Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Notice of Meeting and Meeting Agenda
Core Area Liquid Waste Management Committee

Wednesday, March 25, 2026 **11:30 AM** **6th Floor Boardroom**
625 Fisgard Street
Victoria, BC V8W 1R7

C. Coleman (Chair), D. Kobayashi (Vice Chair), M. Alto, S. Brice, J. Brownoff, J. Caradonna, Z. de Vries, B. Desjardins, S. Goodmanson, K. Murdoch, D. Murdock, C. Plant, L. Szpak, D. Thompson, S. Tobias, C. McNeil-Smith (Board Chair, ex-officio)

The Capital Regional District strives to be a place where inclusion is paramount and all people are treated with dignity. We pledge to make our meetings a place where all feel welcome and respected.

1. Territorial Acknowledgement

2. Approval of Agenda

3. Adoption of Minutes

3.1. 26-0310 Minutes of the Core Area Liquid Waste Management Committee meetings of July 23, 2025 and October 15, 2025

Recommendation: That the minutes of the Core Area Liquid Waste Management Committee meetings of July 23, 2025 and October 15, 2025 be adopted as circulated.

Attachments: Minutes - July 23, 2025

Minutes - October 15, 2025

4. Chair's Remarks

5. Presentations/Delegations

The public are welcome to attend CRD meetings in-person.

Delegations will have the option to participate electronically. Please complete the online application at www.crd.ca/address no later than 4:30 pm two days before the meeting and staff will respond with details.

Alternatively, you may email your comments on an agenda item to the CRD Board at crdboard@crd.bc.ca.

6. Committee Business

6.1. 26-0109 2026 Core Area Liquid Waste Management Committee Terms of Reference

Recommendation: There is no recommendation. This report is for information only.

Attachments: Staff Report: 2026 CALWMC Committee ToR
Appendix A: 2026 CALWMC Committee ToR (Approved)
Appendix B: 2026 CALWMC Committee ToR (Redlined)

6.2. 26-0333 2025 Annual Compliance Summary - McLoughlin Point Wastewater Treatment Plant

Recommendation: There is no recommendation. This report is for information only.

Attachments: Staff Report: 2025 Annual Compliance Summary - MWWTP
Appendix A: 2025 MPWWTP Compliance Summary
Appendix B: MPWWTP TSS and CBOD Concentrations (2015 to 2025)

6.3. 26-0350 November 2025 Core Area Residual Solids Conveyance Line Blockage

Recommendation: There is no recommendation. This report is for information only.

Attachments: Staff Report: November 2025 RSCL Blockage

7. Notice(s) of Motion

8. New Business

9. Motion to Close the Meeting

9.1. 26-0351 Motion to Close the Meeting

Recommendation: That the meeting be closed for First Nations or Indigenous entity in accordance with Section 90(2)(b)(iii) of the Community Charter [1 item]

10. Adjournment

The next meeting is July 22, 2026.

Making a difference...together

Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Meeting Minutes

Core Area Liquid Waste Management Committee

Wednesday, July 23, 2025 **11:30 AM** **6th Floor Boardroom**
625 Fisgard Street
Victoria, BC V8W 1R7

PRESENT
Directors: C. Coleman (Chair), D. Kobayashi (Vice Chair) (EP), M. Alto (11:36 am), S. Brice, J. Brownoff (EP), J. Caradonna, B. Desjardins, K. Murdoch (EP), D. Murdock (EP), D. Thompson (EP), L. Szpak, M. Wagner (for S. Goodmanson) (EP), M. Westhaver (for C. Plant) (EP), C. McNeil-Smith (Board Chair, ex-officio)

Staff: T. Robbins, Chief Administrative Officer; A. Fraser, General Manager, Infrastructure and Water Services; J. Dales, Senior Manager, Wastewater Infrastructure Operations; G. Harris, Senior Manager, Environmental Protection; J. Marr, Senior Manager, Infrastructure Engineering; J. Kelly, Manager, Integrated Water Services Capital Projects; M. Lagoa, Deputy Corporate Officer; J. Dorman, Committee Clerk (Recorder)

EP - Electronic Participation

Regrets: Director(s) Z. de Vries, S. Goodmanson, C. Plant, S. Tobias,

The meeting was called to order at 11:30 am.

1. Territorial Acknowledgement

Director Brice provided a Territorial Acknowledgement.

2. Approval of Agenda

MOVED by Director Desjardins, SECONDED by Director Brice,
That the agenda for the Core Area Liquid Waste Management Committee of July 23, 2025 be approved.
CARRIED

3. Adoption of Minutes

3.1. 25-0837 Minutes of the Core Area Liquid Waste Management Committee of March 26, 2025

MOVED by Director Brice, SECONDED by Director Caradonna,
That the minutes of the Core Area Liquid Waste Management Committee of March 26, 2025 be adopted as circulated.
CARRIED

4. Chair's Remarks

Chair Coleman spoke about the June 26th, 2025 media release that named Pyrocal as the preferred proponent in the conversion of biosolids to biochar.

5. Presentations/Delegations

There were no presentations or delegations.

6. Committee Business

6.1. 25-0577 Liquid Waste Management Plan – Amendment No. 13 Inflow and Infiltration

G. Harris spoke to Item 6.1.

Director Alto joined the meeting in person at 11:36 am.

MOVED by Director Desjardins, SECONDED by Director Szpak,
The Core Area Liquid Waste Management Committee recommends to the Capital Regional District Board:
That Amendment No. 13 to the Core Area Liquid Waste Management Plan be submitted to the Province of British Columbia Ministry of Environment and Parks for approval.
CARRIED

6.2. 25-0792 Kosapsum Nation Capacity Transfer - Service Agreement Update

A. Fraser presented Item 6.2. for information.

Discussion ensued on the following:
- how requests are initiated and collaboration to undertake requests
- capacity transfer meaning and transfers between jurisdictions
- annual tracking and capacity memorandums

6.3. 25-0793 Core Area Liquid Waste Management Committee 2025 Mid-Year Capital Projects and Operations Update

J. Marr and J. Dales presented Item 6.3. for information.

7. Notice(s) of Motion

There were no notice(s) of motion.

8. New Business

There was no new business

9. Adjournment

MOVED by Director Desjardins, SECONDED by Director Caradonna,
That the July 23, 2025 Core Area Liquid Waste Management Committee meeting be adjourned
at 11:51 am.
CARRIED

_____
CHAIR

_____
RECORDER

Making a difference...together

Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Meeting Minutes

Core Area Liquid Waste Management Committee

Wednesday, October 15, 2025 **11:30 AM** **6th Floor Boardroom**
625 Fisgard Street
Victoria, BC V8W 1R7

Special Meeting - Budget

PRESENT
Directors: C. Coleman (Chair), D. Kobayashi (Vice Chair), M. Alto, S. Brice (EP), J. Brownoff, J. Caradonna, B. Desjardins, S. Goodmanson, K. Harper (for D. Murdock), K. Murdoch, L. Szpak, D. Thompson, S. Tobias, M. Westhaver (for C. Plant) (EP), C. McNeil-Smith (Board Chair, ex-officio)

Staff: T. Robbins, Chief Administrative Officer; N. Chan, Chief Financial Officer; A. Fraser, General Manager, Infrastructure and Water Services; L. Jones, General Manager, Parks, Recreation and Environmental Services; J. Dales, Senior Manager, Wastewater Infrastructure Operations; G. Harris, Senior Manager, Environmental Protection (EP); R. Tooke, Senior Manager, Environmental Innovation; J. Kelly, Manager, Infrastructure and Water Services Capital Projects; S. Krishna, Manager, Social Marketing, Corporate Communications and Engagement; Y. Li, Senior Financial Advisory, Financial Services, M. Lagoa, Deputy Corporate Officer; J. Dorman, Committee Clerk (Recorder)

EP - Electronic Participation

Guests: Katie Hamilton, Tavola Strategy Group

Regrets: Directors Z. de Vries, D. Murdock, C. Plant

The meeting was called to order at 11:30 am.

