. We have extensive clean-up work to complete in the next weeks. Dam Weed mitigation was completed on July 21<sup>st</sup>. Mowing operations has continued with Dustin and one Volunteer. The Pool heater went down and we have had delays in parts delivery. The Pool Cleaning and Opening and Closing have been split between myself and one couple volunteering. Painting operations have continued on the Water Buildings.

Ron brought the 2003 Plow to a Shop in Longmont for estimates. I have not received results.



Zac Dirt looked at the lower flume damage and repair caused by the spring runoff as well as needed repairs for Meadow Dam Spillway.

The State was in to Inspect Meadow Dam on 7-26-2021. Report Attached.

**Administration**

BEMA's Office Administrator continues work on general administrative duties, water accounting, completing minutes in a timely manner and assisting members and tenants as needed. Assisting the Board of Directors with Member Communications and mailings, and work with Bookkeeper on membership accounts. Administrative support pertaining to State required documentation for water production and other documentation as needed. Additional support to staff, Committee Chairs and Directors as needed.

Select a location to see product availability

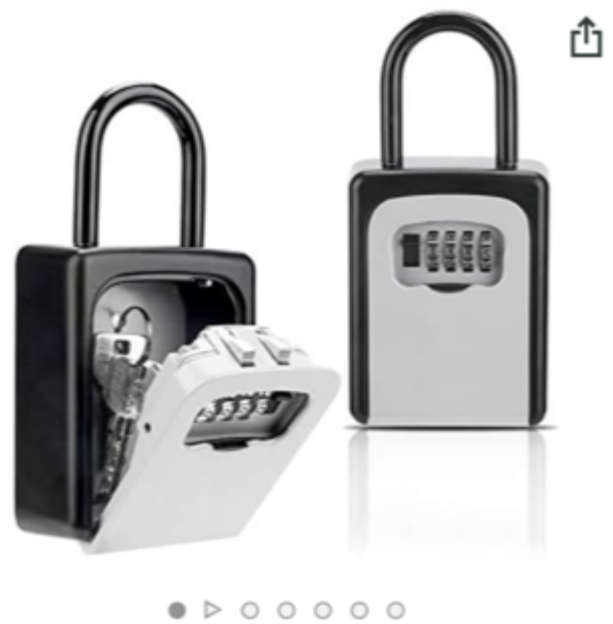

**Puroma Security Key Lock Box, 4-Digit Combination Waterproof Portable Key...**  
 \$14.99 

Sponsored

Visit the Buteny Store ★★★★☆ 2,486

Key Lock Box, Combination Lockbox with Code for House Key Storage, Combo Door Locker

**Amazon's Choice** in Security Lock Boxes by Buteny



Number of Items: 1 

1	2
---	---

I don't think any employee should have to compact trash 6 times a day on day off. My goal is to install this lock box and train all homeowners that want to help the community. We should also be able to train the trainer. **Check Box for prohibited items, remove if possible. Insert key, turn and push to start compaction. Remain onsite until compaction is completed to assure no one opens the door mid cycle as this will stop the Compactor.**

Friday 13 August 2021.

As Second Vice President and Operations manager I met with Wayne Harrington, Community Forestry Sort Yard Coordinator with Boulder County Parks and Open Space. He runs the slash pile chipper. I discussed our neighborhood and how residents come and go. He agreed with me that we can self-govern and self-inspect. We ask all users to make sure trailers and truck beds are cleaned before loading. My goal is to replace the current padlock with a combination lock so homeowners can access at their convenience. If you see any of the following please remove from the pile or report to staff.

**NO to the following:**

**NO yard waste paper bags or Tarps:** Reason, considered trash.

**NO Root Balls:** Reason, root balls contain rocks and are harmful to chippers.

**NO Construction Material:** Reason, paint, creosote, chromated copper arsenate are harmful to water sources.

**NO Pine needles:** Reason, pine needles hide metal and rocks and are harmful to chippers.

**NO Yard clippings:** Pinecones, grass and weeds are considered compost and could contain noxious weeds that are harmful to the local environment.

Wayne indicated we should have three separate areas. One area for tree branches only. The second area for tree trunks only. The third area for compost only.

