



Notice of Meeting and Meeting Agenda Saanich Peninsula Wastewater Commission

Thursday, June 4, 2026

9:35 AM

Meeting Rm. 2, Sidney Community Safety Bldg.
2245 Oakville Ave., Sidney, BC

Members of the public can view the live meeting via MS Teams link: [Click here](#)

R. Novek (Chair), D. Halldorson (Vice Chair), C. Graham, E. Diller, M. Doehnel, P. Jones, J. Martin, C. McNeil-Smith, S. Shrivastava, R. Windsor

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. [26-0665](#) Minutes of the Saanich Peninsula Wastewater Commission Meeting of April 2, 2026

Recommendation: That the minutes of the Saanich Peninsula Wastewater Commission meeting of April 2, 2026 be adopted as circulated.

Attachments: [Minutes: April 2, 2026](#)

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 Commission at LegServ@crd.bc.ca.

6. Commission Business

- 6.1. [26-0646](#) General Manager's Verbal Update - June

Recommendation: There is no recommendation. This verbal update is for information only.

6.2. [26-0645](#) Saanich Peninsula Wastewater Service 2026 Mid-Year Capital Projects and Operations Update

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

Attachments: [Staff Report: SPWW Mid-Year Capital Projects and Operations Update](#)
[Appendix A: SPWW Capital Program - Current Status of Active Projects](#)
[Appendix B: SPWW Significant Project Locations](#)
[Appendix C: SPWW 5 Year Capital Plan \(2026-2030\)](#)

6.3. [26-0624](#) Biochar Project Update

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

Attachments: [Staff Report: Biochar Project Update](#)
[Appendix A: Tavola Public Consultation - Biosolids To Biochar \(April 2026\)](#)

7. Notice(s) of Motion

8. New Business

9. Motion to Close the Meeting

9.1. [26-0685](#) Motion to Close the Meeting

Recommendation: That the meeting be closed for first nations or indigenous entity negotiations in accordance with Section 90(2)(b)(iii) of the Community Charter. [1 item]

10. Rise and Report

11. Adjournment

The next meeting is September 3, 2026.

Meeting Minutes

Saanich Peninsula Wastewater Commission

Thursday, April 2, 2026

9:35 AM

Town of Sidney Municipal Hall - Arbutus Room
2440 Sidney Ave., Sidney, BC

PRESENT

R. Novek (Chair), D. Halldorson (Vice Chair), E. Diller, M. Doehnel, J. Martin (EP), C. McNeil-Smith (EP)

STAFF: A. Fraser, General Manager, Infrastructure and Water Services; G. Harris, Senior Manager, Environmental Protection (EP); R. Tooke, Senior Manager, Environmental Innovation; P. Enright, Manager, Climate Action; P. Kickham, Manager, Environmental Regulations; C. Lowe, Supervisor, Environmental Monitoring; K. Hardy, Corporate Energy Specialist; D. Pagani, Administrative Coordinator, Infrastructure and Water Services (EP); M. Miklea, Deputy Corporate Officer/Manager, Legislative Services; M. MacDonald, Legislative Services Coordinator (Recorder)

EP - Electronic Participation

Regrets: Commissioners Graham, Jones, Shrivastava and Windsor

The meeting was called to order at 9:45 am.

1. Territorial Acknowledgement

Chair Novek provided a Territorial Acknowledgement.

2. Approval of Agenda

**MOVED by Commissioner Halldorson, SECONDED by Commissioner Diller,
That the agenda for the Saanich Peninsula Wastewater Commission meeting of
April 2, 2026 be approved.
CARRIED**

3. Adoption of Minutes

3.1. [26-0387](#) Minutes of the Saanich Peninsula Wastewater Commission Meeting of February 5, 2026

**MOVED by Commissioner Diller, SECONDED by Commissioner Doehnel,
That the minutes of the Saanich Peninsula Wastewater Commission meeting of
February 5, 2026 be adopted as circulated.
CARRIED**

4. Chair's Remarks

There were no remarks.

5. Presentations/Delegations

There were no presentations or delegations.

6. Commission Business

6.1. [26-0383](#) General Manager's Verbal Update - April

A. Fraser noted that she would reserve her comments owing to the full agenda of commission business.

There is no recommendation. This verbal update is for information only.

6.2. [26-0370](#) District Energy System Efficiencies, Operations, and Potential for Future Expansion

R. Tooke spoke to Item 6.2.

Discussion ensued regarding:

- the distance over which thermal energy can generally be transferred, providing thermal energy to a single or institutional customer is ideal
- condition assessment and potential capital renewal investments must be considered first before expansion or revenue discussion
- heat of effluent entering the district energy loop and water injected into the Panorama Recreation Centre pool via onsite heat pump and requiring no chemical input
- the cost of the energy sold to the Panorama Recreation Centre is currently matched with previous year natural gas costs
- the current rate structure does not allow for revenue generation
- currently using approximately 400 kilowatts of 1800 kilowatt capacity of District Energy System
- heat loss due largely to variability of effluent temperature
- capital cost of investment and permitting to produce biofuel is intensive and cost prohibitive

**MOVED by Commissioner Diller, SECONDED by Commissioner Doehnel,
That the Saanich Peninsula Wastewater Commission direct staff to:**

1. undertake a condition assessment of the District Energy System (DES) to identify capital renewal requirements and update the Capital Plan to reallocate \$100,000 from the decarbonization improvements project to support this work.
2. undertake a root-cause analysis of the DES winter shutdowns, with recommended mitigation measures.
3. report back on changes to the heating demand of the Panorama Recreation Centre following commissioning of the internal heat recovery project and the implications to the DES; and
4. report back on expansion options for the DES following engineering assessments of condition and capacity.

CARRIED

6.3. [26-0308](#) 2025 Annual Compliance Report for the Saanich Peninsula Wastewater Treatment Plant

P. Kickham spoke to Item 6.3. for information.

Discussion ensued regarding:

- the cause of a recent accidental discharge of a large quantity of effluent into the Saanich Peninsula wastewater system
- a valve system malfunction at BC Ferries was identified and additional controls implemented
- the fee schedule for permitted facilities that discharge into the wastewater system
- cost recovery from fees fund the Regional Source Control Program
- confirmation that the boat used for water sampling is a Regional Parks asset
- the February spike in carbonaceous biological oxygen demand was below the provincial limit

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

6.4. [26-0340](#) Saanich Peninsula Liquid Waste Management Plan - Technical Advisory Committee and Review Update

P. Kickham spoke to Item 6.4.

Discussion ensued regarding:

- three main stages for developing a liquid waste management plan under provincial requirements and each stage requires significant public input and First Nations engagement
- liquid waste management on the Saanich Peninsula is in good shape from a regulatory perspective
- the system is robust enough that overflows are very rare and in alignment with regulatory allowances during extreme weather events
- Provincial Liquid Waste Management Plan secures commitments from local and regional governments to improve liquid waste management
- stormwater is of primary importance to the regulators when it comes to managing liquid waste, with more stringent requirements likely forthcoming
- liquid waste management planning is a mechanism to bring all levels of government and diverse viewpoints together
- process will include both technical and public advisory committees

MOVED by Commissioner Martin, SECONDED by Commissioner Halldorson, The Saanich Peninsula Wastewater Commission recommends to the Capital Regional District Board:

That staff defer review and renewal of the Saanich Peninsula Liquid Waste Management Plan pending completion of provincial, regional and municipal planning documents.

CARRIED

Opposed: Doehnel

7. Notice(s) of Motion

There were no notices of motion.

8. New Business

There was no new business.

9. Adjournment

**MOVED by Commissioner Doehnel, SECONDED by Commissioner Diller,
That the Saanich Peninsula Wastewater Commission meeting of April 2, 2026 be
adjourned at 10:29 am.
CARRIED**

Chair

Recorder



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REPORT TO SAANICH PENINSULA WASTEWATER COMMISSION MEETING OF JUNE 4, 2026

SUBJECT **Saanich Peninsula Wastewater Service 2026 Mid-Year Capital Projects and Operations Update**

ISSUE SUMMARY

To provide a mid-year update on the Saanich Peninsula Wastewater capital program and operations.

BACKGROUND

Capital Program Update

The Saanich Peninsula Wastewater (SPWW) capital program reflects the planned capital spending for the next five years and forms part of the annual service budget that is approved in March each year by the Capital Regional District (CRD) Board. In 2026, there are 16 capital projects identified with an expenditure estimated at \$7.125 million. The status of some of the more significant projects is detailed in Appendix A and their locations are shown in Appendix B. Additional smaller projects will also progress based on criticality and resourcing.

Operations Update

The Saanich Peninsula and Gulf Islands Operations team operates and maintains the Saanich Peninsula Wastewater Treatment Plant, Collection System and District Energy (Wastewater Heat Recovery) System, which includes a routine operational and preventative maintenance program. The 2026 annual operating budget is \$4.319 million and is on target for year-end. The following provides a summary of operational highlights to date and some of the major non-routine operational activities planned in 2026.

Wastewater Treatment Plant

The wastewater system typically treats and discharges approximately 3,600 megaliters (ML) of wastewater annually. As of May 15th, 1,314 ML have been treated and discharged. There have been no exceedances of the facility's operating permit to date.

Wastewater Collection System

The wastewater collection system includes the operations of the Sidney, Keating, and Turgoose Pumping Stations (primary sites) and the collection system piping.

- The Turgoose Pump Station experience a main electrical service breaker failure due to the ingress of water into the electrical cabinet. The pump station operated on the backup standby generator for a period of five days while repairs were completed.

Sludge Management

Dewatered untreated sludge (biosolids) are typically hauled and disposed of at the Hartland Landfill. However, as of March 2026 test loads were scheduled and delivered to the Hartland Residual Treatment Facility (RTF) as part of testing and commissioning phase of the RTF receiving and processing equipment. The commissioning phase is still ongoing but it is anticipated all biosolids from the Saanich Peninsula Wastewater Treatment Plant will be disposed of at the RTF starting in June. To date (April 2026) 926 metric tons have been disposed of at the Hartland Landfill and approximately 200 metric tons disposed of at the RTF. The Saanich Peninsula Wastewater Treatment Plant produces approximately 3,700 metric tons annually.

District Energy System

The District Energy System (DES) provides heat energy for the Panorama Recreation Center (PRC). The annual operating budget for the DES is approximately \$179,500 which includes a \$36,650 transfer to capital reserves. The heat energy revenue budget is \$60,000. Energy revenue is expected to be under budget by \$20,000 at year-end due to a critical component failure that took several months to procure and install. During this time, no heat energy was being provided to the PRC.

Operational Annual Provisional Items

The annual provisional account is in the Service’s five-year capital plan and was established to provide funding for unplanned repairs/replacements that are outside of the operating budget contingencies. The annual budget is \$200,000. Unplanned repairs and replacements at mid-year are identified in the following table.

Project Title	Project Budget	Status
1. Secondary Clarifier No.2 Emergency Cathodic Protection Repairs	\$30,000	Cathodic protection anodes were replaced in Q1. Project is complete.
2. Primary Sludge Tank Mixer Replacement	\$45,000	Mixing pump critical spare purchased in Q2. Project complete
3. District Energy Sharring System Mini Plant Flow Element Replacement	\$10,000	Failed flow element due to water damaged replaced Q2. Project complete.
4. Wastewater Treatment Plant- Electrical Power Factor Unit Capacitor Equipment Replacement	\$20,000	Equipment ordered. Anticipate completing late Q2

2027 Capital Priorities

The Saanich Peninsula Wastewater Commission (Commission) has expressed interest in early engagement on significant budget drivers and a clearer understanding of budget pressures in 2027.

CRD staff are now beginning the 2027 budget process, including development of the 2027 capital priorities, with the budget to be refined through summer of 2026 and brought forward for review in September 2026. The information provided below reflects key priorities planned for 2027, based on early discussions and the 2026 projections, and is intended to support early awareness of emerging priorities and financial pressures. The 2026 Capital Plan is attached as Appendix C.