1. Territorial Acknowledgement

Vice Chair Kobayashi provided a Territorial Acknowledgement.

2. Approval of Agenda

MOVED by Director Desjardins, SECONDED by Director Kobayashi,
That the agenda for the Core Area Liquid Waste Management Committee meeting of October 15, 2025 be approved.
CARRIED

3. Presentations/Delegations

There were no presentations or delegations.

4. Special Meeting Matters

4.1. 25-1027 Core Area Wastewater Service 2026 Capital and Operating Budget

A. Fraser spoke to Item 6.1.

Discussion ensued on the following:
- mitigating risks related to infrastructure
- refunding reserves and base versus future operating costs
- potential opportunities to increase automation
- potable water cost and drivers for increase
- wastewater development cost charges

MOVED by Director Szpak, SECONDED by Alternate Director Harper,
The Core Area Liquid Waste Management Committee recommends the Committee of the Whole recommend that the Capital Regional District Board:
1. Approve the 2026 Core Area Wastewater Service operating and capital budgets as presented;
2. Direct staff to balance the 2025 actual revenue and expenses on the transfer to the operating reserve; and
3. Direct staff to update carry forward balances in the 2026 Capital Budget for changes after year end.
CARRIED

4.2. 25-1063 Biosolids Advanced Thermal Facility - Engagement Plan

R. Tooke and K. Hamilton presented Item 6.2. for information.

Directors Tobias and Desjardins left the meeting at 12:23 pm.

Discussion ensued on the following:
- open houses and staffing to answer technical and budget questions
- rural Saanich and Saanich sewer system separation projects
- facility proposal, fire protection and climate mitigations
- collaboration with municipal councils
- thermal processing, beneficial and potential uses, and market analysis
- permitting, land application and engagement processes and time frames
- current biosolids management processes

5. Adjournment

MOVED by Director Kobayashi, SECONDED by Director Alto,
That the Core Area Liquid Waste Management Committee meeting of October 15, 2025 be adjourned at 12:28 pm.
CARRIED

_____
CHAIR

_____
RECORDER

Making a difference...together

REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, MARCH 25, 2026

SUBJECT **2026 Core Area Liquid Waste Management Committee Terms of Reference**

ISSUE SUMMARY

To provide the 2026 Core Area Liquid Waste Management Committee Terms of Reference for information.

BACKGROUND

Under the *Local Government Act* and the CRD Board Procedures Bylaw, the CRD Board Chair has the authority to establish standing committees and appoint members to provide advice and recommendations to the Board.

On January 14, 2026, the CRD Board approved the 2026 Terms of Reference for standing committees. Terms of Reference (TOR) serve to clarify the mandate, responsibilities and procedures of standing committees and provide a point of reference and guidance for the committees and members.

For 2026, all standing committees TOR were revised under section 3.0 Composition to include additional details on First Nation members voting rights on standing committees. The Core Are Liquid Waste Management Committee TOR was updated under section 5.0 Resources and Support to reflect that the General Manager of Infrastructure and Water Services will act as liaison to the committee, with support from other departments, as required.

The approved 2026 Core Area Liquid Waste Management Committee TOR is attached as Appendix A, and a redlined copy is attached as Appendix B.

The TOR are being provided for information to the Committee. Any proposed revisions to the TOR will require ratification by the Board.

CONCLUSION

Terms of Reference serve to clarify the mandate, responsibilities and procedures of committees and provide a point of reference and guidance for the committee and its members. Any future revisions to the TOR will require ratification by the Board.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Marlene Lagoa, MPA, Manager, Legislative Services & Deputy Corporate Officer
Concurrence:	Alicia Fraser, P. Eng., General Manager, Infrastructure and Water Services

Concurrence:	Luisa Jones, MBA, General Manager, Parks, Recreation & Environmental Services
Concurrence:	Kristen Morley, J.D., Corporate Officer & General Manager, Corporate Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT(S)

Appendix A: 2026 Core Area Liquid Waste Management Committee Terms of Reference - Approved
Appendix B: 2026 Core Area Liquid Waste Management Committee Terms of Reference - Redlined

Terms of Reference

CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE

PREAMBLE

The Capital Regional District (CRD) Core Area Liquid Waste Management Committee (CALWMC) is a standing committee established by the CRD Board and will oversee and make recommendations to the Board regarding the Core Area Liquid Waste Management Plan (CALWMP). Recommendations related to long-term biosolids management planning in the CALWMP shall be referred to the Environmental Services Committee.

The Committee's official name is to be:

Core Area Liquid Waste Management Committee

1.0 PURPOSE

a) The mandate of the Committee is to oversee and make recommendations to the Board regarding the:

i. administration and regulatory reporting for the Core Area Liquid Waste Management Plan

ii. Core area trunk sewers and sewage disposal systems

b) The Committee will act as the steering committee of the Technical and Community Advisory Committee, as outlined in Appendix A.

2.0 ESTABLISHMENT AND AUTHORITY

a) The Committee will make recommendations to the Board for consideration.

b) The Board Chair will appoint the Committee Chair, Vice Chair and Committee members annually.

3.0 COMPOSITION

a) The membership is comprised of all directors on the CRD Board from the following municipalities that are participants in the Core Area Liquid Waste Management Plan:

- Colwood
- Esquimalt
- Langford
- Oak Bay
- Saanich
- Victoria
- View Royal
- An elected representative and alternate from each of the Songhees Nation and Esquimalt Nation Councils (Board Procedures Bylaw No. 3828)

b) All Board members are permitted to participate in standing committee meetings, but not vote, in accordance with the CRD Board Procedures Bylaw; and

c) First Nation members are permitted to participate in standing committee meetings at their pleasure, where the Nation has an interest in matters being considered by the committee, in accordance with the CRD Procedures Bylaw section 33:

   i. First Nation Members are permitted to abstain from voting on an item, provided that they declare their abstention prior to the vote being called on the item.

   ii. When an abstention from voting on an item is declared by a First Nation Member, it shall be noted in the meeting minutes and the total number of votes on the item shall not include those First Nation Members who have abstained from voting.

4.0 PROCEDURES

a) The Committee shall meet quarterly and have special meetings as required at the call of the Committee Chair;

b) The agenda will be finalized in consultation between staff and the Committee Chair and any Committee member may make a request to the Chair to place a matter on the agenda through the Notice of Motion process;

c) With the approval of the Committee Chair and Board Chair, Committee matters of an urgent or time sensitive nature may be forwarded directly to the Board for consideration; and

d) A quorum is a majority of the Committee membership and is required to conduct Committee business.

5.0 RESOURCES AND SUPPORT

a) The General Manager of Infrastructure and Water Services will act as liaison to the Committee with support from other departments, as required; and

b) Minutes and agendas are prepared and distributed by the Corporate Services Department.

Approved by CRD Board January 14, 2026

APPENDIX A

STEERING THE TECHNICAL AND COMMUNITY ADVISORY COMMITTEE

In accordance with the Terms of Reference of the Technical and Community Advisory Committee (TCAC) approved by the Capital Regional District Board (CRD), October 11, 2023, the Core Area Liquid Waste Management Committee (CALWMC) will steer the TCAC as follows:

- Make requests to TCAC for appropriate technical and community consultation advice and input in order to facilitate informed decision-making in a variety of CALWMP matters
- Dissolve the TCAC at a time determined by the CALWMC

Terms of Reference

CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE

PREAMBLE

The Capital Regional District (CRD) Core Area Liquid Waste Management Committee (CALWMC) is a standing committee established by the CRD Board and will oversee and make recommendations to the Board regarding the Core Area Liquid Waste Management Plan (CALWMP). Recommendations related to long-term biosolids management planning in the CALWMP shall be referred to the Environmental Services Committee.

