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APPENDIX A

2025 Saanich Peninsula Wastewater Treatment Plant Compliance Summary

The Saanich Peninsula Wastewater Treatment Plant (SPWWTP) is authorized to discharge under Municipal Wastewater Regulation (MWR) Operational Certificate ME-15445, under the Environmental Management Act (EMA) which was originally issued in January 1999. The Saanich Peninsula Liquid Waste Management Plan (SPLWMP), a higher-level plan also under the EMA, contains the CRD's commitments to build and operate the facility, and work with the other municipal and First Nations plan members to manage wastewater and other liquid wastes in a manner that ensures protection of human health and the environment. Finally, the facility must also meet all requirements of the Wastewater Systems Effluent Regulation (WSER) under the federal Fisheries Act.

Under the above legislation, the facility must meet various regulatory compliance conditions, the most significant being ensuring effluent quality limits are not exceeded and the facility does not adversely impact human health or the environment.

Regulatory conditions, in part, include ensuring:

1. The plant is operated as designed, and adverse operational events (e.g., bypasses, overflows, system malfunctions or failures, non-compliant effluent quality, missed sampling, or spills) are reported immediately.
2. All required monitoring, both for compliance and to assess risks to human health and the environment, is completed on an annual basis.
    a. Final effluent quality and total daily flow volumes do not exceed regulatory limits.

The facility was last inspected by the provincial regulators in 2023. It has been many years since federal regulators have visited the site.

Operating Compliance

The facility operated as designed for the majority of 2025 and routinely produced high quality effluent that exceeded provincial and federal expectations for secondary treatment plants and marine discharges. The only exception was a plant upset outside of CRD control that occurred in November and resulted in temporary non-compliance with provincial and federal effluent quality limits (more information below). The plant upset was caused by BC Ferries who unexpectedly released a large volume of high strength effluent from their Swartz Bay terminal into the collection system. Regional Source Control Program staff have since visited BC Ferries to ensure additional system controls are installed to prevent similar events in the future.

Monitoring Compliance

Wastewater and receiving environment monitoring are required to ensure that the facility is performing as expected, effluent quality limits are achieved, and to ensure that adverse impacts to human health and the environment are minimized. Samples must be collected at frequencies prescribed in the MWR and WSER, the facility's provincial Operational Certificate, and the approved comprehensive receiving environment monitoring program design document.

Overall, the vast majority of monitoring requirements were met in 2025. This included operational and compliance effluent quality sampling, comprehensive effluent contaminant characterization sampling, and water column monitoring around the Saanich Peninsula WWTP outfall (both during routine operation and the November plant upset).

There were a few situations where monitoring requirements were not met in 2025 including:

1. one event where sampling equipment failed and the required effluent sampling frequency could not be met (e.g. sampling of many effluent quality parameters require three samples per week, and there was one instance where the sampling equipment failed towards the end of a week, thereby missing one of the required samples)
2. one event where adverse weather conditions made it unsafe to sample the marine receiving environment (e.g. sampling the water column around the outfall is typically required five days in the winter and five days in the summer. During the winter sampling period, only four days could be sampled due to adverse weather, and the sampling vessel was subsequently no longer available due to a mechanical breakdown).

A summary of the provincial and federal effluent quality limits that the facility must meet are summarized in Table 1, along with required sampling frequency. Compliance with these limits during routine operation and the unexpected November plant upset is summarized in Tables 2 through 9.

While the facility reliably met all effluent quality limits during routine operation, it was temporarily out of compliance with the federal and provincial limits for total suspended solids (TSS) during the plant upset (Table 2). Receiving environment sampling during the plant upset confirmed that human health and environment risk was low due to the high assimilative capacity of the marine receiving environment around the outfall.