- Advancing repairs to the Boundary Grit Chamber as part of the Manhole Repairs and Replacement Program (20-04)
- Progressing repair work to the process sump under the WWTP Corrosion and Air Management Improvements Program (26-01)
- SPWWTP PLC Replacement (24-04)
- Continue advancing design and timelines for odour control and HVAC improvements within the WWTP Corrosion and Air Management Improvements Program (26-01).
- Implementing an Asset Capital Improvement/Replacement Program budget, to address small to mid-scale projects that require quick action and flexibility with competing priorities.

At this stage, it is still too early to project other components of the 2027 budget with confidence, including reserve contributions or water rate impacts. These elements will be further refined as part of the budget development process and presented to the Commission as more complete information becomes available.

CONCLUSION

This report provides operational and capital program updates for the Saanich Peninsula Wastewater Service.

RECOMMENDATION

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

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

ATTACHMENT(S)

Appendix A: SPWW Capital Program – Current Status of Active Projects

Appendix B: SPWW Significant Project Locations

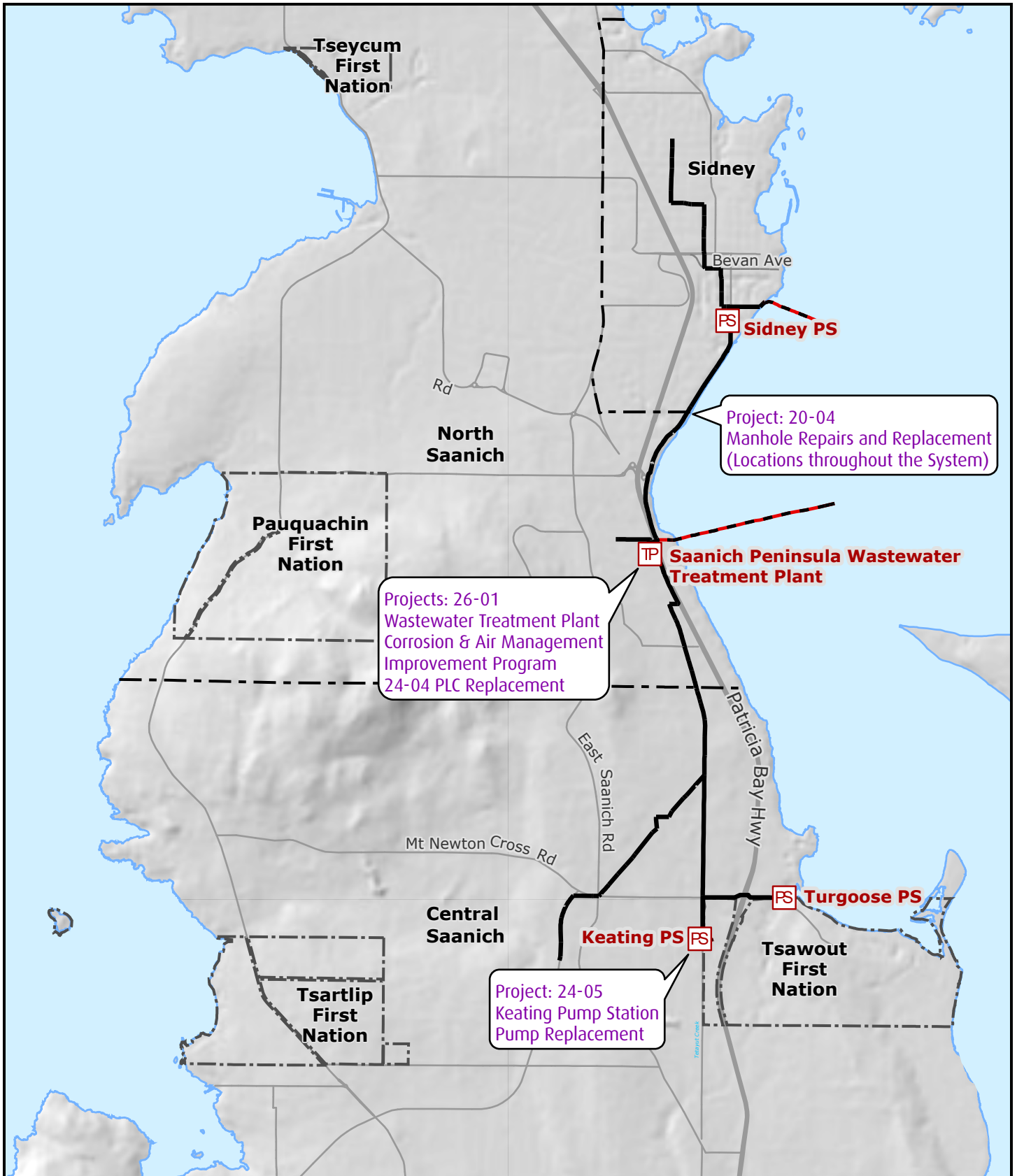
Appendix C: SPWW 5 Year Capital Plan (2026-2030)

Saanich Peninsula Wastewater Capital Program – Current Status of Active Projects

Project Number	Project Title	Total Budget	2026 Budget	Status
26-01	Wastewater Treatment Plant (WWTP) Corrosion and Air Management Improvements Program	\$7,500,000	\$4,410,000	<p>Projects are being progressed in the priority sequence identified at the February 5, 2026 Commission Meeting.</p> <p>Design work is complete for the Primary Clarifier #2 & Sludge Tank structural improvements, and a construction tender will be issued in Q2.</p> <p>A third-party value engineering consultant has been contracted to assess options for HVAC and odour control improvements.</p>
24-02	Standby Power Assessment and Replacement	\$950,000	\$300,000	<p>This was originally recommended from the Asset Management Plan, but the project has been deferred. This will be reflected in the 2027 Capital Plan. The existing generator cannot power the entire facility, but an interim plan is in place to utilize a temporary genset and this will be sufficient so long as the existing genset remains in good working condition. A power load study update is tentatively scheduled to commence in 2028 and this project will be reassessed after.</p>
24-03	SCADA Equipment Replacement	\$1,000,000	\$200,000	<p>SCADA hardware upgrades are scheduled for Q3 and Q4 based on the wastewater system priority needs. This project will improve overall operator response, enhance cybersecurity, and reduce critical down time.</p>
24-04	SPWWTP PLC Replacement	\$500,000	\$100,000	<p>Funding has been allocated for Programmable Logic Controllers (PLC) components that will benefit the Outdoor Odour Control Unit (OCU) improvements however capital upgrades have been paused pending the third-party value engineering assessment noted in item #26-01 above. CRD staff will progress this project after third party assessment is completed and the process control narrative for the facility has been updated.</p>
24-05	Keating Pump Station – Pump Replacement	\$600,000	\$580,000	<p>A preliminary options assessment was completed and a design consultant is proceeding with a design that includes 2x</p>

Project Number	Project Title	Total Budget	2026 Budget	Status
				85HP pumps with soft starters. The CRD is targeting to complete this with a combination of own forces and contracted labour, with completion projected by the end of 2026.
22-02	Microwave Radio Upgrades	\$550,000	\$350,000	The current Peninsula SCADA Data Radio system, which provides communication for much of the transmitters in the system, needs to be upgraded to manage Cyber Security risks and its aging infrastructure. In 2026 there will be minimal spend as staff undertake schematic design in 2026 to optimize Peninsula communications. Capital upgrades will be coordinated with SCADA Master Plan
20-04	Manhole Repairs and Replacement	\$950,000	\$375,000	Detailed design underway for repairs to Boundary Grit Chamber and 3-4 other manholes within the Saanich Peninsula system. The design will be completed in 2026 with the construction planned for 2027.
26-04	Wastewater Strategic Planning	\$50,000	\$50,000	The project was initiated in Q1 2026. Progression towards procurement of consultant is expected in Q2 2026.

- Project Numbers refer to project numbers from the 2026 Capital Plan.
- The projects listed above are not inclusive of all capital projects currently underway. Smaller scale projects have been omitted from this list for clarity.



0 250 500 1,000 1,500 Metres

UTM Zone 10N NAD 1983



Saanich Peninsula Wastewater Significant Project Locations



Figure 1

DISCLAIMER

This map is for general information only and may contain inaccuracies.

May 2026 | SPWW_ProjectLocations2026_AppendixB.mxd | helpdesk@crd.bc.ca

CAPITAL REGIONAL DISTRICT

5 YEAR CAPITAL PLAN

2026 - 2030

Service #: 3.718
 Service Name: Saanich Peninsula Wastewater

PROJECT DESCRIPTION				PROJECT BUDGET & SCHEDULE									
Project Number	Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carryforward from 2025	2026	2027	2028	2029	2030	5 - Year Total
WASTEWATER TREATMENT PLANT													
26-01	Renewal	WWTP Corrosion and Air Management Improvements Program	Program level budget to address and mitigate degradation from foul air at the Saanich Peninsula Wastewater Treatment Plant.	\$ 7,500,000	S	Debt	\$ -	\$ 3,910,000	\$ 2,000,000	\$ 1,500,000	\$ -	\$ -	\$ 7,410,000
26-01	Renewal	WWTP Corrosion and Air Management Improvements Program			S	Res	\$ -	\$ 500,000					\$ 500,000
23-04	Replacement	Replace SCADA Servers and Ethernet Upgrades	Existing servers are EOL and need to be replaced to meet current CRD specifications and standards	\$ 250,000	S	ERF	\$ 250,000	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ 250,000
28-01	Study	Bazan Bay Outfall Inspection	Follow-up inspection of Bazan Bay Outfall	\$ 250,000	S	Res		\$ -	\$ -	\$ 250,000	\$ -	\$ -	\$ 250,000
24-02	Replacement	Standby Power Assessment and Replacement	Original standby genset is nearing end of life and AECOM recommended completing a power load assessment and upgrading to a new genset that can provide standby power to the whole treatment plant.	\$ 30,000	E	Res	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
24-02	Replacement	Standby Power Assessment and Replacement	Original standby genset is nearing end of life and AECOM recommended completing a power load assessment and upgrading to a new genset that can provide standby power to the whole treatment plant.	\$ 920,000	E	Debt	\$ 150,000	\$ 300,000	\$ 650,000		\$ -	\$ -	\$ 950,000
24-03	Replacement	SCADA Equipment Replacement	Project to review and address the maturation of SCADA hardware throughout the service areas.	\$ 1,000,000	E	Debt	\$ 200,000	\$ 200,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 50,000	\$ 1,000,000
24-04	Replacement	SPWWTP PLC Replacement	PLC and CPUs at SPWWTP are at the end of life and must be replaced. The Schneider product currently used at the SPWWTP was discontinued in 2018 and will no longer be supported as of 2026.	\$ 500,000	E	Debt	\$ 50,000	\$ 100,000	\$ 250,000	\$ -	\$ -	\$ -	\$ 350,000
26-02	Study	Wastewater Treatment Plant Model Development	Initial assessment and plant modelling exercise to help assess future plant optimization.	\$ 150,000	E	Res		\$ 50,000	\$ 50,000	\$ 50,000	\$ -	\$ -	\$ 150,000
26-03	Renewal	Decarbonization Improvements at SPWWTP	Project to carry out decarbonization improvement recommendations as developed through the 2024 Low Carbon Electrification Study.	\$ 120,000	E	Res		\$ 120,000	\$ -	\$ -	\$ -	\$ -	\$ 120,000
26-03	Renewal	Decarbonization Improvements at SPWWTP		\$ 1,080,000	E	Grant		\$ -	\$ 500,000	\$ 580,000	\$ -	\$ -	\$ 1,080,000
PUMP STATIONS													
24-05	Replacement	Keating Pump Station - Pump Replacement	The existing pumps are nearing end of life and are becoming more difficult to maintain.	\$ 600,000	S	ERF	\$ 280,000	\$ 580,000	\$ -	\$ -	\$ -	\$ -	\$ 580,000
GENERAL													
21-04	Replacement	Voice Radio Replacement	Replacement of the voice radios, in coordination with the RWS, SPW, JDF, and Core Area services.	\$ 85,000	E	ERF	\$ 30,000	\$ 30,000	\$ -	\$ -	\$ -	\$ -	\$ 30,000
18-10	Replacement	Equipment Replacement - Annual Provisional	Funds are required for emergency replacement of equipment that is unplanned and outside maintenance contingencies.	\$ 1,200,000	S	ERF	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 1,000,000
22-02	New	Microwave Radio Upgrades	To provide a high bandwidth communications backbone to the SPW/SPWW systems, a microwave communications system will be installed.	\$ 550,000	E	Res	\$ 250,000	\$ 350,000	\$ 100,000	\$ 100,000	\$ -	\$ -	\$ 550,000
24-06	Replacement	IT Core Infrastructure Replacement	Replacement of Core IT infrastructure such as servers, network switches, UPS, etc for equipment end of life	\$ 240,000	E	ERF	\$ 45,000	\$ 60,000	\$ -	\$ 180,000	\$ -	\$ -	\$ 240,000
29-01	Study	Inflow and Infiltration (I&I) Management Plan Update	Future update to the Saanich Peninsula Wastewater I&I Plan	\$ 50,000	S	Res		\$ -	\$ -	\$ -	\$ 50,000	\$ -	\$ 50,000
26-04	Study	Wastewater Strategic Planning	Create a strategic plan for wastewater within the CRD to guide decision making and long-term planning	\$ 50,000	S	Res		\$ 50,000					\$ 50,000
GRAVITY SEWERS & MANHOLES													
20-04	Renewal	Manhole Repairs and Replacement	Based upon inspections, high priority repairs and relining will start on some MH's in Central Saanich and Sidney. Repairs/relining will be scheduled in the next 5 years.	\$ 100,000	S	Res	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20-04	Renewal	Manhole Repairs and Replacement	Based upon inspections, high priority repairs and relining will start on some MH's in Central Saanich and Sidney. Repairs/relining will be scheduled in the next 5 years.	\$ 850,000	S	Debt	\$ 50,000	\$ 375,000	\$ -	\$ 500,000	\$ -	\$ -	\$ 875,000
27-02	Renewal	Trunk Sewer Relining - Ph2	Based upon CCTV inspection, about another 1600m of 500mm dia asbestos cement sewer should be lined in 2029.	\$ 1,450,000	S	Grant		\$ -	\$ -	\$ -	\$ -	\$ 1,450,000	\$ 1,450,000
27-02	Renewal	Trunk Sewer Relining - Ph2		\$ 750,000	S	Res		\$ -	\$ -	\$ 50,000	\$ 700,000	\$ -	\$ 750,000
27-03	Renewal	Flushing and CCTV Inspection	SPWW sewers should be cleaned and inspected on a 5-basis. The next 5-year inspection is planned for 2027.	\$ 150,000	S	Res		\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ 150,000
27-04	Renewal	I&I Flow Monitoring	Flow Monitoring leading up to I&I Plan Updates	\$ 150,000	S	Res		\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ 150,000
PRESSURE PIPES & APPERTUNANCES													
DEVELOPMENT COST CHARGE (DCC) PROJECTS													
23-01	Renewal	DCC Program - 5-year Update	5-year update of the DCC program.	\$ 75,000	S	Res	\$ 50,000	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ 50,000
Grand Total				\$ 18,100,000			\$ 1,355,000	\$ 7,125,000	\$ 4,300,000	\$ 3,660,000	\$ 1,200,000	\$ 1,700,000	\$ 17,985,000