The Committee's official name is to be:

Core Area Liquid Waste Management Committee

1.0 PURPOSE

a) The mandate of the Committee is to oversee and make recommendations to the Board regarding the:

i. administration and regulatory reporting for the Core Area Liquid Waste Management Plan

ii. Core area trunk sewers and sewage disposal systems

b) The Committee will act as the steering committee of the Technical and Community Advisory Committee, as outlined in Appendix A.

2.0 ESTABLISHMENT AND AUTHORITY

a) The Committee will make recommendations to the Board for consideration.

b) The Board Chair will appoint the Committee Chair, Vice Chair and Committee members annually.

3.0 COMPOSITION

a) The membership is comprised of all directors on the CRD Board from the following municipalities that are participants in the Core Area Liquid Waste Management Plan:

- Colwood
- Esquimalt
- Langford
- Oak Bay
- Saanich
- Victoria
- View Royal
- An elected representative and alternate from each of the Songhees Nation and Esquimalt Nation Councils (Board Procedures Bylaw No. 3828)

b) All Board members are permitted to participate in standing committee meetings, but not vote, in accordance with the CRD Board Procedures Bylaw; and

c) First Nation members are permitted to participate in standing committee meetings at their pleasure~~, in accordance with the CRD Procedures Bylaw~~, where the Nation has an interest in matters being considered by the committee, in accordance with the CRD Procedures Bylaw~~.~~ section 33:

i. First Nation Members are permitted to abstain from voting on an item, provided that they declare their abstention prior to the vote being called on the item.

~~i.~~ii. When an abstention from voting on an item is declared by a First Nation Member, it shall be noted in the meeting minutes and the total number of votes on the item shall not include those First Nation Members who have abstained from voting.

4.0 PROCEDURES

a) The Committee shall meet quarterly and have special meetings as required at the call of the Committee Chair;

b) The agenda will be finalized in consultation between staff and the Committee Chair and any Committee member may make a request to the Chair to place a matter on the agenda through the Notice of Motion process;

c) With the approval of the Committee Chair and Board Chair, Committee matters of an urgent or time sensitive nature may be forwarded directly to the Board for consideration; and

d) A quorum is a majority of the Committee membership and is required to conduct Committee business.

5.0 RESOURCES AND SUPPORT

a) The General Manager~~s~~ of Infrastructure and Water Services~~, and Parks, Recreation and Environmental Services~~ will act as ~~a~~ liaison to the Committee with support from other departments, as required; and

b) Minutes and agendas are prepared and distributed by the Corporate Services Department.

Approved by CRD Board _____

APPENDIX A

STEERING THE TECHNICAL AND COMMUNITY ADVISORY COMMITTEE

In accordance with the Terms of Reference of the Technical and Community Advisory Committee (TCAC) approved by the Capital Regional District Board (CRD), October 11, 2023, the Core Area Liquid Waste Management Committee (CALWMC) will steer the TCAC as follows:

- Make requests to TCAC for appropriate technical and community consultation advice and input in order to facilitate informed decision-making in a variety of CALWMP matters
- Dissolve the TCAC at a time determined by the CALWMC

Making a difference...together

EEP 26-15

REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, MARCH 25, 2026

SUBJECT **2025 Annual Compliance Summary – McLoughlin Point Wastewater Treatment Plant**

ISSUE SUMMARY

The Capital Regional District's (CRD) McLoughlin Point Wastewater Treatment Plant (WWTP) is authorized to discharge under both provincial and federal environmental regulations. After commissioning of the WWTP in 2021, staff have provided updates to the Committee on performance and compliance; this report summarizes the regulatory compliance status for 2025.

BACKGROUND

The McLoughlin Point WWTP is authorized to discharge under the Provincial *Municipal Wastewater Regulation* (MWR) registration RE-108831 (under the *Environmental Management Act [EMA]*). The facility must also meet all requirements of the Federal *Wastewater Systems Effluent Regulation* (WSER) under the *Fisheries Act*. The plant was commissioned in August 2020 to replace the previous practice of discharging fine-screened (6 mm) but otherwise untreated wastewater through the Macaulay Point (Macaulay) and Clover Point (Clover) outfalls. The MPWWTP receives wastewater for the Core Area catchment serving a population of approximately 330,000 from seven municipalities and two First Nations (xʷsepsum Nation [Esquimalt] and Songhees Nation). Wastewater is treated through primary, secondary, and tertiary processes before being discharged through a 1,925 metre (m) long outfall to the Salish Sea. Tertiary treatment capacity is in place for flows up to 216,000 m^3/day. During rain events when flows exceed 216,000 m^3/day, the excess flow is treated to a primary standard and blended with the tertiary effluent prior to discharge to the marine environment. Total plant capacity is up to 432,000 m^3/day.

The Core Area Liquid Waste Management Plan (LWMP) contains the CRD's commitments to build and operate the facility, and work with the municipal and First Nations participants in the service to manage wastewater and other liquid wastes in a manner that ensures protection of human health and the environment.

Regulatory requirements include comprehensive monitoring of effluent and the receiving environment to ensure final effluent quality limits are not exceeded and potential impacts to human health and the environment are minimized. Any abnormal operational conditions, including non-compliant effluent quality, must also be reported immediately. The facility was last inspected by provincial regulators in July 2025 and visited by federal regulators in November 2025. A summary of the 2025 regulatory compliance can be found in Appendix A.

IMPLICATIONS

Intergovernmental Implications

The CRD meets regularly with provincial and federal staff to discuss regulatory, operational, and compliance issues. Staff are working to address the non-compliant conditions (described below and in Appendix A).

Regulatory Implications

The facility did not meet compliance requirements for a few administrative and several effluent quality events. The frequency of non-compliant events in 2025 was similar to previous years.
Administratively, there was one week when the required effluent sampling frequency could not be met due to a staff capacity issue, and five days where results were not reported on time, due to internal database discrepancies. There was also one day where collecting a receiving environment sample was not possible due to unsafe weather conditions.
Operationally, the facility was non-compliant with provincial monthly average effluent quality limits for total suspended solids (10 mg/L TSS) for five of the 12 months, and carbonaceous biochemical oxygen demand (10 mg/L CBOD) for 10 of the 12 months. For context, 91% of the TSS and CBOD were below the provincial 25 mg/L maximum daily limits for these two parameters over the course of the year. The facility was >97% compliant with the provincial 25 mg/L limit in 2023 and 2024 (Appendix A; Figure 3).

In 2025, 30% of the CBOD and 56% of the TSS results were less than the provincial 10 mg/L average monthly limit.

Provincial limits for the facility are more stringent than those typically required for marine discharges and have been a challenge to achieve since commissioning. These exceedances are a result of the limited performance and availability of the tertiary disc filters. Appendix A provides further background on the challenges with the tertiary disc filters. There were also two equipment malfunctions in 2025 (a power failure and a gate malfunction) which resulted in non-compliant conditions. Federal effluent quality limits for un-ionized ammonia were also exceeded five days within the year. Staff continue to investigate, including follow-up with federal regulators on whether similar challenges are observed elsewhere. Based on current information, the exceedances are likely a result of delays in external laboratory analysis that caused changes in pH levels during transport and holding, thereby affecting the calculation for unionized ammonia.

