Oregon
Tina Kotek, Governor

Water Resources Department
Dam Safety Program
725 Summer St NE, Suite A
Salem, OR 97301
(503) 986-0900
Fax (503) 986-0904

March 3, 2023

Bart Stepp, City Engineer
City of Silverton
306 S. Water Street
Silverton, OR 97381

Re: Silver Creek Dam (S– 66) – Inspection Summary

This dam was inspected on September 7, 2022. I performed the inspection with Civil Engineering Specialist Katie Larson. Mike Dahlberg and Jacob Rush were also on site. The Water Resources Department conducts routine inspections of the dams' exterior surfaces to identify conditions that might affect the safety of the dam. Dams are assigned a hazard rating based on downstream hazard to people and property, not on the condition of the dam. Silver Creek Dam is classified as a high hazard dam. High hazard dams are typically inspected every year.

Summary: Results of the inspection are summarized in the table below. Detail regarding the inspection can be found in the following photos and text. Where work is needed, additional information can also be found in the section below. Any aspects of the dam that did not present a dam safety concern are not discussed in this letter.

Category	Inspected	Result
Access	☒	Adequate
Reservoir	☒	Adequate
Spillway	☒	Adequate
Seepage/Leakage	☒	Adequate
Conduit	☒	Adequate
Embankment	☒	Adequate
Instrumentation/Monitoring	☒	Excellent
Emergency Action Plan	☒	Adequate

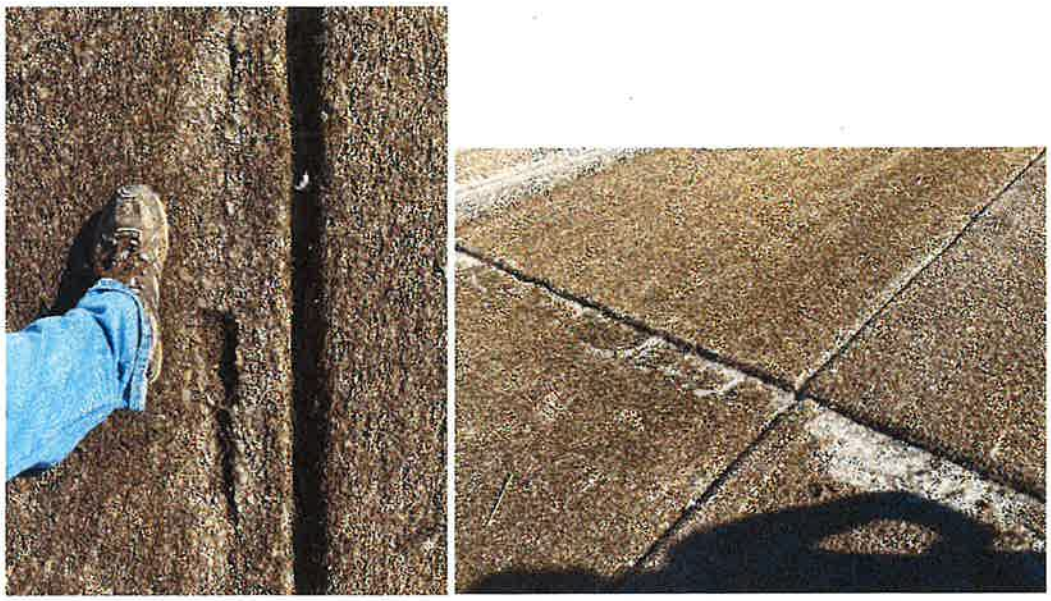
Details & Recommendations:

Reservoir:
The reservoir level was 402.8 feet at the time of the inspection. The minimum freeboard was 10 feet, which is excellent.

Spillway:
There were some large logs on the edge of the spillway discharge channel. Based on reports from staff onsite, these should wash downstream during the next heavy flow. Please monitor this area to ensure it does not become blocked.

Logs on edge of discharge channel

The joints in the spillway are large with some areas of scour. These areas should be monitored to ensure the scour does not increase.



Large joints with area of scour

Seepage:

The normal seepage for this dam was observed during the inspection. There have been no significant changes in this area during the past few years. Please continue to monitor this area for any changes in flow, coloration, or sediment discharge. Because of this additional seepage, it is important to keep the weirs and toe drains clean and functioning

properly. They were in good condition during the inspection with some minor sediment and vegetation noted.

Typical seepage observed at reinforced area

Upstream face of the embankment showing well-kept ground cover

Emergency Action Plan
Please plan on exercising your EAP between 2023 and 2024. We will be reaching out soon to help coordinate this, likely with another local dam.

Summary of Recommendations:

Please monitor the area of seepage for any changes and keep the weirs clear and functional. Also monitor the spillway cracks and scour for any changes after prolonged flows.

Please note that if any work is to be completed on the dam or surrounding areas which either directly or indirectly impacts the reservoir, downstream waterway quality, or fish passage, other state and federal agencies may have permit requirements or regulations for this work.

This dam is well maintained and operated and is in Fair condition. Please continue the good operation and maintenance of this dam. Also note that the condition rating does not reflect the seismic stability of this dam as an analysis has not been completed. As a result, an analysis will be needed in the near future.

We use a standard inspection form, and a copy of the field inspection sheet for this dam is attached. Thanks again for meeting with us. Please let me know if you have any questions about this inspection. We look forward to future inspections of this dam.