REPORT TO SAANICH PENINSULA WASTEWATER COMMISSION MEETING OF THURSDAY, JUNE 4, 2026

SUBJECT **Biochar Project Update**

ISSUE SUMMARY

To introduce the Biochar Carbonisation Project and provide a high-level update on the Capital Regional District's (CRD) long-term approach to managing biosolids.

BACKGROUND

The CRD transforms wastewater residuals from the McLoughlin Point Wastewater Treatment Plant into Class A biosolids at the Residuals Treatment Facility (RTF) located at Hartland Landfill. Since 2021, biosolids produced at the RTF have been managed through a portfolio of beneficial use options, including use as an energy feedstock, for land reclamation and non-agricultural soil amendment applications.

In early 2026, the CRD successfully commissioned the receipt of residuals from the Saanich Peninsula Wastewater Treatment Plant at the RTF. These residuals are now processed alongside other regional wastewater residuals and transformed into Class A biosolids, integrating the Saanich Peninsula system into the CRD's regional resource recovery approach.

In March 2025, the Province endorsed the CRD's Long-Term Biosolids Management Strategy, which identifies advanced thermal treatment (such as carbonisation) as the preferred long-term solution for biosolids beneficial use. The strategy is supported by a diversified portfolio of beneficial use options to ensure operational reliability and flexibility.

As part of implementing this strategy, the CRD is advancing the Biochar Carbonisation Project, which would add a new processing step at the Residuals Treatment Facility to convert biosolids into biochar.

Following a competitive procurement process, Pyrocal Pty Ltd. was selected in 2025 as the preferred proponent to supply the carbonisation technology. The project is being advanced in phases, with future decision points for the CRD Board as more information becomes available.

Biochar Carbonisation

The Biochar Carbonisation Project proposes to heat biosolids at high temperatures in a low-oxygen environment to produce biochar - a stable, carbon-rich material, with a wide range of potential applications across environmental, industrial and agricultural contexts.

The project supports several long-term objectives identified through the CRD's planning and engagement processes:

- **Environmental protection:** Further treatment to address contaminants of concern and improve material stability.
- **Climate action:** Biochar sequesters carbon in a stable form, helping reduce greenhouse gas emissions.

- **Long-term reliability:** Reducing reliance on hauling and external markets for biosolids management.
- **Operational flexibility:** Allowing material to be stored and managed over time.

The project builds on the existing beneficial use program, where all biosolids continue to be used in out-of-region, non-agricultural applications.

Consistent with the CRD's staged approach, the initial phase of the project would focus on producing and safely storing biochar while undertaking further testing and research to evaluate appropriate end uses. This approach allows the CRD to confirm material characteristics, ensure regulatory alignment and identify the most suitable beneficial applications over time.

Potential end uses of biochar include:

- **Soil enhancement and agriculture:** Biochar has been shown to improve soil structure, water retention and nutrient availability.
- **Land reclamation and restoration:** Use in mine site disturbed land reclamation to improve soil function and support vegetation establishment.
- **Environmental applications:** Including stormwater filtration, contaminant adsorption.
- **Industrial and construction uses:** As an additive in materials such as concrete or asphalt, or as a component in engineered products.
- **Carbon management:** Long-term carbon storage in soils or materials, contributing to climate change mitigation.

At this stage, no decisions have been made regarding end uses. The CRD anticipates producing and testing biochar to confirm its characteristics, then engaging with the public, First Nations and regulators to help identify the highest and best end uses.

The CRD has undertaken a public engagement process to share information and gather feedback on the proposed project. This included:

- a public information website with project details and frequently asked questions, which received 1,292 unique visitors and generated over 11,000 views across Facebook and Instagram
- a public engagement period in early 2026, including an online survey with 170 participants
- an open house at the Residuals Treatment Facility with 86 participants and six site tours

Engagement focused on topics such as:

- air quality and emissions
- environmental and climate considerations
- biochar characteristics and potential uses
- project costs and overall value

Feedback from the public and stakeholders has been compiled into a Public Consultation Summary Report (Appendix A).

Project Status and Next Steps

The project is currently in the planning and engagement phase. Key next steps include:

- advancing technical design with the preferred proponent
- continuing engagement with First Nations and stakeholders

- completing environmental studies and air quality modelling
- preparing and submitting a regulatory application for provincial approval
- refining project costs and business case

The CRD Board will consider future decisions on the project as more detailed information becomes available. Staff are targeting bringing a final business case to the CRD Board for consideration in early 2027.

CONCLUSION

The Biochar Carbonisation Project is a key initiative supporting the implementation of the Capital Regional District’s Long-Term Biosolids Management Strategy. With the successful integration of Saanich Peninsula residuals into the Residuals Treatment Facility, these residuals are now being transformed into Class A biosolids. The proposed biochar project will add a new treatment process to transform biosolids into biochar, enhancing environmental performance, improving system resilience, and supporting climate objectives. This report is provided for information to support the Saanich Peninsula Wastewater Commission’s understanding of the project and its role in the future of regional wastewater residuals management.

RECOMMENDATION

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

Submitted by:	Rory Tooke, PhD, Senior Manager, Environmental Innovation
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

ATTACHMENT

Appendix A: Tavola Strategy Group Public Consultation Summary Report – Transforming Biosolids to Biochar (April 2026)



TAVOLA
STRATEGY GROUP

PUBLIC CONSULTATION SUMMARY REPORT

Transforming Biosolids to Biochar

Capital Regional District

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April 2026

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This summary consultation report was prepared by Tavola Strategy Group, an independent engagement consultant supporting the Capital Regional District. If you have any questions or comments about this report, please contact:

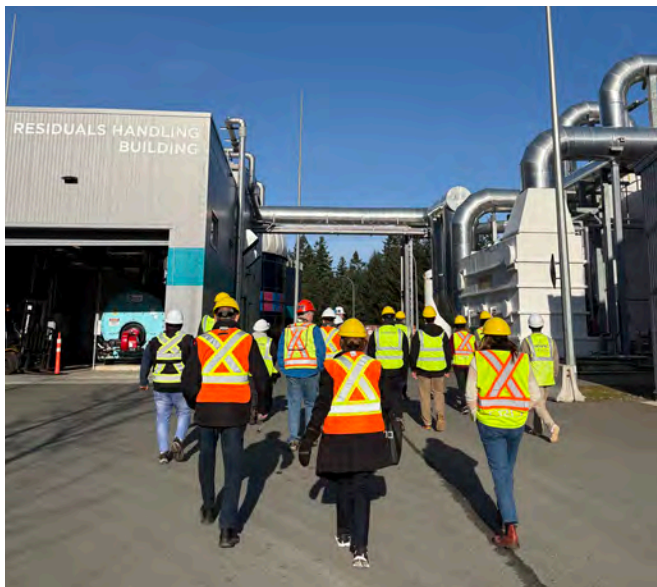
Katie Hamilton, Principal | katie@tavolagroup.com

PROJECT OVERVIEW

In 2024, the Capital Regional District [CRD] Board identified thermal technologies, such as carbonisation, as the long-term management approach for converting biosolids - the solids left over from wastewater treatment - into biochar, a versatile product with potential uses in construction, industrial processes, agriculture, and forestry.

The CRD is now preparing to introduce carbonisation technology to transform Class A biosolids into biochar. Biochar is considered a stable, carbon-rich material that can help reduce greenhouse gas emissions, destroy contaminants of concern, and store carbon long-term. The project will advance in stages, with clear decision points for the CRD Board and opportunities for input from First Nations and the public at each step.

Early public engagement was identified as a priority within the implementation process. The engagement approach was designed to build upon previous phases of consultation. From Friday February 13 to Thursday March 5, 2026, the CRD invited the community to learn more and share their input and ideas to inform decisions around introducing carbonisation technology to convert biosolids to biochar.