Since plant commissioning and completion of the performance period in January 2023, the plant has maintained relatively stable effluent quality conditions through the first five years of full plant operations (Appendix B).

More details can be found in Appendices A and B.

Environmental Implications

The number of non-compliance events with the provincial discharge authorization limits was high in frequency, but low in magnitude, as noted above and in Appendix A; with the environmental significance being low. This is because the assimilative capacity of the marine receiving environment around the outfall is high, and effluent quality was generally better than the environmental protection target of equivalent-to-secondary treatment. In addition, toxicity testing confirmed that McLoughlin effluent was not acutely toxic to fish, indicating risk to marine life was low.

Relative to the pre-treatment discharge of fine-screened, but otherwise untreated, wastewater through the Macaulay and Clover outfalls, the McLoughlin Point WWTP has effectively reduced TSS and CBOD concentrations and loadings to marine environment by approximately 95% (Appendix B). Similarly, there has been a concurrent, and significant, reduction in the loadings of many other contaminants that were previously of environmental concern, such as metals, microplastics, per-fluorinated substances, and other contaminants of emerging environmental concern.

CONCLUSION

The Core Area Wastewater Treatment Project has reduced TSS and CBOD concentrations and loadings to the marine environment by 95%. Non-compliance with regulatory effluent quality limits listed in the discharge authorization was observed over several months for specific parameters in 2025. While the frequency of exceedances was high in 2025, the magnitude of these exceedances, and its associated environmental risk, is low. CRD staff meet regularly with provincial and federal regulatory staff to discuss and address these non-compliant events and general operation of the wastewater service.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Glenn Harris, PhD, Senior Manager, Environmental Protection
Concurrence:	Alicia Fraser, P. Eng., General Manager, Infrastructure and Water Services
Concurrence:	Luisa Jones, MBA, General Manager, Parks, Recreation & Environmental Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENTS

Appendix A: 2025 McLoughlin Point WWTP Compliance Summary
Appendix B: McLoughlin Point WWTP TSS and CBOD Concentrations (2015 to 2025)

2025 McLoughlin Point Wastewater Treatment Plant Compliance Summary

The McLoughlin Point WWTP is authorized to discharge under BC Municipal Wastewater Regulation (MWR) registration RE-108831 (under the BC Environmental Management Act [EMA]). The Core Area Liquid Waste Management Plan (LWMP) 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 Federal Wastewater Systems Effluent Regulation (WSER) under the Fisheries Act.

Under the above legislation, the facility must meet several 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. Sampling and testing meet the monitoring requirement.
    b. Final effluent quality and total daily flow volumes do not exceed regulatory limits.

1. Operating Compliance

The facility generally operated as designed for the majority of 2025 and routinely produced high quality effluent. However, there were a few exceptions, some of which led to non-compliance with provincial and federal requirements.

The facility experienced three equipment malfunctions in 2025, which resulted in non-compliant conditions as the plant was considered not fully functional as per normal operating conditions, and unplanned bypasses of some treatment works occurred without provincial authorization. One of the malfunctions was associated with the tertiary disc filters which failed throughout the year. Further details related to these failures are outlined below. . There was also a power outage (February 26, 2025) and a flow gate failure (December 11, 2025) that led to unexpected and unauthorized treatment bypasses; staff are still evaluating the root cause of these events.

A planned maintenance bypass of the secondary treatment processes took place in March/April 2025. This bypass was authorized by both the provincial and federal regulators and was required to clean out and repair the dirty backwash tank. During the bypass, effluent quality limits were relaxed.

2. Monitoring Compliance

a. Sampling and Testing

Wastewater and receiving environment monitoring are required to ensure that the facility is performing as expected, effluent quality limits are achieved, and adverse impacts to human health and the environment are minimized. Samples must be collected at frequencies prescribed in the

regulations, and the approved comprehensive receiving environment monitoring program design document.

Monitoring requirements for McLoughlin Point WWTP include operational and compliance effluent quality sampling, comprehensive effluent contaminant characterization sampling, water column monitoring around the McLoughlin outfall (both during routine operation and the March/April 2025 bypass), surface water sampling at far-field locations of interest to First Nations (during the bypass), seafloor monitoring around the Clover Point overflow outfall, and a finfish and crab survey around the McLoughlin, Clover and Macaulay outfalls.

In 2025, 98% of the monitoring requirements were completed in accordance with requirements. The following provides further details on the monitoring requirements that were not met in 2025:

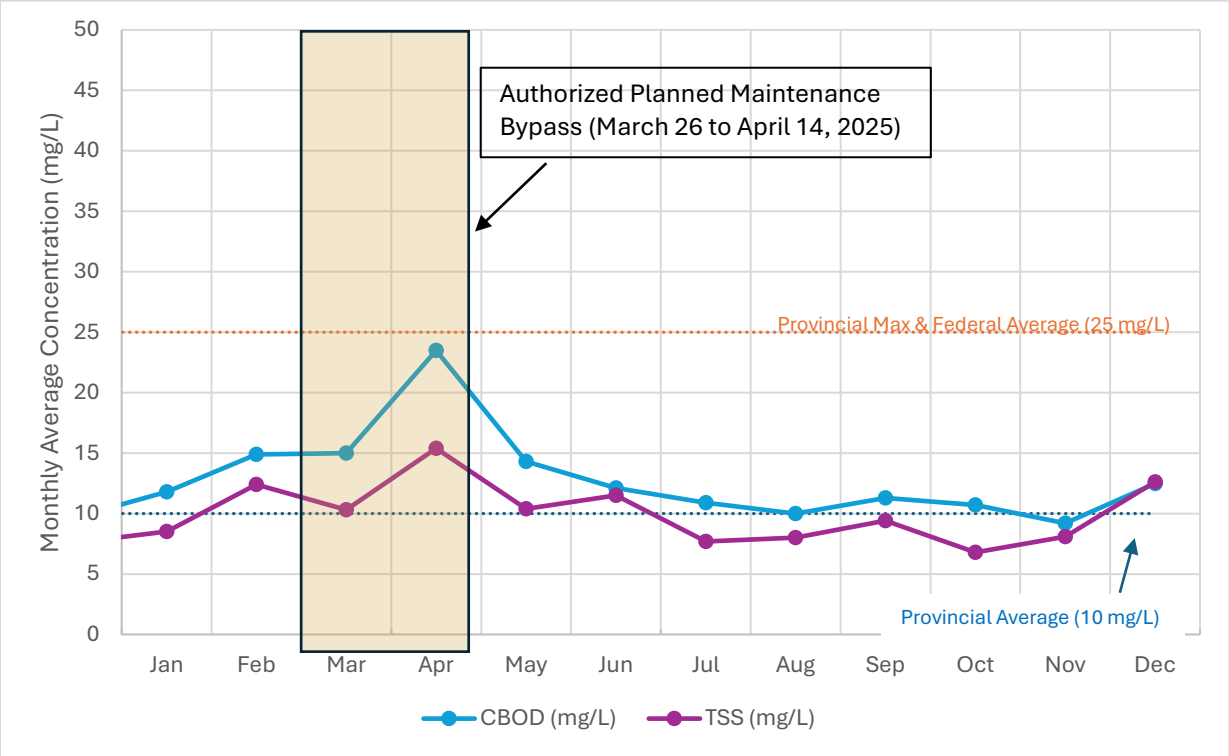
1) one week (of 52) that aligned with staffing capacity issues where lab services were unavailable and the required effluent sampling frequency could not be met (e.g. five samples are required each week for some effluent parameters, and only four samples could be collected)
2) five days (of 260) where lab data was not reported on time due to a discrepancy between CRD databases. Samples were collected and reported next cycle.
3) one day (of 20) 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 per quarter. There was one quarter in 2025 when only four days could be sampled due to adverse weather, and the contracted sampling vessel was no longer available).

b. Effluent Quality

A summary of the provincial and federal effluent quality limits are summarized in Table 1, along with the required sampling frequency. Compliance with these limits during routine and unexpected operational conditions is summarized in Tables 2 through 8, and Figure 1. It should be noted that the effluent quality limits were relaxed by the regulator during the planned bypass event in March/April.