## TWIN PEAKS AUTO REPAIR

1242 BRAMWOOD PL.  
LONGMONT, CO 80501  
303.772.0035

8/17/2021 2:39:23 PM

**Repair Order #21958 - Sub Est 1**

Page:1

**BIG ELK MEADOWS**

**Phone: 636-288-6580 RON**

Service Writer : MG

**Vehicle : 2003 Dodge Ram 3500HD 1 Ton - Pickup 5.7 L 345 CID V8 Hemi**

VIN : 3D7MU46D73G756549

Tag/State : /CO

Fleet #/Driver:

Created : 8/12/2021 3:20:57 PM

Odometer In : \_\_\_\_\_

Odometer Out : \_\_\_\_\_

**Labor/Notes**

Technician	Reference	Description	Price
	Guide	AXLE SHAFT ASSEMBLY Remove & Install or Remove & Replace	\$660.00
REPLACE UJOINTS	Guide	STABILIZER BAR CONTROL LINK Remove & Replace	\$72.00
	Guide	PROPELLER SHAFT Remove & Install or Remove & Replace	\$300.00
	Guide	BRAKE SHOES &/OR PADS Remove & Replace	\$100.00
Includes: Clean, lube and/or replace Brake Hardware as necessary. Adjust Brakes (where applicable). Includes: Repack Wheel Bearings (where applicable). DOES NOT include refinishing.			
	Guide	STEERING COLUMN FLEX COUPLING Remove & Replace	\$180.00
KW	Guide	EXHAUST MANIFOLD GASKET Remove & Replace	\$720.00
EXTRA TIME WILL BE ADDED FOR BROKEN BOLTS			
KW	Guide	HEADLAMP BULB Remove & Replace	\$48.00
DOES NOT include adjust.			
KW	DRAFILL	DRAIN AND REFILL TRANSFER CASE	\$60.00

**Parts**

Qty	Code	Reference	Description	Condition	Unit Price	Price
2	NPJ	P254	Universal Joint (U-Joint) - Front Driveshaft - CV at Transfer Case		\$36.44	\$72.88
Note: w/ 1 1/16" OD Bearings in H Yoke; Severe Duty; Non-Greasable						
1	NPJ	P234	Universal Joint (U-Joint) - Front Driveshaft at Front Axle		\$36.44	\$36.44
Note: w/ 1 1/16" OD Bearings in H Yoke; Severe Duty; Non-Greasable						
1	PFR	248880143	Brake Rotor - Front - Proformer		\$82.90	\$82.90
2	---	5086665AE	WHEEL JOINTS		\$179.54	\$359.08
1	---	5139182AA	INTERMEDIATE		\$389.00	\$389.00
1	---	55351456AF	STEERING SHAFT		\$229.25	\$229.25
1	CPW	PMD965H	Front Semi Metallic Pads		\$89.95	\$89.95
Note: w/8 LUG WHEELS, INCLUDES PAD INSTALLATION HARDWARE, ORIG EQUIPMENT PAD MATERIAL IS SEMI-METALLIC WARNING: MFR INDICATES THIS IS A CA PROP 65 ITEM						
2	PCC	1880467	Sway Bar Link - Front		\$65.68	\$131.36
Note: w/ Heavy Duty Suspension						
2	NOS	14474	Axle Seal - Front Inner		\$36.10	\$72.20
.3	NOL	75213	80/90 GEAR OIL		\$118.06	\$35.42
2	NOE	6001161	Exhaust Manifold Mounting Kit		\$77.97	\$155.94
Note: Right, Left						
1	FPG	MS96905	Manifold Gasket Set - Exhaust		\$32.36	\$32.36
2	LMP	BP9007NVCN	Headlight Bulb - High & Low Beam - Halogen		\$27.60	\$55.20
Note: NIGHTVISION Clear						
1	NOE	6006491	Exhaust Manifold - Left		\$319.70	\$319.70
1	NOE	6005667	Exhaust Manifold - Right		\$212.11	\$212.11
2	---	UNIVERSALTRANS	UNIVERSAL SYNTHETIC TRANSMISSION FLUID		\$10.99	\$21.98