ENGAGEMENT APPROACH

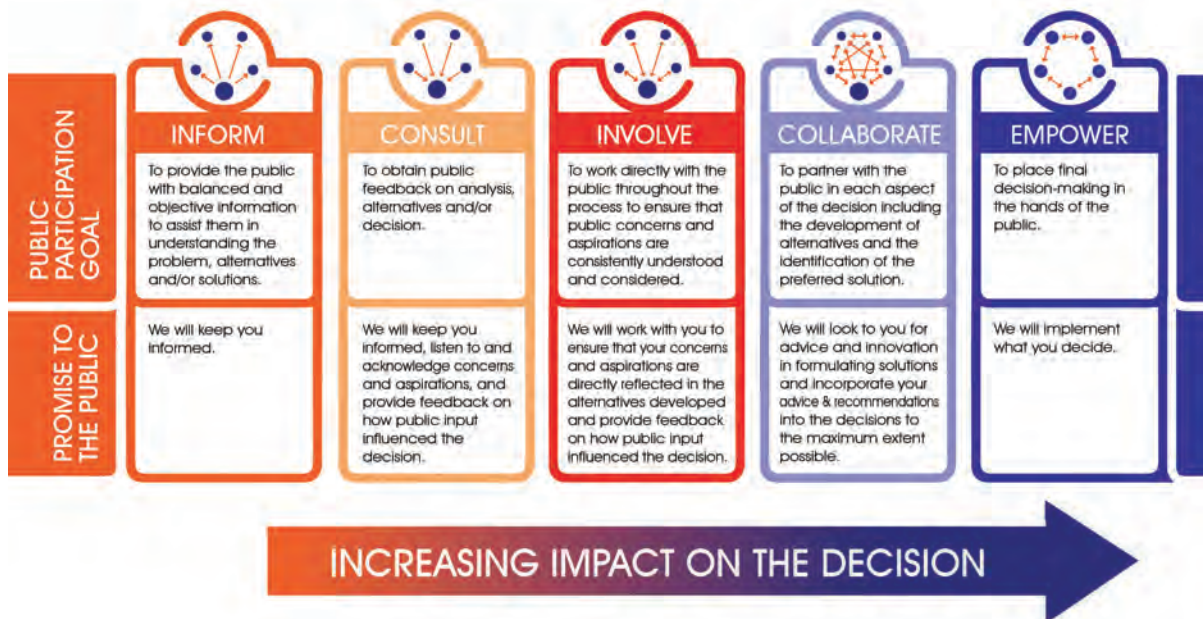
Engagement Objectives

- 1. Inform capital region residents about the new technology being pursued to responsibly manage biosolids.**
- 2. Create opportunities for those neighbouring the Residuals Treatment Facility at Hartland Landfill and interest holders to understand what is planned for biosolids management at the site, operational considerations and mitigation measures.**
- 3. Understand top of mind considerations related to operations and potential end uses for biochar.**
- 4. Build trust and confidence in the CRD's approach to biosolids management through proactive, two-way communication, and a transparent decision-making process.**
- 5. Meet or exceed provincial regulatory requirements for Waste [Air emissions] Discharge notification.**

Note: Engagement with First Nations is underway through a separate but parallel process, supported by an independent contractor. Coordination between public and First Nations engagement while maintaining distinct processes has continued throughout.








Promise To The Public

Overall, the public engagement plan aimed to engage at the level of “consult”. The promise to the public is “we will keep you informed, listened to, and acknowledge concerns and provide feedback on how public input influenced the decision.”



Key Topics and Level of Engagement

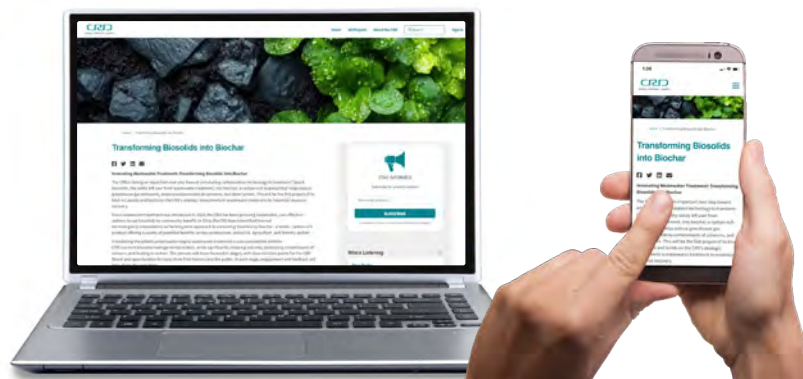
The engagement plan set out to engage on the following topics:

Topic	Level of Engagement
What biosolids are, how they are created and how they are managed for beneficial use [Long-term Biosolids Management Strategy]	 INFORM
Current biosolids management practices and their limitations, as well as previous engagement results about top-of-mind interests and concerns	 INFORM
Overview of the selected technology benefits including environmental and climate change benefits, and the potential for the technology to destroy emerging contaminants of concern within CRD biosolids	 INFORM
Overview of the new technology, location, proponent, regulatory requirements and funding requirements, and climate mitigation	 INFORM
Environmental monitoring and reporting [e.g. air discharge]	 CONSULT
Operational considerations and neighbourhood integration [e.g. traffic, noise, etc.]	 CONSULT
Potential uses of biochar	 CONSULT

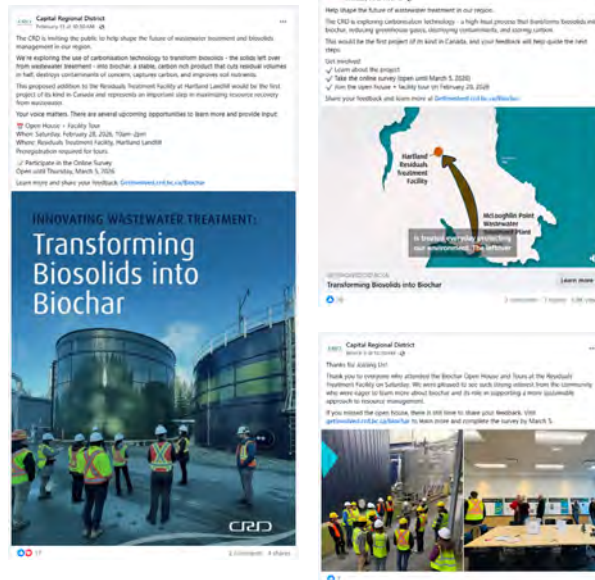
Engagement Activities and Timeline

Awareness-Raising

- A detailed project webpage on getinvolved.crd.bc.ca/biochar



- A media release and detailed backgrounder were distributed on Friday, February 13, 2026, generating media interviews and stories
- Information was emailed to Project Subscribers
- Several social media posts were shared on Facebook, LinkedIn, and Instagram over three weeks



- Print ads appeared in the Times Colonist and Blackpress newspapers
 - *Blackpress* - February 18 and 19, and March 4 and 5, 2026
 - *Times Colonist* - February 14, 2026
- Information was emailed to 14 interest groups and 13 municipalities
- A 3-minute video was created to provide a visual and informative overview of the project



Video hosted on CRD's Youtube channel

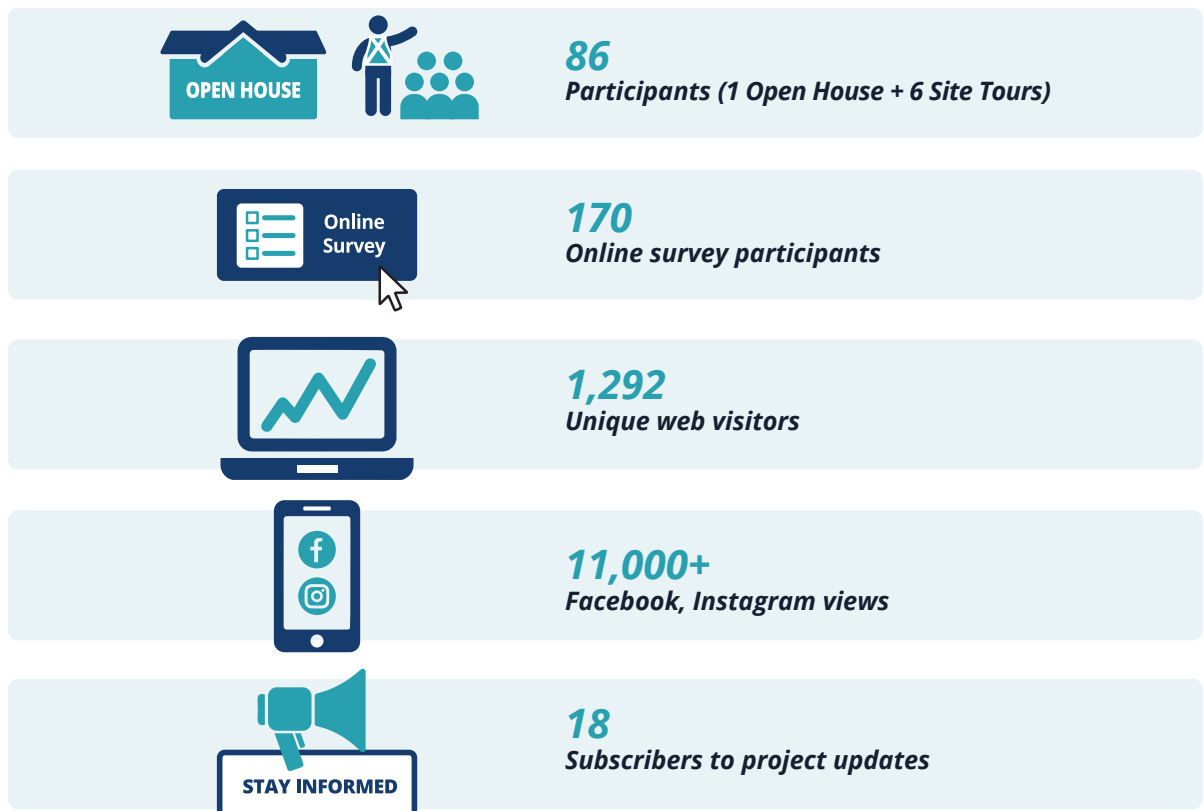
Input Methods

- A dedicated project email biochar@crd.bc.ca invited questions or comments
 - *Nine letters/emails were received through the project email or submitted directly to the CRD Board.*
- An online survey was hosted on getinvolved.crd.bc.ca/biochar from February 13 to March 5, 2026.
- Open House and guided tours of the Residuals Treatment Facility were held Saturday, February 28th from 9 a.m. to 3 p.m. providing an opportunity for the public to learn more, ask questions of staff and consultants and provide feedback on interactive, informational boards and feedback forms.
- Presentations were offered to local interest holders
 - *CRD Staff presented to Willis Point Community Association on Friday, March 27, 2026*
 - *A tour of the Hartland Landfill has been requested by Probus [Sidney, BC Chapter]*

A formal public notification process will be required for the CRD to apply for a provincial Waste Discharge Authorization permit for air emissions. Although this phase of engagement does not constitute the formal notification period, outreach to groups identified through the referral process was undertaken to foster early awareness.

Engagement By The Numbers

Over 250 people participated in the process:



WHAT WE HEARD

Overarching Themes

Public input on the CRD's plans to implement carbonisation technology to the wastewater treatment process to create biochar was gathered through an online survey, written correspondence, and an in-person open house, which included tours of the existing biosolids facility at the Hartland Landfill and opportunities to speak directly with CRD staff and technical consultants.

While the same core themes emerged across engagement methods, the nature of feedback differed. Survey responses generally focused on questions about how potential impacts would be managed and what safeguards would be in place, while open house feedback reflected a higher degree of confidence grounded in first-hand observation and direct dialogue with project representatives.

Due to the open-ended nature of the engagement methods, there were some emergent and repetitive themes:



Neighbourhood Impacts

Concerns about odour, noise, and traffic were the most consistently raised. Respondents were interested to know how odours would be controlled, whether truck traffic would increase, and how issues would be addressed if problems arose. Open house participants continued to raise these concerns but, having seen the facility and proposed mitigation measures, often shifted toward questions about thresholds, monitoring, and accountability.

Air Quality, Emissions, and Monitoring

The need for routine monitoring, independent verification, and public access to emissions data was highlighted. Survey feedback emphasized uncertainty around emissions, fuel sources, and contaminants [i.e. PFAS, heavy metals, etc.], and wanted clarity about how emissions would be modeled and risks would be managed. Open house participants more frequently referenced continuous monitoring systems and regulatory requirements but stressed the importance of transparent reporting.

Climate and Environment

Respondents largely view climate and environmental topics as interconnected, often linking climate change, contamination of food and water systems, and waste management together. Environmental and climate priorities generally include climate change mitigation, addressing contamination [e.g. soil, water, food, air], protecting watersheds and water quality.

Biochar Composition and End Uses

There is a broad openness to a range of potential biochar end uses, including agriculture and forestry, climate mitigation, green building materials, industrial uses and waste management. There is a strong desire for assurances about biochar quality and composition, clear standards for appropriate uses, and caution regarding applications in food systems or sensitive environments unless safety [i.e. health and environmental] is well established.