The provincial limits depend on whether the facility is experiencing flows in excess of 216,000 m^3/day. Flows up to this threshold must achieve a hybrid of secondary and advanced limits in the MWR. These hybrid provincial limits are more stringent than those typically required for marine discharges and were set due to the CRD's commitment in the LWMP to install tertiary treatment. For flows in excess of 216,000 m^3/day, the facility must achieve effluent quality limits equivalent to primary in the MWR. The facility is also authorized to have no more than 70 days per year when flows can exceed 216,000 m^3/day, and total daily flows must never exceed the total plant capacity of 432,000 m^3/day.

Figure 1 Monthly average total suspended solids (TSS) and carbonaceous biochemical oxygen demand (CBOD) in 2025. Federal and provincial effluent quality limits are included for comparison.



For total suspended solids (TSS), the facility was non-compliant with provincial limits for five months of the year when flows were less than 216,000 m3/day (Table 2, Figure 1). For carbonaceous biochemical oxygen demand (CBOD), the facility was non-compliant for 10 months of the year with provincial limits when flows were less than 216,000 m3/day, and one month of the year when flows were greater than 216,000 m3/day (Table 3, Figure 1). Overall, 30% of the daily CBOD and 56% of the daily TSS results were below the 10 mg/L average monthly regulatory limit. With respect to the 25 mg/L maximum daily regulatory limit, 91% of the daily CBOD and 93% of the daily TSS were less than this threshold. Annual averages were 18.1 and 14.0 mg/L for CBOD and TSS, respectively.

The primary factor contributing to the final effluent exceedances of the 10 mg/L TSS and CBOD limit in 2025 was the limited performance and availability of the tertiary disc filters. The McLoughlin Point WWTP has redundancy for both the primary and secondary processes, allowing operations to transfer flows between the treatment trains to undertake repairs and required maintenance. McLoughlin Point WWTP tertiary filtration process or tertiary disc filters does not include the same redundancy. There are three disc filters within the plant, each are rated for 90MLD. Based on the Basis of Design Report for the plant, all three are required to be operational to reliably achieve the 10 mg/L TSS and CBOD limit.

In 2025, approximately 75% of the total flow to McLoughlin Point WWTP received tertiary treatment. Disk Filter #1 was offline for periods of June, July & August for media replacement & cover installation. Disk Filter #2 was offline in July, August & September for annual inspection, service and a second longer period for drive train issues. Disc Filter #3 was offline for the year as operation and maintenance staff worked with the supplier to retrofit this filter to address the

systemic issues that have been observed with all three filters. A summary of downtime is listed below:

Disk Filter 1: 77 Days Offline
- Disk Filter 2: 87 Days Offline
- Disk Filter 3: 364 Days Offline

Aside from the required downtime for routine maintenance, biological fouling and mechanical failures have significantly contributed to the increase in time the filters were offline, further details provided below:

- Biological fouling – The tertiary disk filters receive effluent from secondary treatment processes based on attached-growth biological treatment (i.e., Moving Bed Biofilm Reactors (MBBR) and Biological Aerated Filters (BAF)). These processes can periodically release biological solids and biofilm fragments into the secondary effluent. This material accumulates on the filter cloth surface and within the filter media; reducing filter permeability and hydraulic throughput if not periodically removed through cleaning and maintenance.
    - Filters require more chemical cleans to remove biological fouling
    - Staff are trialing three different filter cloth fabrics to optimize the treatment.

- Mechanical failures: 3 catastrophic failures (disk filter 1, 2 & 3) have occurred since 2023 when the filter segments have become dislodged causing the segment to be caught in the drive train which exerts enough force to dislodge the whole disk filter assembly.
    - Staff installed VFD's to improve torque on start-up and torque limiting hubs on drive gearboxes to prevent catastrophic system failures
    - Staff is working with the supplier to redesign the following components; this redesign will be trailed on Disc Filter #3 and if effective will be implemented on the remaining filters.
        - Filter segment center tube engagement tab lengths have been extended;
        - Filter segment retaining bars (male/female design) have been lengthened to prevent segment disengagement (primary cause of failures); and,
        - Backwash shoe engagement angle has been modified to cross connection points at a steeper angle (less chance of engaging joint).

The retrofit program and operational changes implemented in 2025 and 2026 are intended to improve long-term reliability and increase tertiary filtration availability in future operating periods. However, even with these improvements, MPWWTP tertiary treatment will continue to lack redundancy.

The facility was compliant with the federal effluent quality limits for TSS and CBOD in 2025. The facility did not consistently achieve the federal effluent limit for unionized ammonia. The maximum daily unionized ammonia limit was exceeded five days in four separate months of the year (Table 5). Unionized ammonia is sampled three times a week each month, the five exceedances of the daily maximum represent a single sample (or two in April) within that month that exceeded the federal limit, all remaining samples within that month were below the limit. Laboratory and operations staff are investigating probable causes. Preliminary findings indicate that the exceedances were a result of delays in external laboratory analysis that caused changes in pH levels during transport and holding, thereby affecting the calculation for unionized ammonia. While there has been slight increases over time in Core Area total ammonia concentrations, this factor is less significant in the calculations of unionized ammonia.

The facility was in compliance with the remaining effluent quality limits. The final effluent was not acutely toxic throughout the year (Table 4), was within expected ranges for pH (Table 6), and did not exceed any the total daily flow limit (Table 7) or number of allowable blended days (Table 8).

3. Conclusion

Overall, the frequency of non-compliant operation and effluent quality in 2025 was slightly improved relative to 2023 and 2024. This was primarily due to the partial restoration of disc filter operation in 2025, which reduced the frequency of exceedances of the provincial maximum daily TSS effluent quality limit.

Staff will bring back annual compliance updates to the Committee. These reports will complement the monthly compliance reports staff submit to the Province along with the annual report summarizing the comprehensive receiving environment monitoring report.

The Province is aware of the plant's effluent quality, operational status and receiving environment conditions through regular reporting and quarterly meetings.

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

Effluent Parameter (Sampling Frequency)	McLoughlin Discharge Limits[1]	MWR Requirements			WSER Secondary[2] Requirements
		Primary	Secondary[2]	Advanced	
Total Suspended Solids (TSS) When Instantaneous Flows < 216,000 m^3/day (5 samples/week)	**Provincial:** 25 mg/L maximum & 10 mg/L monthly average **Federal:** 25 mg/L monthly average	130 mg/L maximum	45 mg/L maximum	10 mg/L maximum	25 mg/L monthly average
Total Suspended Solids (TSS) When Instantaneous Flows > 216,000 m^3/day (5 samples/week)	**Provincial:** 130 mg/L maximum **Federal:** 25 mg/L monthly average	130 mg/L maximum	45 mg/L maximum	10 mg/L maximum	25 mg/L monthly average
Carbonaceous Biochemical Oxygen Demand (CBOD) When Instantaneous Flows < 216,000 m^3/day (5 samples/week)	**Provincial:** 25 mg/L maximum & 10 mg/L monthly average **Federal:** 25 mg/L monthly average	130 mg/L maximum	45 mg/L maximum	10 mg/L maximum	25 mg/L monthly average
Carbonaceous Biochemical Oxygen Demand (CBOD) When Instantaneous Flows > 216,000 m^3/day (5 samples/week)	**Provincial:** 130 mg/L maximum **Federal:** 25 mg/L monthly average	130 mg/L maximum	45 mg/L maximum	10 mg/L maximum	25 mg/L monthly average
Rainbow Trout Toxicity (monthly)	**Provincial & Federal:** pass	Pass	Pass	Pass	Pass
Unionized Ammonia (3 samples/week)	**Federal:** 1.25 mg/L maximum	Not Applicable	Not Applicable	Not Applicable	1.25 mg/L maximum
pH (5 samples/week)	**Provincial:** 6-9	6-9	6-9	6-9	Not Applicable
Effluent Flow (daily)	**Provincial & Federal:** 432,000 m^3/day maximum	Facility specific	Facility specific	Facility specific	Not Applicable
# of Allowable Blended Effluent Days	**Provincial:** 70/year	Facility specific	Facility specific	Facility specific	Not Applicable