Labor ..... \$2,140.00

**TWIN PEAKS AUTO REPAIR**

1242 BRAMWOOD PL.  
LONGMONT, CO 80501  
303.772.0035

8/17/2021 2:39:23 PM

**Repair Order #21958 - Sub Est 1**

Page:2

**BIG ELK MEADOWS**

**Vehicle: 2003 Dodge Ram 3500HD 1 Ton - Pickup 5.7 L**

Parts	.....	\$2,295.77
SHOP SUPPLIES	.....	\$35.00
Sales Tax	Default Rule @ 8.515%	\$198.46

**Repair Total \$4,669.23**

Date & Time	Total Amount	Authorized By	Approvals	Method	Employee
<p>This is a Contract for work, labor, supplies and materials and I agree as follows: I hereby authorize Michael A. Grubbs LTD. d/b/a Twin Peaks Auto Repair "Twin Peaks" to do the auto repair work described herein. I agree any additional work I authorize via phone or other communications shall also be included in this Contract. I agree Twin Peaks is not responsible for loss or damage to the vehicle or any personal property caused by fire, theft, or any other cause. I grant Twin Peaks and its' agents permission to operate the vehicle including, but not limited to, on any public roadways. An Artisan's lien is hereby acknowledged on the vehicle to secure the amount of this Contract. Twin Peaks returns vehicles prior to payment in full only to inspect the vehicle for properly completed work. Any vehicles left with Twin Peaks for more than 48 hours after notification the work is completed will incur a \$20.00 per day storage fee. Twin Peaks is entitled to payment of its collection costs and attorney fees for any disagreement regarding this Contract. Interest on any amounts due shall accrue at the rate of 18% compounded annually.</p>					
<p>Customer Signature _____</p>					

**TWIN PEAKS AUTO REPAIR**

1242 BRAMWOOD PL.  
LONGMONT, CO 80501  
303.772.0035

8/16/2021 3:22:08 PM

**Repair Order #21958**

Page:1

**BIG ELK MEADOWS**

**Phone: 636-288-6580 RON**

<b>Vehicle : 2003 Dodge Ram 3500HD 1 Ton - Pickup 5.7 L 345 CID V8 Hemi</b> VIN : 3D7MU46D73G756549 Fleet #/Driver: Created : 8/12/2021 3:20:57 PM	Service Writer : MG  Tag/State : /CO  Odometer In : _____ Odometer Out : _____
---	---

**Labor/Notes**

Technician	Reference	Description	Price
KW	SCAN	SCAN COMPUTER SYSTEM AND DIAGNOSE	\$75.00
KW	CODES, P2106 Guide	THROTTLE BODY ASSEMBLY Remove & Replace	\$65.00

**Parts**

Qty	Code	Reference	Description	Condition	Unit Price	Price
1	NEC	XTP677007	Throttle Body Injection (TBI) Unit - Remfd		\$373.02	\$373.02
Note: Procedure May Need To Be Performed Upon Installation Of Unit. Please Refer To The Service Manual For Vehicle Specific Instructions						
1	-	CORE	CORE CHARGE		\$44.44	\$44.44
1	-	CORECREDIT	CORE CREDIT		(\$44.44)	(\$44.44)
1	FEL	61372	Throttle Body Base Gasket		\$22.02	\$22.02
Note: LOWER; THROTTLE BODY MTG						

Labor	\$140.00
Parts	\$395.04
SHOP SUPPLIES	\$4.88
Sales Tax	Default Rule @ 8.515% \$34.06

**Repair Total \$573.98**

**Approvals**

Date & Time	Total Amount	Authorized By	Method	Employee
-------------	--------------	---------------	--------	----------

This is a Contract for work, labor, supplies and materials and I agree as follows: I hereby authorize Michael A. Grubbs LTD. d/b/a Twin Peaks Auto Repair "Twin Peaks" to do the auto repair work described herein. I agree any additional work I authorize via phone or other communications shall also be included in this Contract. I agree Twin Peaks is not responsible for loss or damage to the vehicle or any personal property caused by fire, theft, or any other cause. I grant Twin Peaks and its' agents permission to operate the vehicle including, but not limited to, on any public roadways. An Artisan's lien is hereby acknowledged on the vehicle to secure the amount of this Contract. Twin Peaks returns vehicles prior to payment in full only to inspect the vehicle for properly completed work. Any vehicles left with Twin Peaks for more than 48 hours after notification the work is completed will incur a \$20.00 per day storage fee. Twin Peaks is entitled to payment of its collection costs and attorney fees for any disagreement regarding this Contract. Interest on any amounts due shall accrue at the rate of 18% compounded annually.