Table 1 Current Saanich Peninsula WWTP Provincial and Federal Effluent Quality Limits and Typical Regulatory Requirements Under the MWR and WSER

Parameter (Sampling Frequency)	Effluent Regulatory Limit
Carbonaceous Biochemical Oxygen Demand (CBOD) (3 samples/week)	provincial – 45 mg/L (daily maximum) federal – 25 mg/L (monthly average)
Total Suspended Solids (TSS) (3 samples/week)	provincial – 45 mg/L (daily maximum) federal – 25 mg/L (monthly average)
Effluent Flow (daily)	provincial – 56,000 m3/day (daily maximum) 27,394 m3/day (monthly average)[1]
Rainbow Trout Toxicity (quarterly)	provincial & federal - pass
pH (3 samples/week)	provincial – 6-9
Unionized Ammonia, pH @ 15°C (3 samples/week)	provincial – required, but no limit federal – 1.25 mg/L (daily maximum)
Fecal coliforms (every two weeks)	provincial – required, but no limit
Total Residual Chlorine (as needed)	federal – 0.02 mg/L (monthly average)

[1] Limit determined on an annual basis = [12,200 m3/d * (1.0316 calendar year – 1999)]

Table 2 Summary of 2025 Saanich Peninsula Total Suspended Solids Effluent Quality Limit Compliance

Effluent Parameter	Effluent Quality Limits	Compliance Monitoring Results[1]		
		Daily Maximum (mg/L)	Monthly Average (mg/L)	Pass/Fail
Total Suspended Solids (TSS)	**Provincial:** 45 mg/L (daily maximum) **Federal:** 25 mg/L (monthly average)	Jan – 10.2 Feb – 16.0 Mar – 5.6 Apr – 16.8 May – 20.4 Jun – 16.8 Jul – 12.0 Aug – 30.4 Sep – 14.4 Oct – 12.6 Nov – 109.0 Dec – 13.8	Jan – 7.6 Feb – 8.4 Mar – 3.9 Apr – 8.2 May – 14.8 Jun – 9.1 Jul – 7.6 Aug – 9.8 Sep – 8.5 Oct – 8.7 Nov – 39.3 Dec – 9.2	Not applicable

[1] The highlighted values are those that exceeded provincial and/or federal effluent quality limits.

Table 3 Summary of 2025 Saanich Peninsula Carbonaceous Biochemical Oxygen Demand (CBOD) Effluent Quality Limit Compliance

Effluent Parameter	Effluent Quality Limits	Compliance Monitoring Results[1]		
		Daily Maximum (mg/L)	Monthly Average (mg/L)	Pass/Fail
Carbonaceous Biochemical Oxygen Demand (CBOD)	**Provincial:** 45 mg/L (daily maximum) **Federal:** 25 mg/L (monthly average)	Jan – 7.0 Feb – >34.0 Mar – <3.0 Apr – 5.5 May – 7.8 Jun – 7.3 Jul – 4.2 Aug – 9.9 Sep – 4.4 Oct – 5.7 Nov – 12.4 Dec – 5.6	Jan – 3.8 Feb – 10.6 Mar – <3.0 Apr – 3.6 May – 6.1 Jun – 4.9 Jul – 3.5 Aug – 4.9 Sep – 3.4 Oct – 4.3 Nov – 7.8 Dec – 4.1	Not applicable

[1] The highlighted values are those that exceeded provincial and/or federal effluent quality limits.

Table 4 Summary of 2025 Saanich Peninsula Total Daily Flow Limit Compliance

Effluent Parameter	Effluent Quality Limits	Compliance Monitoring Results[1]		
		Daily Maximum (mg/L)	Monthly Average (mg/L)	Pass/Fail
Effluent Flow	**Provincial & Federal:** 56,000 m3/day (daily maximum) **Provincial:** 27,394 m3/day[2] (monthly average)	Jan – 14,187 Feb – 16,863 Mar – 18,450 Apr – 10,777 May – 11,138 Jun – 10,276 Jul – 9,968 Aug – 10,561 Sep – 9,226 Oct – 10,756 Nov – 15,351 Dec – 22,678	Jan – 9,992 Feb – 11,530 Mar – 11,706 Apr – 9,357 May – 8,978 Jun – 9,018 Jul – 8,876 Aug – 8,728 Sep – 8,062 Oct – 8,590 Nov – 10,141 Dec – 13,496	Not applicable