[1] The facility has different provincial effluent quality limits when instantaneous flows exceed 216,000 m^3/day resulting in a blend of tertiary and primary effluent being discharged. On these days, TSS and CBOD limits are 130 mg/L. Federal effluent quality limits are fixed at 25 mg/L monthly average regardless of flow levels.
[2] Treatment at a secondary level is what is typically required of marine discharges.

Table 2 Summary of 2025 McLoughlin Point Total Suspended Solids Effluent Quality Limit Compliance

Effluent Parameter	McLoughlin Discharge Limits	Compliance Monitoring Results[1]		
		Daily Maximum (mg/L)	Monthly Average (mg/L)	
Total Suspended Solids (TSS) When Instantaneous Flows < 216,000 m^3/day	Provincial: 25 mg/L maximum & 10 mg/L monthly average Federal: 25 mg/L monthly average	Jan – 16.6 Feb – 22.8 Mar – 16.8 Apr- 19.2 May – 19.6 Jun – 24.4 Jul – 19.0 Aug – 14.6 Sep – 19.4 Oct – 10.8 Nov – 22.0 Dec – 16.0	Jan – 8.5 Feb – 12.4 Mar – 10.3 Apr – 15.4 May – 10.4 Jun – 11.5 Jul – 7.7 Aug – 8.0 Sep – 9.4 Oct – 6.8 Nov – 8.1 Dec – 9.0	
Total Suspended Solids (TSS) When Instantaneous Flows > 216,000 m^3/day	Provincial: 130 mg/L maximum Federal: 25 mg/L monthly average	Jan[2] Feb – 15.2 Mar[3] – 92.0 Apr[3] – 102.0 May – n/a Jun – n/a Jul – n/a Aug – n/a Sep – n/a Oct – 14.0 Nov – 13.6 Dec – 34.7	Jan – 8.5 Feb – 12.5 Mar[3] – 21.3 Apr[3] – 46.0 May – n/a Jun – n/a Jul – n/a Aug – n/a Sep – n/a Oct – 7.1 Nov – 8.3 Dec – 13.1	

[1] The highlighted values are those that exceeded provincial and/or federal effluent quality limits.
[2] There were blended days in these months, but on weekends when no analytical samples were collected to determine effluent quality.
[3] There was an authorized planned maintenance bypass from March 26 to April 14, 2025. These days were effectively equivalent to blended days. Effluent quality was authorized to exceed routine effluent quality limits during the bypass, with temporary provincial TSS and CBOD limits of 130 mg/L. Federal limits were also waived for the bypass days. The annual total is not representative of typical operation due to the bypass days being included.

Table 3 Summary of 2025 McLoughlin Point Carbonaceous Biochemical Oxygen Demand Effluent Quality Limit Compliance

Effluent Parameter	McLoughlin Discharge Limits	Compliance Monitoring Results[1]		
		Daily Maximum (mg/L)	Monthly Average (mg/L)	
Carbonaceous Biochemical Oxygen Demand (CBOD) When Instantaneous Flows < 216,000 m^3/day	Provincial: 25 mg/L maximum & 10 mg/L monthly average Federal: 25 mg/L monthly average	Jan – 16.8 Feb – 64.0 Mar[3] – 37.5 Apr[3] – 45.1 May – 27.0 Jun – 19.2 Jul – 23.6 Aug – 14.2 Sep – 25.0 Oct – 15.6 Nov – 18.3 Dec – 15.5	Jan – 11.8 Feb – 14.9 Mar – 15.0 Apr – 23.5 May – 14.3 Jun – 12.1 Jul – 10.9 Aug – 10.0 Sep – 11.3 Oct – 10.7 Nov – 9.2 Dec – 11.0	
Carbonaceous Biochemical Oxygen Demand (CBOD) When Instantaneous Flows > 216,000 m^3/day	Provincial: 130 mg/L maximum Federal: 25 mg/L monthly average	Jan[2] Feb – 14.9 Mar[3] – 113.0 Apr[3] – 156.0 May – n/a Jun – n/a Jul – n/a Aug – n/a Sep – n/a Oct – 17.4 Nov – 17.1 Dec – 31.7	Jan – 11.8 Feb – 14.8 Mar[3] – 27.3 Apr[3] – 69.3 May – n/a Jun – n/a Jul – n/a Aug – n/a Sep – n/a Oct – 11.0 Nov – 9.5 Dec – 12.5	

[1] The highlighted values are those that exceeded provincial and/or federal effluent quality limits.
[2] There were blended days in these months, but on weekends when no analytical samples were collected to determine effluent quality.
[3] There was an authorized planned maintenance bypass from March 26 to April 14, 2025. These days were effectively equivalent to blended days. Effluent quality was authorized to exceed routine effluent quality limits during the bypass, with temporary provincial TSS and CBOD limits of 130 mg/L. Federal limits were also waived for the bypass days. The annual total is not representative of typical operation due to the bypass days being included.

Table 4 Summary of 2025 McLoughlin Point Rainbow Trout Toxicity Testing Compliance

Effluent Parameter	McLoughlin Discharge Limits	Compliance Monitoring Results[1]		
				Pass/Fail
Rainbow Trout Toxicity	Provincial & Federal: pass			Jan - pass Feb - pass Mar - pass Apr - pass May - pass Jun - pass Jul - pass Aug - pass Sep - pass Oct - pass Nov - pass Dec - pass

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

Table 5 Summary of 2025 McLoughlin Point Unionized Ammonia Effluent Quality Limit Compliance

Effluent Parameter	McLoughlin Discharge Limits	Compliance Monitoring Results[1]		
		Daily Maximum (mg/L)		
Unionized Ammonia	Federal: 1.25 mg/L maximum	Jan – 0.56 Feb – 0.55 Mar – 0.58 Apr – 1.30 May – 1.17 Jun – 1.36 Jul – 1.05 Aug – 0.91 Sep – 1.29 Oct – 1.83 Nov – 0.56 Dec – 0.37		

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

Table 6 Summary of 2025 McLoughlin Point pH Effluent Quality Limit Compliance

Effluent Parameter	McLoughlin Discharge Limits	Compliance Monitoring Results[1]		
				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 McLoughlin Point Total Daily Flow Limit Compliance

Effluent Parameter	McLoughlin Discharge Limits	Compliance Monitoring Results[1]		
		Daily Maximum (m^3/day)		
Effluent Flow	Provincial & Federal: 432,000 m^3/day maximum	Jan – 127,520 Feb – 134,741 Mar – 235,015 Apr – 104,998 May – 89,107 Jun – 111,457 Jul – 85,535 Aug – 96,064 Sep – 91,902 Oct – 108,548 Nov – 161,200 Dec – 297,780		

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

Table 8 Summary of 2025 McLoughlin Point Number of Allowable Blended Effluent Days Limit Compliance