Customer Signature \_\_\_\_\_



# ENGINEER'S INSPECTION REPORT

INSPECTOR: JHB

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: MEADOW LAKE T: 040N R: 0720W S: 35 COUNTY: LARIMER DATE OF INSPECTION: 7/26/2021  
DAM ID: 040229 YRComp: 1957 DAM HEIGHT(FT): 16.9 SPILLWAY WIDTH(FT): 60.0 PREVIOUS INSPECTION: 1/2/2014  
CLASS: Low hazard DAM LENGTH(FT): 271.0 SPILLWAY CAPACITY(CFS): 7499.0 NORMAL STORAGE (AF): 32.0  
DIV: 1 WD: 4 CRESTWIDTH(FT): 30.0 FREEBOARD (FT): 9.3 SURFACE AREA(AC): 7.0  
EAP: Not Required CRESTELEV(FT): 7499.2 DRAINAGE AREA (AC.): 12600.0 OUTLET INSPECTED:

**CURRENT RESTRICTION: -- NONE --**

OWNER: BIG ELK MEADOWS HOA OWNER REP.: SCOTT JOHNSTONE  
ADDRESS: P.O. BOX 440 CONTACT NAME: PAUL FLANAGAN  
LYONS CO 80540- CONTACT PHONE: (303) 835-7557X

INSPECTION PARTY : John Batka, Bill McCormick Glenn Christiansen, Paul Flanagan  
REPRESENTING : State Engineer's Office Big Elk Meadows HOA

FIELD CONDITIONS OBSERVED	WATER LEVEL: BELOW DAM CREST 9.2 FT. Below Spillway at spill FT. GAGE ROD READING 14
	GROUND MOISTURE CONDITION: <input checked="" type="checkbox"/> DRY <input type="checkbox"/> WET <input type="checkbox"/> SNOWCOVER OTHER

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

## UPSTREAM SLOPE

PROBLEMS NOTED:  (0) NONE  (1) RIPRAP - MISSING, SPARSE, DISPLACED, WEATHERED  (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  (9) OTHER

**Description:****Upstream slope is 3:1 and protected by riprap.****Observation:****First filling of the reservoir occurred in the spring of 2020. Upstream slope remains in like new condition, no signs of disturbance to the riprap.**CONDITIONS OBSERVED:  Good  Acceptable  Poor

## CREST

PROBLEMS NOTED:  (10) NONE  (11) RUTS OR PUDDLES  (12) EROSION  (13) CRACKS - WITH DISPLACEMENT  (14) SINKHOLES  
 (15) NOT WIDE ENOUGH  (16) LOW AREA  (17) MISALIGNMENT  (18) IMPROPER SURFACE DRAINAGE  (19) OTHER

**Description:****The dam has a typical crest width of 30-ft and is protected by a gravel wearing surface.****Observation:****The crest rarely sees vehicle traffic and is in like new condition. It appears uniform in elevation along the length.**CONDITIONS OBSERVED:  Good  Acceptable  Poor

## DOWNSTREAM SLOPE

PROBLEMS NOTED:  (20) NONE  (21) LIVESTOCK DAMAGE  (22) EROSION OR GULLIES  (23) CRACKS - WITH DISPLACEMENT  (24) SINKHOLE  
 (25) APPEARS TOO STEEP  (26) DEPRESSIONS OR BULGES  (27) SLIDE  (28) SOFT AREAS  (29) OTHER

**Description:****The downstream slope of the embankment has a typical slope of 2:1.****Description:****The slope is protected with a growth of native vegetation and is uniform along the length. Growth of vegetation is sparse. (22) Minor erosion rills (gullies) are forming on the slope due to runoff down the slope.****Action:****- The HOA should consider another round of seeding or hydro seeding to get grass to grow which will in time prevent further erosion. Getting dryland vegetation to grow on new embankments is difficult and often needs a 2nd round of seeding.**  
**- Check the crest in the location of the rills to make sure drainage from the crest is not concentrating in these locations.**CONDITIONS OBSERVED:  Good  Acceptable  Poor

## SEEPAGE

PROBLEMS NOTED:  (30) NONE  (31) SATURATED EMBANKMENT AREA  (32) SEEPAGE EXITS ON EMBANKMENT  
 (33) SEEPAGE EXITS AT POINT SOURCE  (34) SEEPAGE AREA AT TOE  (35) FLOW ADJACENT TO OUTLET  (36) SEEPAGE INCREASED / MUDDY  
DRAIN OUTFALLS SEEN  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

### Description:

Seepage through the embankment is controlled by toe drains that extend along the base of the dam on each side of the outlet section.