Costs, Affordability, and Value for Money

An emphasis on financial responsibility emerged. Some viewed the estimated capital cost as modest compared to other capital infrastructure projects and emphasized the long-term environmental and operational benefits of the investment. Others raised affordability concerns in the current economic context and emphasized the importance of realistic cost estimates and risk allocation, the need for external funding, and staged decision-making.

Level of Awareness and On-going Communications

While there are varying levels of familiarity around this topic, there is a strong interest for on-going updates and clear communications as the process advances. The need for First Nations involvement was also highlighted.

Overall Interest and Support

Many expressed support for the overall approach to introducing carbonisation technology to produce biochar, particularly as an alternative to land application of biosolids and advancing climate and environmental objectives. Open house and tour participants provided positive feedback on facility tours and discussions with staff, noting that these helped build understanding of how biochar technology would be implemented.

Overall, all engagement methods garnered constructive input and questions and largely indicated interest and support for advancing carbonisation technology, provided key conditions and safeguards are met. Management of neighbourhood and air-quality impacts, transparent monitoring and reporting, clear understanding of biochar composition and potential end uses, and realistic cost estimates with strong financial oversight are critical to community interests and support.



Open House – Saturday, February 28, 2026

On Saturday, February 28, 2026, the CRD hosted its first-ever public open house and guided tours of the Residuals Treatment Facility at the Hartland Landfill, drawing strong community interest. Additional tour times were added to accommodate demand. 86 people attended. The open house was drop-in format, due to space and safety limitations pre-registration was required for the tours. Offering in-person engagement opportunities was responsive to feedback received in previous phases of biosolids engagement.

Each small-group tour was led by Synagro, the facility operator. Attendees were guided through both indoor and outdoor areas of the facility to learn how biosolids are currently processed. Participants were shown where the proposed carbonisation equipment would be located, providing a sense of the footprint and scale of the new biochar technology being introduced to the facility.

After the tour, participants were invited to speak with CRD staff and project consultants and share their thoughts on the proposed biochar process. Feedback was collected through interactive display boards [see Appendix] and event feedback forms to help inform future engagement activities and ongoing project planning. 30 attendees completed event feedback forms.



Key Themes from Interactive Display Boards:

Environmental impacts:

- Participants showed strong interest in how the project will protect the environment and manage contaminants.
- Questions focused on heavy metals, PFAs, microplastics, potential emissions and risk to birds.

Climate:

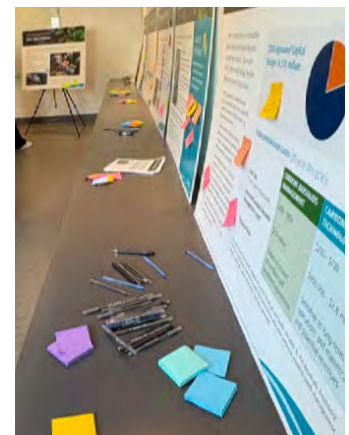
- Many participants supported the project's climate goals, noting the value of carbon sequestration and expressing interest in high integrity carbon credits, including additionality and certification.
- Participants were curious about market demand [biochar end-uses and carbon credits] and offered ideas for co-benefits such as using biochar in phytoremediation.

Costs and funding:

- Several participants noted that the project appeared less expensive than expected, while others asked for more detail on capital costs and taxpayer impacts, and whether senior government funding would be pursued.
- Questions about the project timeline, governance [including whether a project board would be used], and construction timing were common.

Neighbourhood integration:

- Participants posed questions about emergency response, local air emissions, siting and visibility, staffing, and maintenance.
- Many participants shared positive feedback about the open house and tour, the clarity of materials, and CRD's leadership.
- Suggestions included involving students and schools and continuing strong engagement with First Nations.



Open House and Tour Feedback

Overall experience:

All but one participant rated their overall experience as “Excellent,” with one respondent selecting “Good.”

What worked well:

Knowledge and clarity of guides: Many respondents mentioned that tour guides and staff were knowledgeable and able to explain processes clearly.

Tour format and pacing: Several comments noted that the tour length and level of detail felt appropriate, and that the small-group format supported questions and discussion.

Access to facility areas: Participants appreciated being able to view both indoor and outdoor parts of the site, including operational components not typically accessible to the public.

Use of visual materials: Display boards and step-by-step explanations were identified as helpful for understanding processes.

Event organization: Respondents mentioned signage, instructions, and overall organization as supportive to their experience.

Opportunities for improvement:

Additional event promotion and frequency: Some respondents suggested wider advertising, earlier notice, and more public events, including potential school tours.

Amenities: Two participants referenced tea or warm coffee and one noted tour conditions such as smell and dust.

More time for questions or in-depth technical discussion: Respondents expressed interest in additional Q&A time or optional technical discussions for those with engineering or environmental backgrounds.

Expanded content: Suggestions included additional information on renewable energy, wastewater reduction products, and other related initiatives.

Presentation and accessibility considerations: Comments mentioned acoustics, clarity of meeting-point instructions, and desire for greater proximity or tools for hearing support.

Tour experience:

All but one participant rated their overall experience as “Excellent,” with one respondent selecting “Good.”

Clarity of explanations: Participants noted that guides provided clear explanations and answered questions directly.

Viewing operational areas: Respondents valued being able to see multiple components of the system, including areas usually restricted.

Presentation considerations: One suggestion noted that a microphone could support voice projection for future events.

Information and engagement:

All participants indicated they felt the information was “very” or “mostly” clear.

Responsiveness to questions: Several comments noted that questions were answered thoroughly.

Opportunity to proactively address concerns: One respondent suggested including additional FAQs to address anticipated questions from the broader public.

Comfort and accessibility:

All but two participants felt they were welcomed and able to participate comfortably, with two respondents selecting “Mostly.”

Suggestions to make future events more inclusive or accessible:

Clarity of explanations: Participants noted that guides provided clear explanations and answered questions directly.

Viewing operational areas: Respondents valued being able to see multiple components of the system, including areas usually restricted.

Presentation considerations: One suggestion noted that a microphone could support voice projection for future events.

Future participation:

All but one participant indicated they were “Very likely” or “Somewhat likely” to participate in future events. One was unsure.

Is there anything else you’d like to share?

Appreciation: Participants noted appreciation for opportunities to learn more about the facility and the proposed carbonisation process.

Support for biochar and carbon reduction initiatives: Participants expressed enthusiasm for moving toward carbonisation and accelerating regulatory processes.

Interest in broader educational opportunities: Respondents expressed interest in more tours of municipal systems to support general public understanding

Acknowledgment of staff and consultant contributions: Several comments referenced specific staff or teams as being helpful or knowledgeable.

Continued improvement: Suggestions included cleaner energy sources, wider information sharing (including with municipal candidates), and demonstrations of monitoring and QA/QC processes.

Online Survey

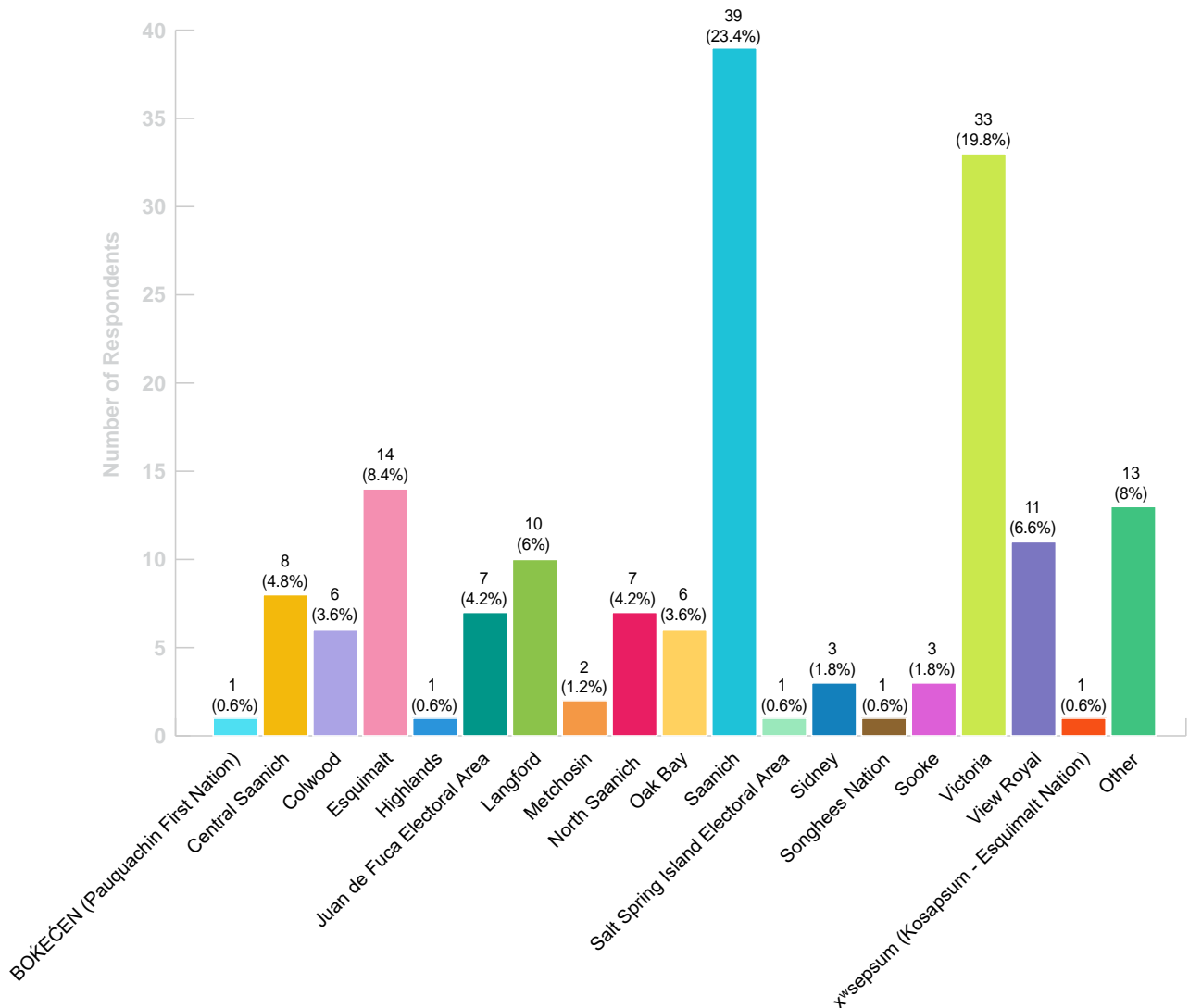
From Friday, February 13 to Thursday, March 5, 2026, the CRD invited community members to share their perspectives through an online survey hosted on getinvolved.crd.bc.ca/biochar. 170 participants completed the survey.

To support informed participation, the getinvolved.crd.bc.ca/biochar website provided comprehensive information about the plans to introduce carbonisation technology at the Residuals Treatment Facility, including background materials, detailed FAQs, and an informational video. The display boards featured at the in person open house were also made available online.

Demographics

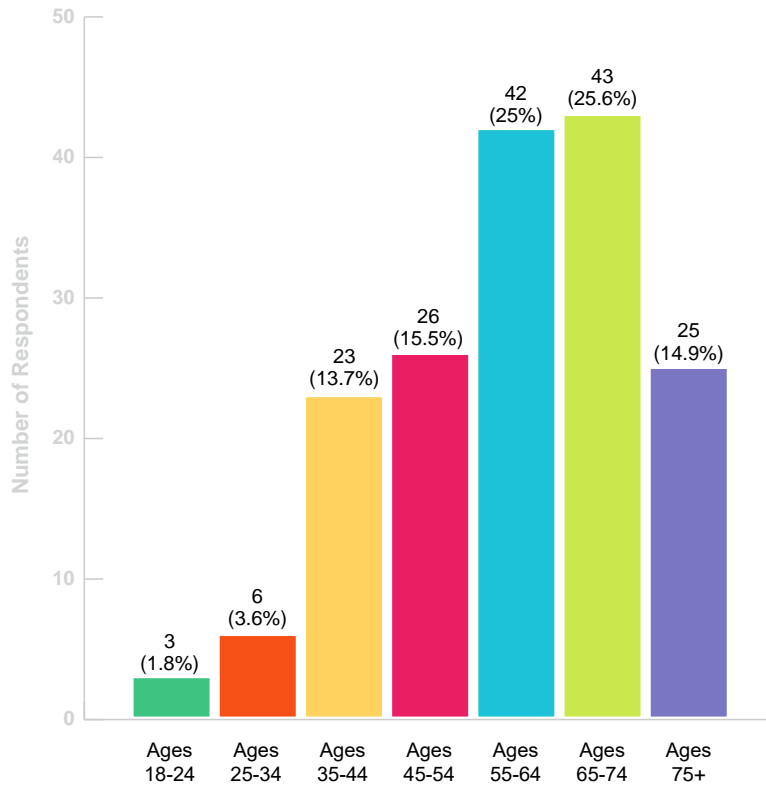
Where do you live?