Effluent Parameter	McLoughlin Discharge Limits	Compliance Monitoring Results[1]		
		Daily Maximum		
# of Allowable Blended Effluent Days	**Provincial:** 70/year	Jan - 1 Feb - 3 Mar[2] - 8 Apr[2] - 14 May - 0 Jun - 0 Jul - 0 Aug - 0 Sep - 0 Oct - 3 Nov - 2 Dec - 14 **Annual Total[2] - 45**		

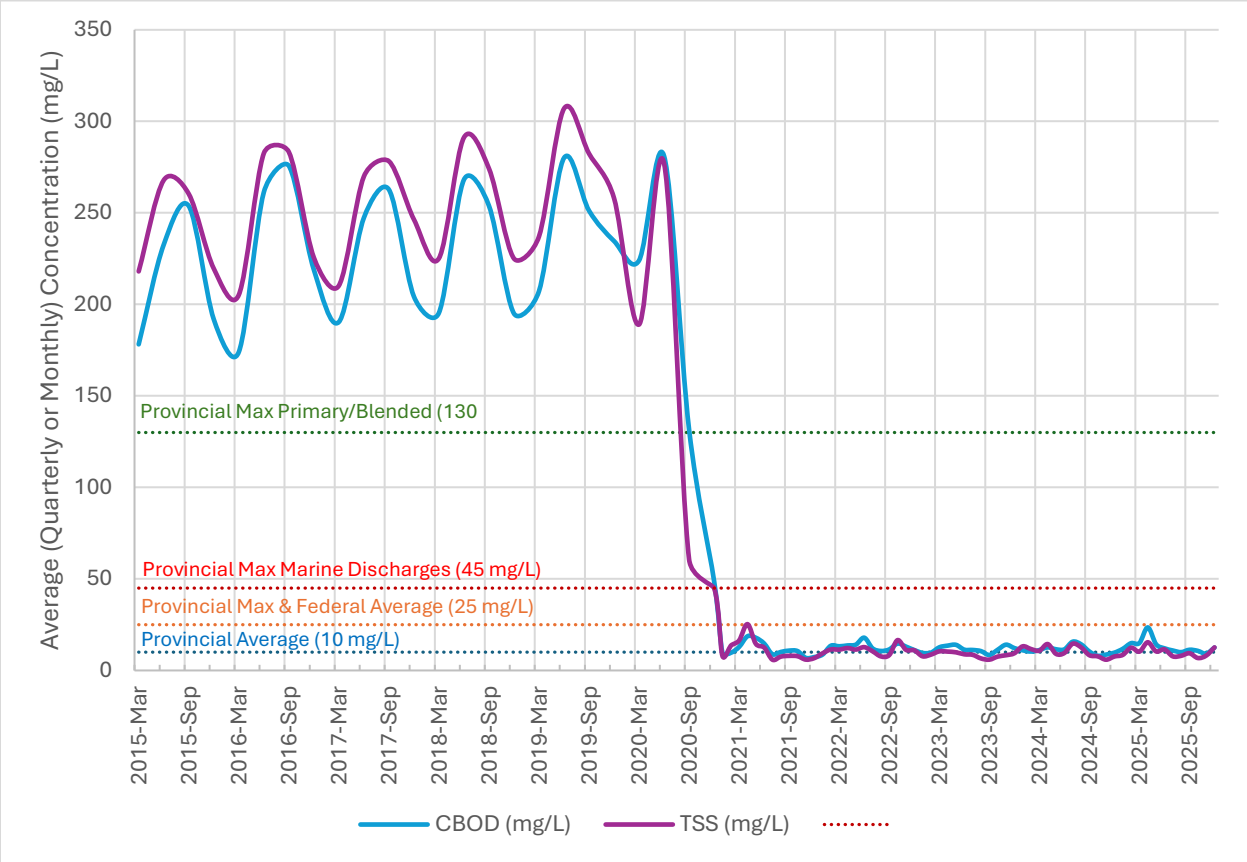
[1] The highlighted values are those that exceeded provincial and/or federal effluent quality limits.
[2] There was an authorized planned maintenance bypass from March 26 to April 14, 2025. These days were effectively equivalent to blended days. Effluent quality was authorized to exceed routine effluent quality limits during the bypass, with temporary provincial TSS and CBOD limits of 130 mg/L. Federal limits were also waived for the bypass days. The annual total is not representative of typical operation due to the bypass days being included.

Making a difference...together

APPENDIX B

McLoughlin Wastewater Treatment Plant TSS and CBOD concentrations (2015 to 2025)

Figure 1 Quarterly (2015-2020) or monthly (2021-2025) average total suspended solids (TSS) and carbonaceous biochemical oxygen demand (CBOD) before and after commissioning of the McLoughlin Point Wastewater Treatment Plant[1]. Federal and provincial effluent quality limits are included for comparison.



[1] Data pre-August 2020 are from the Macaulay and Clover pumpstations, though no samples were collected April-July 2020 as both pumpstations were inaccessible due to construction. McLoughlin Point WWTP commissioning took place August-December 2020. A planned maintenance bypass occurred March/April 2025.

Making a difference...together

REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF MARCH 25, 2026

SUBJECT **November 2025 Core Area Residual Solids Conveyance Line Blockage**

ISSUE SUMMARY

To provide an overview of the November 2025 Residual Solids Conveyance Line (RSCL) blockage event, associated costs, and lessons learned.

BACKGROUND

The Residual Solids Conveyance System is comprised of a forcemain and three intermediate pump stations transporting sewage sludge from the McLoughlin Point Wastewater Treatment Plant (MPWWTP) to the Residuals Treatment Facility (RTF), adjacent to the Hartland Landfill, to produce biosolids. The RSCL is a 250-millimeter (mm) diameter pipeline, spanning 19.3-kilometers (km) in length. There is also a 300 mm diameter pipeline, 12.4 km in length, that conveys effluent from the RTF to the Marigold Pump Station, and generally follows the same alignment.

There is no redundancy to the Residual Solids Conveyance pipe; if this pipe is removed from service, sludge accumulated at MPWWTP must be trucked to the RTF or around the point of interruption, or the plant needs to undertake an emergency bypass to the marine environment. To optimize operation and minimize the risk of unplanned outages, ongoing preventative maintenance of the line and the associated pump stations are required.

Regular maintenance of the RSCL includes “pigging” the line annually, a process where a pipeline inspection gauge (PIG) is inserted into a pipe to clean the line without disrupting the flow of sludge. The PIG is made of a high-density foam in a cylindrical shape with an internal electromagnetic transmitter to track, monitor, and aid locating the PIG. During pigging, the PIG is propelled by the pressure of the sludge in the pipe, dislodging debris from the sides and bottom of the pipe while travelling between a launch and a receiving location.

The RSCL pigging operation is broken into four sections which include:

- 9.2 km from MPWWTP to Pump Station No. 2 located at Interurban Rd. and Courtland Ave.
- 3.8 km from Pump Station No. 2 to Pump Station No. 3 located on Interurban Rd. adjacent to 5058 West Saanich Rd.
- 4.9 km from Pump Station No. 3 to Pump Station No. 4 located beside 320 Willis Point Rd.
- 1.3 km from Pump Station No. 4 to the RTF.

The RSCL is a unique and specialized piece of infrastructure due to its length, changes in elevation, and the number of fittings and appurtenances. The first section of this pipeline is the longest stretch at 9.2 km, with the most frequent elevation changes and the greatest number of bends.

The CRD successfully completed the pigging of all four sections of the RSCL in March 2023 and March 2024. In late 2025, a high-pressure and a reduced flow rate indicated increased solids

accumulation and triggered the urgent need for pigging the RSCL which had been delayed seven months, due to reasons that are further explained below.