### Observations:

The reservoir has been full for an extended period this season and the downstream toe is dry.

(38) The rodent screens are very fine mesh and are becoming clogged by algae growth.

North Drain: Dry

South Drain: Flowing a trickle

### Action:

A larger mesh size of 1/2 to 1-inch will keep rodents out and not tend of build up algae.

CONDITIONS OBSERVED:  Good  Acceptable  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

### Description:

The outlet conduit is an 18-inch plc. pipe with an upstream control valve.

### Observation:

The concrete structure remains in new condition and the owner said the valve operates without issue.

(48) This valve and the other dams I visited this day were leaking and did not appear to be closed all of the way. Leaving the valve "cracked" open for extended periods will prematurely wear out the brass seats and seating surfaces due to the high velocities and cavitation through the narrow opening.

### Action:

- Recommend the Meadow Lake and other outlet valves be left fully closed when not in use. The rule of thumb for gates/valves is to operate them at least 20% open when passing water. If this is being done for water quality reasons think about making larger releases periodically.  
- All reservoir valves should be run through the full range of motion 1x per year if this is not already being done for normal operation.

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 Erosion around left wing wall

### Description:

The spillway is designed to pass the 100-year flood event with 1-ft of freeboard.

### Observation:

Main channel appears in good condition after two seasons of spring runoff passing through it.

(59) Erosion is occurring along the north training wall where it ties into the spillway channel (see photo). Appears to be caused by an eddy occurring at this transition between the concrete wall and riprap channel. The bank of the channel at this location is very steep and hard to get riprap to stay on the slope. Might need grouted riprap or a short concrete retaining wall.

### Actions:

Address the erosion on the left wing wall before next runoff season or it will continue to erode the downstream berm.

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

Toe drain flows are monitored by HOA staff. It is good practice to monitor the toe drain flows 1x / month for the first few years to establish a flow baseline.

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

**Observation:**

**The dams remains in like new condition and maintenance appears to be done as needed. On all dams you can tell the growth of weeds and brush is much improved since I looked at them 2 years ago!**

CONDITIONS OBSERVED:  Good  Acceptable  Poor

*Go to next page for Overall Conditions and Items Requiring Actions*

### OVERALL CONDITIONS

**Based on conditions observed during the inspection the dam appears to be in satisfactory condition for continued full storage. The HOA and contractor are doing a good job of controlling growth of woody vegetation and weeds. As the growth of grass becomes more established this will be need less frequently.**

**Repair of the erosion occurring at the end of the north spillway training wall should be addressed this fall. This will not need approval but I am happy to answer questions if you have any.**

**Outlet valves should be closed all the way when not in use to avoid premature wear (see description in the Outlet Section).**

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

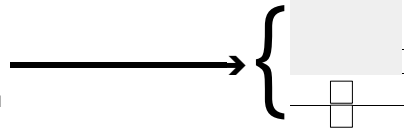
#### MAINTENANCE - ORDINARY REPAIR - MONITORING

- LUBRICATE AND OPERATE OUTLET GATES THROUGH FULL CYCLE  
**7/26/2021 - This should be done annually as part of the valve O&M.**  
 OTHER  
**7/26/2021 - Repair erosion along he north spillway training wall/riprap transition.**  
 OTHER  
**7/26/2021 - Re-seed downstream slope to protect the embankment and repair erosion scarps as needed.**

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



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: John Barth 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 required.

##### 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 line.

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.





Typical photo taken along the upstream slope from the north end of dam looking south.



Photo along the downstream slope. Note sparse vegetation growth.



Photo of the erosion rills that are forming on the slope north of the outlet.





Typical photo of the emergency spillway crest and downstream channel.



Photo showing the erosion occurring at the transition between the north training wall and riprap channel.



Photo of the outfall structure. Note screens on the toe drains should be replaced with larger mesh size.