- 43% of survey respondents were from Saanich and Victoria.



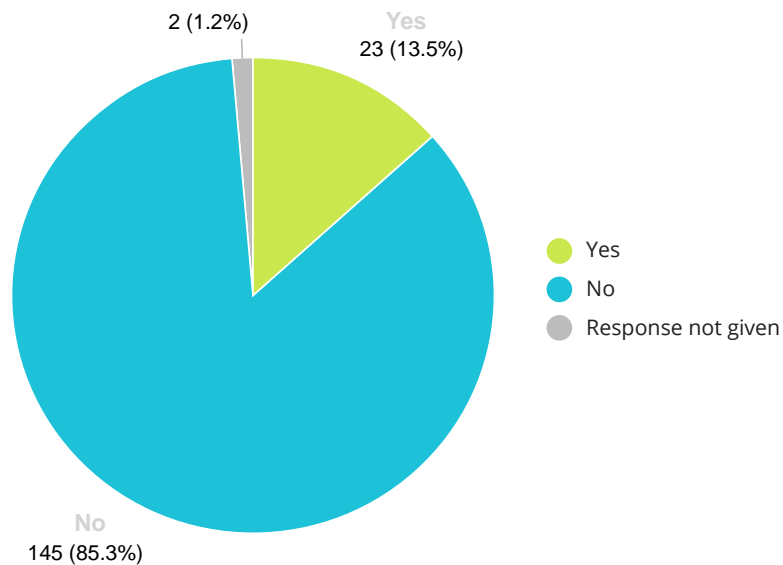
What is your age range?

- 65% of respondents were over 55 years of age



Do you own a business in the Capital Region?

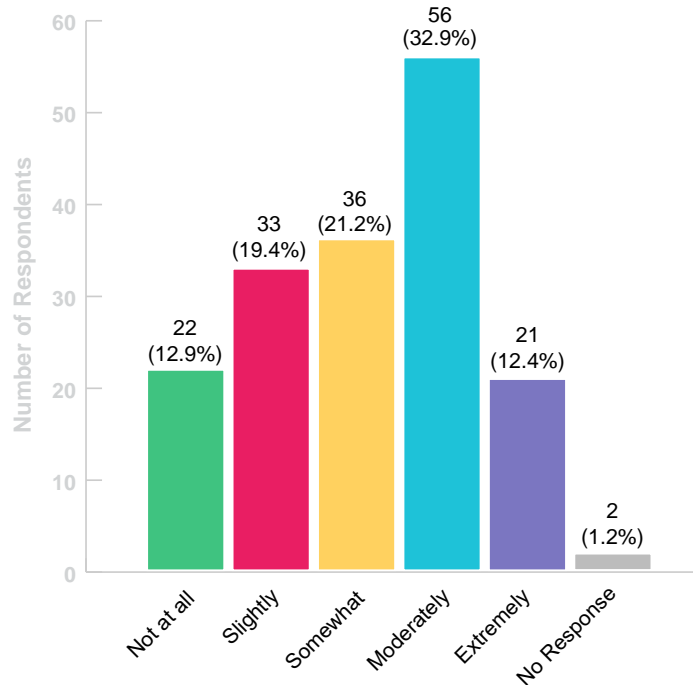
- 13.5% of respondents owned a business within the Capital Regional District



Survey Results

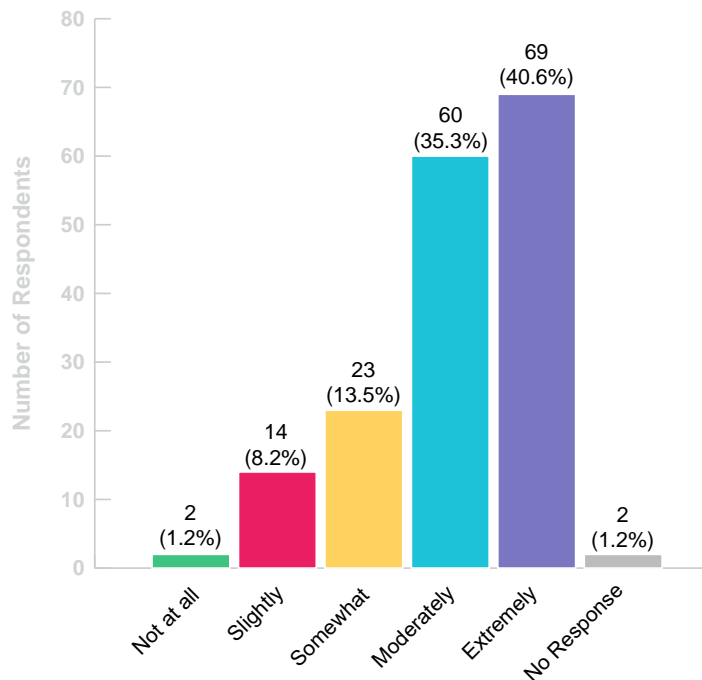
Familiarity with the CRD's decision to advance carbonisation technology to create biochar:

- Respondents demonstrated varied awareness of the CRD's decision to pursue carbonisation technology, with levels ranging from fully familiar to only slightly aware or unfamiliar.



Interest in learning more about biochar and the carbonisation technology being planned:

- 76% of respondents are moderately to extremely interested in learning more about carbonisation technology.



Neighbourhood impacts:

148 responses

The most prominent comments and questions related to neighbourhood impacts, were related to odour, noise, and traffic. Neighbourhood impacts appear to be closely linked to health and environmental safety questions and concerns.

1. Odour, noise, and traffic

Odour was the most frequently raised issue, followed by noise, and truck traffic, particularly diesel trucks on rural roads and routes used by pedestrians and cyclists. Many respondents referenced past experiences with facilities that were promised to be “non odorous” but were not.

Quotes:

- *“Odour is a significant concern. The current system reeks.”*
- *“Concerned about noise and odour.”*
- *“Will it create additional noise or smell for the area?”*
- *“Hopefully the smoke it emits does not disturb local residents.”*
- *“Will there be additional truck traffic on Willis Point Road?”*
- *“Will emissions from trucks increase or decrease?”*
- *“Traffic and diesel pollution are a major concern.”*

2. Air quality and localized environmental and health impacts

Over half of respondents asked about airborne contaminants, persistent chemicals, and long-term exposure risks, particularly PFAS (“forever chemicals”), pharmaceuticals, heavy metals, dioxins, and microplastics.

Quotes:

- *“What toxic chemicals will be emitted into the air?”*
- *“How are dioxins and heavy metals managed?”*
- *“I’m concerned about spreading PFAS and other toxins into the air, water and land.”*
- *“What kinds of emissions occur when pyrolyzing microplastics and PFAS?”*
- *“What is the risk of aerial deposition of persistent organic compounds?”*

3. Facility location

Respondents noted questions or concern related to siting. Several referenced shifting commitments about Hartland infrastructure, siting, impacts on rural areas, and fairness in how regional burdens are distributed.

Quotes:

- *“Where is the facility going to be located?”*
- *“There is an overconcentration of facilities at Hartland.”*
- *“We were told years ago this would NEVER happen.”*
- *“Please retain the rural quality of life.”*
- *“Obviously no one will want this in their backyard.”*

4. Monitoring and oversight

Respondents indicated the need for regular monitoring and oversight [e.g. baseline monitoring, independent oversight, real time data, and public reporting] especially for odour, air emissions, and contaminants.

Quotes:

- *“Will monitoring be undertaken by independent experts?”*
- *“Will the monitoring results be published regularly?”*
- *“What noise and odour thresholds will apply, and how will compliance be reported?”*
- *“How will baseline air quality data be collected and monitored over time?”*

Climate and environmental interests:

142 responses

Climate and environmental priorities noted by respondents centred on three key areas:

1. Climate change mitigation through greenhouse gas reduction and carbon sequestration
2. Addressing contamination in soil, water, and food systems
3. Protecting watersheds and maintaining water quality

Respondents consistently view climate change, pollution, food systems, water protection, and waste management as interconnected. Several respondents indicated support for solutions that address multiple environmental challenges simultaneously, particularly those that:

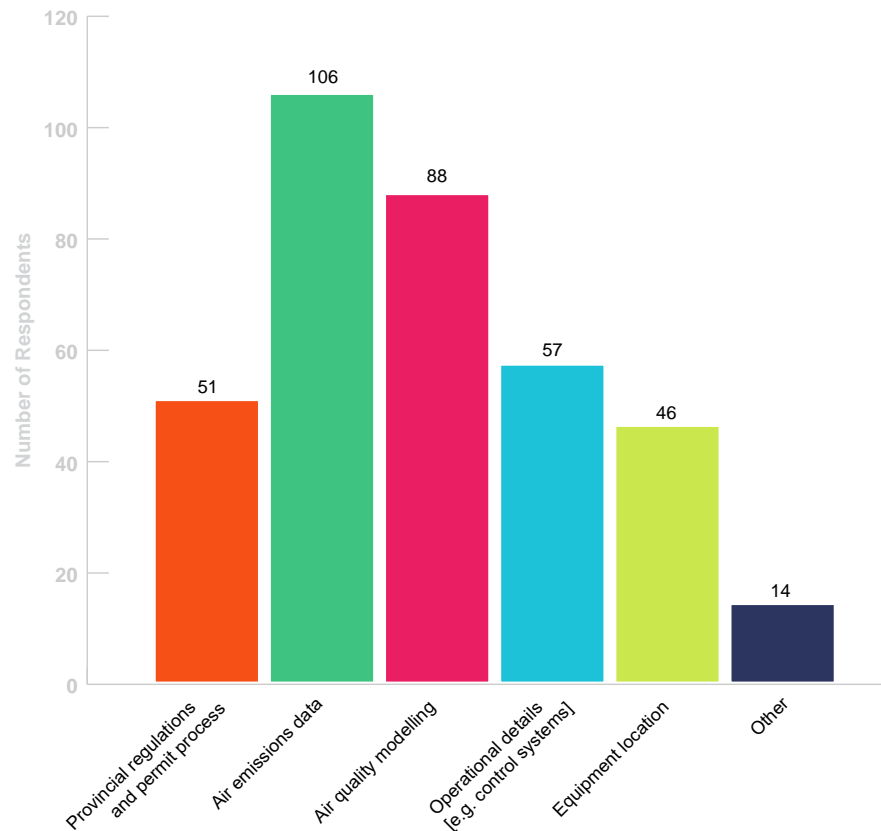
- reduce emissions
- eliminate contaminants
- protect water and food systems
- avoid shifting environmental burdens to future generations

Quotes:

- *“Deep reductions in greenhouse gas emissions are critical.”*
- *“Carbon sequestration and long term CO₂ storage solutions are essential.”*
- *“Reducing climate risk is a priority.”*
- *“The global warming tipping point is fast approaching.”*
- *“Microplastics and pharmaceutical contamination are major concerns.”*
- *“Destruction of contaminants of concern is critical.”*
- *“No land application of biosolids — destruction of contaminants is essential.”*

Air emissions and air management systems: [Respondents were asked to select all that apply]

- Air emissions data and air quality modelling are of greatest interest to respondents.