SERVICE DELIVERY RISKS

Continual operation of the Residual Solids Conveyance System is critical, as after approximately 8-12 hours of down-time, alternative methods of transporting sludge must be implemented to prevent a bypass of the MPWWTP and avoid significant operational, biological and structural failures at the RTF. Bypass of the MPWWTP entails a large-scale discharge of untreated effluent into the marine environment (Salish Sea).

For the RTF digester, a constant and balanced supply of organic matter is required. When the supply of sludge to the digester is interrupted, the specialized microbial community begins to die, leading to a wide range of impacts from system failure, reduced biogas production, increased operating costs, equipment damage, dangerous gas build-up, structural corrosion, and impaired biosolids quality.

EVENT DESCRIPTION

On November 14, 2025, operations staff began the pigging operation, launching the PIG from MPWWTP. The total travel time for the planned section of the pipe was five hours. After the PIG did not arrive within the anticipated timing window, staff began to troubleshoot the issue attempting to locate the PIG utilizing the sensor/transmitter. It was determined that the PIG had become lodged in the RCSL; however, the specific location within the 9.2km section could not be determined. Staff attempted to locate the PIG using the sensor/transmitter but were unable to locate a reading from the transmitter. Instead, staff were forced to remove drain valves to gain access to sections of the pipe. Once opened, staff utilized camera equipment and flushing equipment at access points in chambers along the RSCL to determine if the pig had passed and narrow the location of the blockage.

As staff worked to locate the location of the blockage, third party contractors were engaged Saturday, November 15, to begin hauling sludge via trucks from MPWWTP to the RTF.

On November 18, 2025, a Department Operations Centre (DOC) was activated at MPWWTP by Infrastructure and Water Services (IWS), and the Capital Regional District (CRD) Emergency Operations Centre (EOC) was activated at Level 1 to provide coordination and support that included Corporate Communications, Finance, Health and Safety, Environmental Protection, Protective Services, Risk and Insurance, and Synagro, our partner and operator of the RTF. During this time, staff-to-staff communication occurred with the municipalities of Esquimalt and Saanich to aid coordination of traffic plans, noise, and traffic disruption to residents. A Public Service Announcement was also released to provide information to the public, First Nations and neighboring municipalities.

To maintain service delivery and prevent the environmental impact from a bypass event, sludge was transported around the blocked section of the RSCL from MPWWTP to the RTF utilizing hydro-excavation trucks. To reduce the number of loads required, and manage the cost, the sludge concentration was increased, reducing the total volume of water.

The PIG was successfully retrieved November 21, 2025 from a chamber located on Grange Rd.

Staff determined the PIG had become lodged in the section of pipe under the Trans-Canada Highway. Due to the location and pipe configuration in that section, the signal from the transmitter could not be read. Ultimately, staff were able to dislodge the PIG by pressurizing the line upstream of the PIG and pushing the PIG back through the line. The Residual Solids Conveyance System was restarted on November 23.

In total, the RSCL was offline for 10 days, approximately 480 sludge loads were hauled between MPWWTP and the RTF, and the EOC/DOC was active for 8 days.

IMPACT ASSESSMENT

The RSCL blockage posed no threat to public health and safety, and regular service delivery was maintained throughout the repair and retrieval work.

Impacts to residents of the municipalities of Esquimalt, Saanich, Victoria and View Royal included 24-hour truck traffic, localized odour issues, traffic delays and additional noise during hauling operations.

TOTAL EVENT COST

The emergency response for the project required 24/7 sludge hauling to mitigate the risk of an environmental discharge from MPWWTP and the operational risks for the RTF. The total cost associated with this event was $860,000, with the bulk of those costs associated with sludge haulage and the required supports.

Of the total cost, $635,000 was covered by the annual budget for emergency repairs with the remainder being split between operational accounts for 2025 and 2026.

ROOT CAUSE ANALYSIS

On Feb 5, 2026, CRD conducted an after-action review with key parties from each of the CRD divisions involved. The following provides an initial summary of the primary root causes identified and the actions being taken to mitigate future blockages. The two root causes identified as part of the after action included:

1. Increased sediment accumulation due to delay in annual preventative maintenance (pigging activity): The annual pigging maintenance was originally scheduled for March 2025, however maintenance was delayed seven months while staff worked to update safety procedures required to undertake the work. The Pig Launching Valve Chamber is a confined space which requires preapproved safety documentation. Due to recent valve and piping work at MPWWTP, a new Alternative Measures procedure (safety documentation) was required to be submitted to WorkSafeBC for approval. Due to the complexity of this infrastructure and a number of knock-on impacts, the scope of the safety review expanded, extending the timeline for the submission and ultimately delaying the work.

2. The reduced flow rate in the RSCL available to push the PIG through the pipe was due to two factors:

- A MPWWTP isolation valve was not sealing properly, resulting in reduced pressure in the RSCL needed to push the PIG through the pipe.
- The storage tanks at the MPWWTP were not continually monitored or set to maintain enough volume to supply the minimum required flowrate through the pipe. Once the low level was reached operators were able to rapidly correct the issue, but the three-minute delay made the PIG lose velocity and stop. The MPWWTP Standard Operating Procedure (SOP) did not adequately state the criticality of this process for the maintenance procedure.

Overall, the combination of reduced flow rate and increased sediment through a complex stretch of pipe contributed to the RSCL blockage. After identifying the root cause, staff identified the following actions:

Operational

1. Increase “pigging” frequency from annual to semi-annual to reduce the load of sediment build up in the pipe and to allow for unanticipated project delays.
2. Need for further coordination between participating division/departments to establish joint priorities and meet project timelines. Use of a new project “go/no go checklist” must be completed prior to scheduling all pigging maintenance to ensure Core Area Wastewater Operations, Wastewater Conveyance Operations, Systems Maintenance, and Corporate Health and Safety are all prepared to proceed, which includes:
   - All safety documentation.
   - Confirmation of infrastructure maintenance schedules/completion for critical pumps, check valves, and isolation valves.
   - Availability of critical spares.
   - Completion of an annual SOP and Emergency Response Procedure (ERP) review.
3. Implement a practice of regularly scheduled joint divisional training sessions to review and update pigging SOPs and ERPs. Emphasizing clear lines of communication between Plant and Field Operations, with a focus on critical interdependent steps to maintain minimum flow rate.

Infrastructure

1. Ensure preventative maintenance checks for all pumps, check valves, and isolation valves critical to pigging at both MPWWTP and the RSCL have been completed 1-2 months prior, and all findings have been reviewed during a project coordination meeting.
2. Adequate Plant storge tank volume is maintained and monitored to meet the minimum SOP flow rate through use of an automated level controller with operator oversight.

The RSCL blockage was the first time the Infrastructure Wastewater Operations team responded to this type of event. Staff are already proceeding with implementation of the outlined actions.

CONCLUSION

On November 18, 2025, technical and operational deficiencies contributed to a blockage in the Residual Solids Conveyance Line (RSCL). Staff were able to maintain service with crews working

day and night to coordinate sludge haulage, continually adjust MPWWTP operations and locate the PIG. Though service was maintained there was a financial impact though this was absorbed into provisional emergency repairs budget.
An after-action review of the event was conducted to determine the root cause and identified action items to mitigate future blockage. Several recommendations were identified, including heightened project coordination and a “go/no go checklist”, joint divisional training, and increased frequency of scheduled maintenance. Prior to any future RSCL pigging maintenance, the new risk mitigation steps identified will all be implemented.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Jason Dales, B.SC., WD IV, Senior Manager, Wastewater Infrastructure Operations
Concurrence:	Alicia Fraser, P.Eng., General Manager, Infrastructure & Water Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer