



Potable Water Reservoir Inspection: Cove Cay

Inspection Date: June 29th, 2023

Prepared for:

Sunshine Coast Regional District
Attn: Codi Abbott

Prepared By:

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Introduction

Freedom Diving Systems Ltd (FDS) was contracted by the Sunshine Coast Regional District (SCRD) to conduct a visual inspection of their Cove Cay reservoir. The inspection was conducted on June 29th, 2023, using a remote operated vehicle (ROV) at the reservoir location of 5380 Cedarridge Pl, Maderia Park BC. The SCRD representative for this project was Codi Abbott. The following report summarizes the inspection observations, the current condition of the reservoir and includes a time-stamped table detailing the video footage which was compiled into a continuous video format for submission to the client.

Project Summary

The Inspection of the reservoir was completed on June 29, 2023. All equipment was sanitized prior to entry into the water reservoir to appropriate industry standards, using a chlorine and water solution of 200 ppm. SCRD was responsible for chlorinating the water supply within the reservoirs prior to the inspection and to ensure chlorine levels were at an appropriate level during and after the inspection took place. Deliverables requested by the SCRD include the following:

- A written report describing the condition of the reservoir internals,
- Video of the inspection.
- Any important observations during the video matched with the location (time of the video capture) for quick reference.

Inspection Details

The submitted video, with a duration of twenty-two minutes and fifty-one seconds (00:22:51), shows the inspection conducted at Cove Cay Reservoir. The inspection involved multiple circumnavigations around the upper and lower sections of the reservoir. It focused on capturing video footage of the internal infrastructure, which comprises an overflow pipe, inlet pipe, outlet drain, and a sump.

During the inspection, there was no access to engineering drawings for reference. It was observed that the upper and lower support brackets on the inlet and overflow pipes exhibited significant corrosion. The steel wall of the reservoir appeared to be in satisfactory condition overall, although there were isolated instances of corrosion along the plate seams.

The lower flanges of the inlet and overflow pipes were found to have all bolts in place but appears to have moderate corrosion. The lower access plate seams showed considerable corrosion.

The sediment accumulation throughout the reservoir was generally between ½ inch to 1 inch in thickness, with the heaviest concentration observed near the center of the reservoir.

Timestamps related to the video are in the format of hour: minutes: seconds within Table 1 below. Video collected has been processed into a continuous session detailing underwater portions of the reservoir and submitted to the client. Still images of important observations are also below.

Table 1 – Cove Cay Reservoir Time-Stamp Table of Video Inspection

Time Stamp (hr:min:sec)	Description
00:00:00	Video Commencement below access hatch
00:55:00	Left of hatch inlet pipe upper support bracket
00:02:07 – 00:07:10	Isolated corrosion along plate seams
00:07:30	Right of hatch overflow pipe upper support bracket
00:08:51	Right of hatch overflow pipe lower support bracket
00:11:07	Left of hatch inlet pipe lower support bracket
00:12:02	Lower access hatch
00:13:22	Left of hatch inlet pipe lower flange
00:13:43	Sump
00:14:12	Outlet
00:15:05	Sediment ½” – ¾”
00:22:41	End of Inspection

Photo Log

Image 1 - 00:55:00 Left of hatch inlet pipe upper support bracket, Observed heavy corrosion.



Image 2 & 3 - 00:02:07 – 00:07:10 Isolated corrosion along plate seams.



Image 4 - 00:07:30 Right of hatch overflow pipe upper support bracket, Observed heavy corrosion.



Image 5 - 00:08:51 Right of hatch overflow pipe lower support bracket, Observed heavy corrosion.



Image 6 - 00:11:07 Left of hatch inlet pipe lower support bracket, Observed heavy corrosion.



Image 7 - 00:13:22 Left of hatch inlet pipe lower flange, Observed heavy corrosion.



Image 8 - 00:13:43 Sump.



Image 9 - 00:14:12 Outlet



Inspection Conclusion

Consideration should be given to addressing the areas of corrosion identified above.
Reinspection should be considered within 3-5 years following the guidelines published by the American Water Works Association, or sooner as required.

Please do not hesitate to contact Freedom Diving System Ltd. for any additional information.

Sincerely,

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