[1] The highlighted values are those that exceeded provincial and/or federal effluent quality limits.
[2] Limit determined on an annual basis = [12,200 m3/day * (1.0316calendar year-1999)]

Table 5 Summary of 2025 Saanich Peninsula Total Rainbow Trout Toxicity Compliance

Effluent Parameter	Effluent Quality Limits	Compliance Monitoring Results[1]		
		Daily Maximum (mg/L)	Monthly Average (mg/L)	Pass/Fail
Rainbow Trout Toxicity[2]	**Provincial & Federal:** pass			Jan-Mar – Pass Apr-Jun – Pass Jul-Sep – Pass Oct-Dec – Pass

[1] The highlighted values are those that exceeded provincial and/or federal effluent quality limits.
[2] Toxicity tests are undertaken on a quarterly basis.

Table 6 Summary of 2025 Saanich Peninsula pH Effluent Quality Limit Compliance

Effluent Parameter	Effluent Quality Limits	Compliance Monitoring Results[1]		
		Daily Maximum (mg/L)	Monthly Average (mg/L)	Pass/Fail
pH	**Provincial:** Between 6 and 9			Jan – in range Feb – in range Mar – in range Apr – in range May – in range Jun – in range Jul – in range Aug – in range Sep – in range Oct – in range Nov – in range Dec – in range

[1] The highlighted values are those that exceeded provincial and/or federal effluent quality limits.

Table 7 Summary of 2025 Saanich Peninsula Unionized Ammonia Effluent Quality Limit Compliance

Effluent Parameter	Effluent Quality Limits	Compliance Monitoring Results[1]		
		Daily Maximum (mg/L)	Monthly Average (mg/L)	Pass/Fail
Unionized Ammonia	**Federal:** 1.25 mg/L (daily maximum)	Jan – <0.1 Feb – <0.1 Mar – <0.1 Apr – <0.1 May – <0.1 Jun – 0.132 Jul – <0.1 Aug – <0.1 Sep – <0.1 Oct – <0.1 Nov – <0.1 Dec – <0.1		Not applicable

[1] The highlighted values are those that exceeded provincial and/or federal effluent quality limits monitored.

Table 8 Summary of 2025 Saanich Peninsula Fecal Coliforms Effluent Quality

Effluent Parameter	Effluent Quality Limits	Compliance Monitoring Results		
		Daily Maximum (mg/L)	Monthly Average (mg/L)	Pass/Fail
Fecal coliforms	**Provincial:** Monitoring required, but no effluent quality limits	Jan – 61,000 Feb – 59,000 Mar – 13,000 Apr – 65,000 May – 290,000 Jun – 39,000 Jul – 290,000 Aug – 27,000 Sep – 90,000 Oct – 1,300,000 Nov – 47,000 Dec – 110,000	Jan – 33,750 Feb – 34,450 Mar – 9,000 Apr – 41,000 May – 191,000 Jun – 39,000 Jul – 220,000 Aug – 14,950 Sep – 86,500 Oct – 654,250 Nov – 38,000 Dec – 67,333	Not applicable

Table 9 Summary of 2025 Saanich Peninsula Total Residual Chlorine Effluent Quality Limit Compliance

Effluent Parameter	Effluent Quality Limits	Compliance Monitoring Results[1]		
		Daily Maximum (mg/L)	Monthly Average (mg/L)	Pass/Fail
Total Residual Chlorine[2]	**Federal:** 0.02 mg/L (monthly average)		N/A[2]	Not applicable

[1] The highlighted values are those that exceeded provincial and/or federal effluent quality limits.
[2] Chlorine was not used as part of the Saanich Peninsula WWTP treatment process in 2025. As such, total residual chlorine was not monitored.