Additional feedback:

73 responses

1. Air emissions, contaminants and health risks

The most prominent concerns about air emissions are potential health risks, [PFAS and other emerging contaminants, carcinogens and heavy metals], greenhouse gases [CO₂ and others], and uncertainty about whether contaminants are destroyed or redistributed.

Quotes:

- "If certain contaminants are not degraded, they may be volatilized and released."
- "How certain is CRD about what happens to PFAS during pyrolysis?"
- "Production of greenhouse gases to the environment?"
- "As a senior with COPD, air quality is very important to me."

2. Transparent monitoring and testing

Respondents emphasized the need for robust, transparent, and ongoing monitoring, including: continuous emissions monitoring, testing for emerging contaminants, adaptive response if standards are exceeded and public access to data and independent oversight.

Quotes:

- “There has to be 24/7 continuous monitoring of emissions.”
- “How will air quality be monitored and how will the public access the data?”
- “Allow for open monitoring so academics can use the data.”
- “I hope testing will be more stringent than current testing.”

3. Odour and cumulative air quality impacts

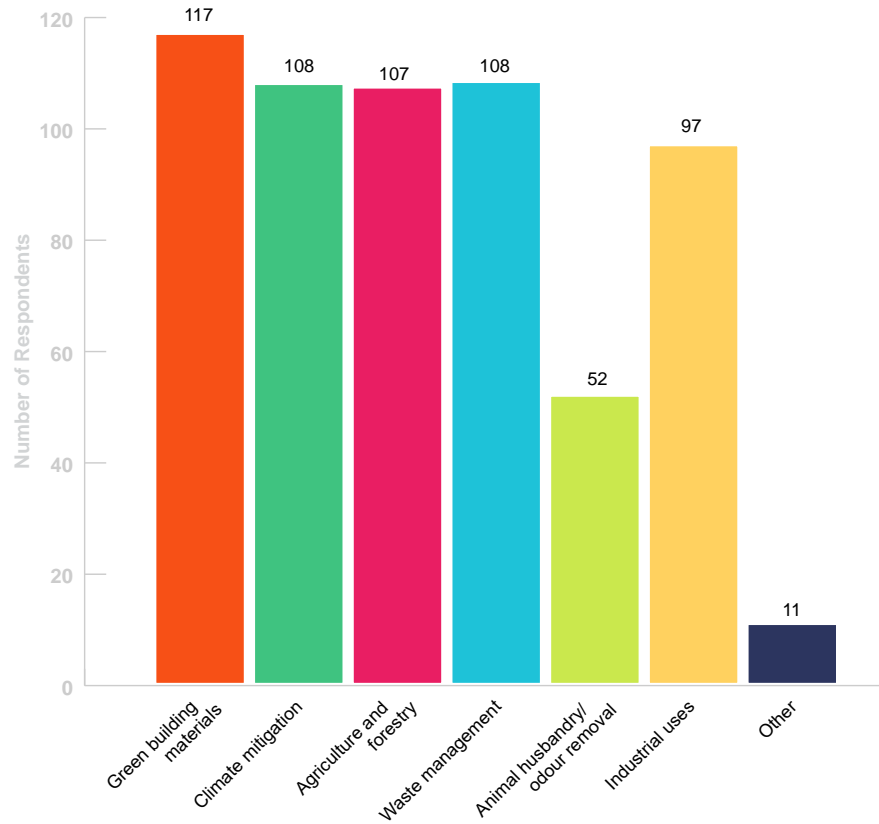
Many respondents reference existing odour and air quality issues at Hartland Landfill, noting some skepticism about claims that new emissions won't generate additional odour.

Quotes:

- “The dump smells anyway — saying it won't be noticeable isn't reassuring.”
- “How can CRD reduce the existing dump smell?”
- “Odour, rodent population, noise, location, cost.”

Potential uses of biochar: [Respondents were asked to select all that apply]

- Respondents indicated high interest in four of the five potential uses presented. There was notable less interest in animal husbandry/odour removal as a potential use.



Additional feedback related to biochar end-uses:

138 responses

The three most prominent topics related to future use of biochar were related to environmental, public health, and monitoring and oversight. Some respondents highlighted potential climate and circular economy benefits, while others wanted to know more about market viability and certainty of end-uses.

1. Environmental risk/contaminants within biochar

Respondents noted the need to ensure the environment is protected [e.g. soil, water, land, and vegetation] from contaminants such as PFAS / “forever chemicals” and heavy metals. Some expressed concern about long-term environmental buildup and concerns about repeating biosolids issues.

Quotes:

- *“What are the risks to the environment if biochar is released into the natural environment... with forever chemicals and heavy metals?”*
- *“Transfer of potential toxins to surrounding water and soil.”*
- *“Stop spreading toxic materials all over the place.”*
- *“Toxicity. Cost. Science. Data. Increased risks.”*

2. Health risks

Respondents noted the need to ensure human health [e.g. food chain, agricultural use, cancer risk] is protected.

Quotes:

- *“I am hesitant of any applications that incorporate it into the food supply directly or indirectly.”*
- *“What are the risks of cancer associated with the product?”*
- *“Anything going into concrete shouldn't go into food.”*
- *“Health considerations for all living beings.”*
- *“Until proven safe... I am opposed to using biochar on food crops.”*

2. Need for Monitoring and Oversight

Respondents noted the need for monitoring and reporting. Long-term monitoring, third-party testing and ongoing research were noted, as well as verifying destruction of contaminants.

Quotes:

- *“What research and monitoring would take place to assess the impact on local ecosystems?”*
- *“Faulty detection of toxins... what safety features are in place?”*
- *“Ongoing testing for hazardous materials.”*
- *“Independent testing must be transparent and honest.”*

Costs and funding:

92 responses

Several themes emerged from respondents regarding costs and funding: taxpayer affordability, confidence in the business case, potential to see reduced taxpayer impacts through external funding and revenue, while some wanted to know more about lifecycle costs and how the costs compared with alternatives [e.g. land application, composting, anaerobic digestion, status quo.] Several noted the need for transparent communication, staged decision making, and clear allocation of risk.

1. Cost to Taxpayers/Affordability

Respondents asked how the project would affect taxes, utility bills, and household costs, particularly given current economic pressures. Seniors and those on fixed incomes emphasized limited tolerance for new increases.

Quotes:

- *"How will it affect my taxes?"*
- *"Don't waste taxpayer money and expect to raise taxes to fund this."*
- *"What would that look like for the average property owner?"*
- *"Cost of groceries is increasing... we can't afford any more increases."*

2. Business case and financial due diligence

Respondents want assurance that cost estimates are realistic, complete, and tested before major commitments. Some stressed the importance of a robust business case, staged decision points, and avoiding "sunk cost" bias.

Quotes:

- *"\$2M for planning and detailed design?"*
- *"The business case should be updated at ~30% design."*
- *"If estimates are unrealistic, public support will suffer."*
- *"Business case should precede any binding procurement."*

3. Funding sources

Respondents asked where funding will come from and advocated for external funding to reduce the burden on local taxpayers, particularly federal and provincial contributions, grants, and low cost financing.

Quotes:

- *"Where is the money coming from?"*
- *"Government should be funding every dime."*
- *"Get federal help and make CRD a model for other cities."*
- *"Will the \$2M planning phase be financed through MFA or grants?"*

4. Revenue offsets and market viability

Respondents asked whether revenues could offset capital and operating costs, and how reliable those revenues are [e.g. biochar sales, carbon credits, heat/energy recovery, and the need for confirmed end markets]

Quotes:

- *“Money from the sale of biochar could offset operating costs.”*
- *“What market offsets are available, including carbon credits?”*
- *“Is there currently a market for CRD biochar, and is it sustainable?”*

5. Comparison to alternatives

Respondents want more information to cost compare alternatives [e.g. land application, composting, anaerobic digestion, continued trucking, and doing nothing]. Some noted a risk of locking the region into a single technology for decades.

Quotes:

- *“Why aren’t we land applying the biosolids?”*
- *“What is the financial case over anaerobic digestion?”*
- *“What is the opportunity cost of committing to one solution for 20-30 years?”*

Considerations as CRD advances this process:

72 responses

Five key themes emerged:

1. Communication and transparency

Respondents indicated the need for clear information, risk/benefit transparency, accessible language, broader public notification and more opportunities to speak with experts.

Quotes:

- *“Please provide evidence-based information... to dispel misinformation.”*
- *“Publicize open houses and Zoom calls where the public can ask experts direct questions.”*
- *“For once be up front in all aspects.”*
- *“Updates should be provided through municipal channels as well as CRD communications.”*

2. First Nations engagement

Respondents noted the role of First Nations in the process. Several noted the importance and need for culturally appropriate, meaningful, ongoing First Nations involvement.

Quotes:

- *“Engage with First Nations... so the whole community understands, not just the elders.”*
- *“Sufficient timeline for public and First Nations input.”*

3. Environmental protection

Respondents noted the importance of protecting neighbouring areas including Mount Work, Durrance Lake, and nearby ecosystems; and the need to prevent contamination, odour, and noise.

Quotes:

- *“Control of air, water and soil pollution of the area surrounding Hartland.”*
- *“Please protect the park... once contaminated, it’s gone.”*
- *“Keep this heavily used green space free from garbage, odours and noise.”*

4. Costs

Several respondents expressed a desire for more information around cost implications [e.g. cost per household, affordability], fiscal responsibility and comparison to alternatives.

Quotes:

- *“Stop spending more money.”*
- *“What are the cost implications per household?”*
- *“Science. Data. Cost.”*

5. Support and encouragement

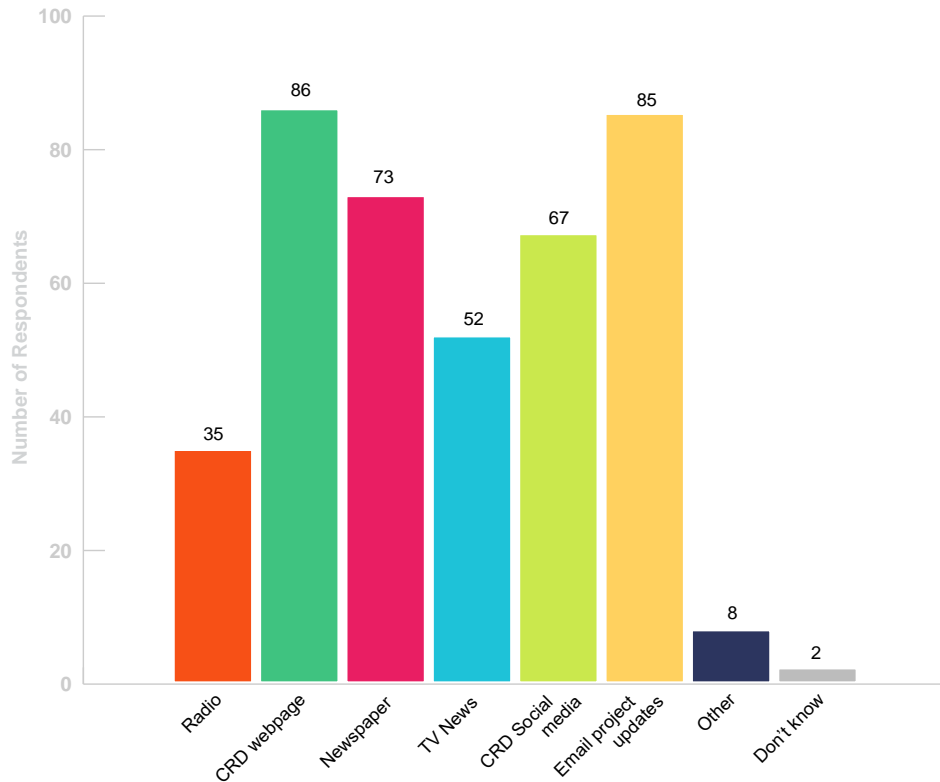
Several respondents articulated strong support and a desire to see the project proceed.

Quotes:

- *“I am in very strong support of this project. Please proceed.”*
- *“I strongly support this project going forward.”*
- *“Congratulations... keep going.”*

Future communications: [Respondents were asked to select all that apply]

- Respondents indicated the CRD website, newspaper and email updates were the top methods for future communications.