Sincerely,

Arden Babb

Arden Babb, P.E.
Dam Safety Engineer
(971) 719-4012

C: Tony Janicek Ph.D., P.E., Dam Safety Program Coordinator
Greg Wacker, Watermaster District 16
Dam Safety File S −66

Oregon Dam Safety
Inspection Form

Name of Dam: SILVER CREEK			File #: S-66
Height: 65 ft.	Storage: 1,300 ac. ft.	Permit:	NID #: OR00622
High Hazard Dam	Condition Assessment: Fair		District: 16
Date: September 7, 2022	Weather: ☑ Dry ☐ Rain ☐ Snow ☑ Now ☐ Recently		Prior Inspection: August 25, 2021
Inspector(s): Arden Babb	Others on Site: Mike Dahlberg, Jacob Rush		
Issues from Prior Inspection:			

***Rating Criteria**: 5: Exemplary; 4: Adequate; 4-: Minor Maintenance; 3: Maintenance Action Needed;*
2: Maintenance Action Neglected; 1: Unsafe Condition

General		**Rating**
Vehicle Access	☑ All Weather Road ☐ Dirt Road ☐ None	4
Access Control	☑ Gate ☑ Locked and Secured ☑ Fencing ☑ Signage ☐ None ☐ Other	4
Detail:		

Reservoir	**Pool Level:** 420.8 ft.	☐ **Approximated** ☑ **Measured** ☐ **Other** ☐ **Crest** ☐ **Gage** ☑ **Other Electronic reservoir level**	**Rating**
Minimum Freeboard	**Vertical distance from debris line to lowest place on crest:** 10 **ft.**		4
Condition	☑ No Issue ☐ Floating Debris/Trash ☐ Log Boom ☐ Unusual Condition ☐ Other		4
Detail:			

Spillway		**Rating**
Structure	☐ **Earth** ☑ **Concrete** ☐ **Culvert** ☐ **Rock** ☐ **Trickle tube** ☐ **Other**	
Approach Channel	☑ Clear ☐ **Trees/brush** ☐ **Debris** ☐ Erosion ☐ Other	4
Control Section	☑ Concrete ☐ Rock ☐ Soil ☐ Culvert ☐ Other ☐ **Unstable**	4
Spillway dimensions	Width: ft. Depth: ft. ☐ Survey Attached	
Flashboards/Gate	☐ Yes ☑ No ☐ In place ☐ Operational ☐ Deteriorated	N/A
Discharge Channel	☑ Clear ☑ Trees/brush ☐ Leakage ☐ **Headcutting** feet from spillway control section, depth: feet.) ☐ None	4-
Stilling basin	☐ None ☑ Functional ☐ Minor Erosion ☐ **Severe Erosion** ☐ **Undercutting** ☑ **No Issue**	4
Aux. Spillway	☐ Yes ☑ No (use "Detail" box below)	N/A
Detail:	Area of scour three slabs from bottom, about 12 inches long 1 inch deep	

Seepage/Leakage		**Rating**
Serious Conditions	☑ None ☐ **New Seepage** ☐ **Leakage** ☐ **Piping** ☐ **Discolored Water** ☐ **Boils** ☐ **Other**	N/A
Seepage Locations	☐ Center ☐ Left ☐ Right ☐ Around Pipe	
Flow	☐ Wet Vegetation ☐ Spongy ☐ Standing Water ☐ Flowing Water	N/A
Toe Drains	☐ None ☑ Working ☐ Damaged ☐ Buried ☐ Other	4
Flow (gpm)/Detail:		

Conduit			Rating
Control	☑ **Manual** ☐ **Power** ☐ **None**		4
Inlet	☑ Submerged ☐ Debris on trash rack ☐ Deterioration		N/A
Control/Stem	☐ Missing ☑ Operable ☐ Damaged ☐ Inoperable ☐ Unknown		4
Valve(s) Cycling	☐ Frozen ☐ Unknown ☑ Past Year ☐ Frequent ☐ During Inspection		4
Principal Conduit	Diameter/Size: 18in. Material: Steel	Condition: Fair	4
Primary Outlet	☐ Overgrown ☐ Clean ☐ Buried/Obstructed ☐ **Pressurized** ☐ Leaking: gpm		4
Other Outlet(s)	☐ Yes ☑ No		N/A
Detail:	18 and 42 in conduits		

Structure of Dam	☑ **Earth** ☐ **Rock** ☐ **Concrete** ☐ **Other**		Rating
Detail:			
Deformation	☑ None ☐ **Cracks** ☐ **Landslide(s)** ☐ **Sinkhole(s)** ☐ **Movement**		4
Crest	☑ No Issues ☐ Settlement/Low Spots ☐ Narrow ☐ Wave Erosion		4
Erosion	☑ None ☐ Trampling ☐ Surface Erosion		4
Aux. Dam (s)	☐ Yes ☑ No Number:		N/A
Detail:			
Animals			**Rating**
Evidence	☑ No Evidence ☐ Trails ☐ Burrows ☐ Deep Burrows	Max Depth: ft.	4
Locations		Extensive: ☐ Yes ☑ No	
Detail:			
Vegetation			**Rating**
Cover	☐ None ☑ Low Grass ☑ High Grass ☐ Brush ☐ Small Trees ☐ Large Trees		4
Locations		Impairs Inspection ☐ Yes ☑ No	4
Detail:			

Monitoring		Rating
Instrumentation	☐ None ☑ Weir ☐ Piezometer ☐ Camera ☑ Reservoir level ☐ Other	5
Monitoring	☐ None ☑ Continuous ☐ Frequent ☐ Past year ☐ Unknown	5

Expedited Re-inspection Needed: No Next Inspection Date: 2023
Emergency Action Plan: Exists: Yes Onsite: Yes Current: Yes

☐ **Maintenance action - First Notice**
☐ **Maintenance action - Subsequent Inspection with Deficiency**
☐ **Corrective action - Unsafe Condition**

Other Issues or Additional Detail Needed: