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State of Utah

DEPARTMENT OF NATURAL RESOURCES

Division of Water Rights

JOEL FERRY
Executive Director

TERESA WILHELMSEN
State Engineer/Division Director

May 10, 2023

MIKE JOHANSON
COTTONWOOD MUTUAL WATER COMPANY
4000 WEST OLD HIGHWAY ROAD
MOUNTAIN GREEN, UT 84050

UT DIVISION OF WATER RIGHTS – DAM SAFETY SECTION

DAM INSPECTION REPORT – 2023

Dam Name / Number	Silver Leaf / UT00327		
Inspection Date	May 2, 2023	Hazard rating	High
Weather	Cloudy, Mid 60°'s	Rating is appropriate?	Yes
Reservoir Level, ft	4,998.1	SOP is current?*	Yes
Date of last outlet insp.	2017	EAP is current?*	No
Spillway Flow, cfs	None	EAP is distributed?*	No

*Based on conversation with the Owner's representative.

Representatives at the Inspection:

Name	Representing
Mike Johanson, Heidi Dorius, Earlene Lee, Steve Keeler	Cottonwood Mutual Water Company
Bret Dixon	Division of Water Rights, Dam Safety

Checklist Item	Necessary Action, Maintenance and/or Repair:
1, 2	Continue efforts to eradicate rodent activities from the dam embankment and completely backfill their burrows.
2, 3, 4, 6, 8	Continue efforts to remove woody vegetation from and within 25-feet of the dam embankment. Particularly on the upstream slope and in the right downstream toe and abutment groin area.
23	a) The staff gage is unreadable. Re-mark the concrete pedestal elevation plates according to the 2019 survey. b) We support plans to install a new sloping staff gage.

Checklist Item	Comments:
9, 15	Continue to monitor the slope instability along the reservoir’s west rim and the landside located above and to the east of the emergency spillway discharge channel. The landside above the emergency spillway channel appears to be the same since 2005 with no signs of active movement.
15	Fill material continues to exist within the downstream portion of the emergency spillway discharge channel. To prevent the overall spillway capacity from becoming compromised, the top of this infill material is to be maintained at an elevation that is below the elevation of the primary spillway’s intake. In 2021, the downstream property owner agreed to place a properly sized culvert through the area in question. To date, no culvert has been installed.
15, 19	We recommend that spillway and outlet conduits be internally inspected once every 5 years.
EAP	Update the contact information found in the Emergency Action Plan (EAP) and distribute a copy to our office and other plan holders.

Embankment	N/A	Not Inspected	Inundated	Good	Monitor	Maintenance	Critical
1. Crest	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Upstream Slope	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Downstream Slope	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Groins	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Abutment/Foundation	N/A	Not Inspected	Inundated	Good	Monitor	Maintenance	Critical
5. Left Abutment	---	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Right Abutment	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Upstream Toe	---	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Downstream Toe	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Reservoir Basin	N/A	Not Inspected	Inundated	Good	Monitor	Maintenance	Critical
9. Shore Stability	---	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Reservoir Bottom	---	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spillway	N/A	Not Inspected	Inundated	Good	Monitor	Maintenance	Critical
11. Freeboard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Intake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Concrete Structures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Stilling Basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Discharge Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outlet	N/A	Not Inspected	Inundated	Good	Monitor	Maintenance	Critical
16. Controls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Venting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Intake	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Conduit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Stilling Basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Discharge Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Instrumentation	N/A	Not Inspected	Inundated	Good	Monitor	Maintenance	Critical
22. Monuments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Staff Gage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
24. Piezometers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Drains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Readings	<input type="checkbox"/>	Received	Yes	No	Reviewed	Yes	No
			<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Photo #1:



Caption: General overall view of dam embankment.

Photo #2:



Caption: Willows becoming established on the upstream slope.

Photo #3:



Caption: Historic landslide in the emergency spillway discharge channel.

Photo #4:



Caption: Left (east) abutment benchmark (BM #2).

Photo #5:



Caption: Close-up view of left (east) abutment benchmark (BM #2).

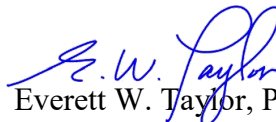
This report presents the results of an engineering evaluation of the dam and appurtenant structures based on visual observations and discussions with the Owner's representative at the time of the inspection. The status and performance of the dam may vary with time and changing conditions.

This inspection does not relieve the Owner/Operator of the legal duties, obligations, or liabilities incident to ownership and operation of the dam and reservoir.

This inspection does not include an assessment of site safety related to facility personnel and public access.

Your cooperation is appreciated. If you have any questions, please feel free to contact Bret Dixon at (801) 538-7373.

Sincerely,


Everett W. Taylor, P.E.
Assistant State Engineer

EWT/tg

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