Closing comments:

72 responses

Four key themes emerged:

1. Support and encouragement

The majority of respondents to this question expressed support or enthusiasm for the project.

Quotes:

- "Get it done."
- "I am 100% in support of this project."
- "Hats off to those responsible."
- "A win win win for people, planet, and economy."

2. Environmental and climate benefits

Respondents highlighted climate action, protection of land and water, and improved safety of biochar compared to land application of biosolids.

Quotes:

- *“An exciting opportunity to make a difference in the climate crisis.”*
- *“Protects our agricultural land.”*
- *“Biochar will eliminate PFAS, microplastics, etc.”*

3. Ongoing communication and education

Respondents indicated an interest in receiving more information as the process advances and identified the need to reach a broader audience.

Quotes:

- *“I would love to know more and be updated.”*
- *“Get classrooms across the CRD involved.”*
- *“Reach a wider audience, especially near the landfill.”*

4. Cost and affordability


Some respondents worried about affordability and timing of investments.

Quotes:

- *“Stop spending more money.”*
- *“Wait for better economic conditions.”*
- *“Explore federal funding options.”*

Correspondence

The following correspondence regarding biosolids management was submitted to the CRD Board during the financial plan engagement period.

 Outlook

2026 Financial Plan Feedback

From Engage <Engage@crd.bc.ca>
Date Mon 2026-02-23 7:49 AM
To CRDBoard <crdboard@crd.bc.ca>


The following comments were received by the CRD via an online form and are provided to the Board as part of the annual budget review and approval process.

Please share any comments or suggestions you have about the plan.

Please make climate mitigation and adaptation the key components for prioritizing projects. I strongly support the thermal processing facility at Hartland that will turn waste into biochar. The regional transit plan needs to address adding busses and rail to connect Victoria to Duncan and beyond. CRD should play a leadership role in saving trees and wetlands and protecting habitat. Look at every proposed project through the lens of environment.

By submitting this form, you are providing the CRD with your expressed, written consent to share comments as written as part of a report to be posted publicly on the CRD website.

Yes, I agree

 Outlook

2026 Financial Plan Feedback

From Kristin [REDACTED]
Date Mon 2026-02-23 8:53 AM
To CRDBoard <crdboard@crd.bc.ca>

The following comments were received by the CRD via an online form and are provided to the Board as part of the annual budget review and approval process.

Please share any comments or suggestions you have about the plan.

It would be a positive move forward to go ahead with the thermal processing plant. This is something that has been used in Europe very successfully. In regards to Transit, please consider a rail link between Victoria and Duncan as well as an improved bus link.

By submitting this form, you are providing the CRD with your expressed, written consent to share comments as written as part of a report to be posted publicly on the CRD website.

Yes, I agree

 Outlook

2026 Financial Plan Feedback

From Engage <Engage@crd.bc.ca>
Date Mon 2026-02-23 9:43 AM
To CRDBoard <crdboard@crd.bc.ca>

The following comments were received by the CRD via an online form and are provided to the Board as part of the annual budget review and approval process.

Please share any comments or suggestions you have about the plan.

I believe it is very important for there to be a processing facility at Hartland to turn waste into Biochar. There should also be the long awaited Bus and Rail, Victoria to Duncan and beyond

By submitting this form, you are providing the CRD with your expressed, written consent to share comments as written as part of a report to be posted publicly on the CRD website.

Yes, I agree

2026 Financial Plan Feedback

From Engage <Engage@crd.bc.ca>
Date Tue 2026-02-24 7:16 AM
To CRDBoard <crdboard@crd.bc.ca>


The following comments were received by the CRD via an online form and are provided to the Board as part of the annual budget review and approval process.

Please share any comments or suggestions you have about the plan.

Comments on the provisional 2026-2030 CRD Financial Plan - February 23, 2026 Thank you for the opportunity to comment. The following are issues that resonated during this brief review: • Development of an advanced thermal processing facility at Hartland Landfill to convert biosolids into biochar – Pure biochar is a wonderful resource, particularly for the farming community, in that it not only improves the quality of the soil (nutrient additives) and extends water retention for the area, but also plays a modest role in removing carbon dioxide from the atmosphere. • Regarding Climate Action, the CRD and member municipalities all have an interest in encouraging greater community support for the CRD Climate Action Service. • Support the CRD in becoming a UNESCO Biosphere Region. • A new Regional Transportation Plan (RTP) – Wonderful to see an update to the 2014 RTP. While strengthening and repairing roads and enhancing road connectivity across member municipalities and electoral areas will continue to be important as the CRD population grows, and assuming the growth will be focused on increased densification, (particularly within those progressive municipalities that focus growth in centres, hubs, nodes, villages throughout the region), focusing on transit and active transportation along corridors connecting such centres will greatly facilitate non-single-occupancy-vehicle travel throughout the CRD. • Augmenting 4 km of the Galloping Goose Trail between the Selkirk Trestle and Grange Road (adjacent to McKenzie Avenue), and 2 km of the Lochside Trail between the Switch Bridge and McKenzie Avenue/Borden Street through the Regional Trestles Renewal, Trails Widening and Lighting Project are most welcome. Such enhancements will help to further facilitate active transportation (e.g., walking, running, bicycling, skateboarding) spatially (from Sooke to downtown to Sidney) and temporally (beyond daylight hours). The CRD should also work with the appropriate member municipalities to look to connect Galloping Goose Trail and Lochside Trail 'spurs' strategically throughout the CRD that interconnect with the cycling networks that member municipalities continue to develop across the Region. Lastly, sections of the above Trails could benefit from greater tree canopy cover, thereby adding to the Region's sequestering of carbon dioxide. • Compliments to the CRD for continuing to maintain the vital drinking water, storm water and sewer service systems across the Region. • The CRD and member municipalities should be perpetually looking for development opportunities to enhance densification in the core downtown centres, trustfully reflected in the CRD growth strategy. This not only includes adequate multi-unit affordable and inclusive residential developments, but also enabling the business community and public service centres (such as the proposed long-term care facility for the City of Colwood) to be located in these key development centres across the Region. Thank you again for the opportunity to comment.

By submitting this form, you are providing the CRD with your expressed, written consent to share comments as written as part of a report to be posted publicly on the CRD website.

Yes, I agree

 Outlook

2026 Financial Plan Feedback

From Engage <Engage@crd.bc.ca>
Date Tue 2026-02-24 7:17 AM
To CRDBoard <crdboard@crd.bc.ca>


The following comments were received by the CRD via an online form and are provided to the Board as part of the annual budget review and approval process.

Please share any comments or suggestions you have about the plan.

Regarding the 2026-2030 CRD Financial Plan I wish to register my strong support for the CRD Climate Action Service, the new thermal processing plant at Hartland and transit improvements. I also support the prospect of the CRD becoming a UNESCO Biosphere Region.

By submitting this form, you are providing the CRD with your expressed, written consent to share comments as written as part of a report to be posted publicly on the CRD website.

Yes, I agree

 Outlook

Biochar Incinerator Facility

From jross
Date Wed 2026-03-11 12:39 PM
To CRDBoard <crdboard@crd.bc.ca>

CRD IT SECURITY WARNING: This Email is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.

Dear CRD Board and Chair and CEO Ted Robbins,

I am writing on behalf of Vancouver Island Water Watch Coalition about your survey considering investment in a Biochar Incinerator Facility.

This facility is needed on our Island.

We have biosolids being dumped in the South end of our watershed and biosolids being dumped in various areas of our Nanaimo Watershed as a whole

This is highly dangerous and should not be occurring. Biosolids, treated at levels one and two and most likely level three too, are left full of PFAS's , pharmaceuticals, heavy metals and other pathogens. We have attempted to insist that these dumping's of biosolids cease, and to date we have not been successful.

The best level of treatment for biosolids is to turn it into biochar.

Our Island could utilize this facility to keep our watersheds safe.

Please consider this letter an endorsement of this project.

Sincerely,

June Ross

Chair - VIWWC

NEXT STEPS

This ***What We Heard*** consultation summary report will be presented to the CRD Board of Directors in Spring 2026. It will also be posted on the project website at getinvolved.crd.bc.ca.

APPENDICES

Media Release



Information Bulletin

For Immediate Release
February 13, 2026

Public invited to learn more about innovative system to convert biosolids to biochar

Victoria, BC– The public is invited to provide feedback as the Capital Regional District (CRD) prepares to take an important step in the treatment of wastewater and processing of biosolids, introducing high-heat technology to help reduce greenhouse gases, capture carbon, and improve soil nutrients.

Innovative carbonisation technology is being explored as an addition to the Residuals Treatment Facility at Hartland Landfill to transform biosolids (the leftover solids from wastewater treatment) into biochar, a charcoal-like product that would cut residual volumes in half, destroy contaminants of concern, and lock in carbon.

This strategic investment in wastewater treatment would maximize resource recovery from regional wastewater and be the first of its kind in Canada. The project is in the planning stage and still requires design, permitting, financing, and ongoing engagement.

Your voice matters and there are many ways to ensure it is heard. There are a variety of upcoming opportunities for the community to learn more about this environmentally beneficial process and provide feedback to inform further planning including:

- Open house and public tour of the Residuals Treatment Facility: Saturday, February 28, 2026 10am - 2pm. [Pre-register online](#) for public tours.
- Participate in the [online survey](#) until Thursday, March 5, 2026.

In 2024, the CRD Board responded to community input and agreed to explore thermal technologies as a long-term approach for managing biosolids in ways beneficial to the community and the environment. Carbonisation is a high-heat process which converts biosolids into biochar, a stable, carbon-rich product offering a variety of potential benefits across the construction, industrial, agriculture, and forestry sectors.

The project will follow the required provincial and local regulatory approvals for authorization of air emissions under the *Environmental Management Act* (EMA). The CRD has invited local First Nations to review the project and provide any comments or concerns and collaborate to develop mitigation measures for identified impacts.

Learn more and share your feedback at [GetInvolved.crd.bc.ca/Biochar](https://www.crd.bc.ca/Biochar). All feedback during this phase of engagement will be summarized in a “What We Heard” summary report and presented to the CRD Board in Spring 2026.

The CRD delivers regional, sub-regional and local services to 13 municipalities and three electoral areas on southern Vancouver Island and the Gulf Islands. Governed by a 24-member Board of Directors, the CRD works collaboratively with First Nations and government partners to enable sustainable growth, foster community well-being, and develop cost-effective infrastructure while continuing to provide core services to residents throughout the region. Visit us online at www.crd.ca.

-30-

For media inquiries, please contact:

Andy Orr, Senior Manager
CRD Corporate Communications & Engagement
Tel: 250.360.3229
Cell: 250.216.5492
[Facebook](#) | [Instagram](#) | [LinkedIn](#) | www.crd.ca

Backgrounder: Converting Biosolids to Biochar

- Wastewater treatment was introduced in the core area of the region in 2020. Since then, the CRD has been pursuing sustainable, cost-effective options to use biosolids (the leftover solids from wastewater treatment) for community benefit.
- Every year, the CRD produces about 3,500 tonnes of Class A biosolids which meet or exceed provincial standards.
- Since 2011, the CRD Board has prohibited the land application of biosolids within the CRD boundaries in response to public concerns regarding contaminants in the material.

- Rising annual costs for transporting and disposing of biosolids under the current management plan are creating increasing challenges. In 2025, costs exceeded \$3 million for transporting and beneficially using biosolids.
- Biosolids are currently transported to other communities where they are used to reclaim quarry land, as fuel in cement manufacturing, and as a fertilizer for landscape plant growers.
- In 2024, the CRD decided to explore thermal technologies [including carbonisation] as a long-term approach to converting biosolids to biochar - a stable, carbon-rich product offering a variety of environmental benefits and uses in sectors such as construction, industrial, agriculture, and forestry.
- Carbonisation heats biosolids to more than 500 degrees in a low oxygen environment, cutting volumes in half and destroying contaminants of concern, such as “forever chemicals” and microplastics. The resulting biochar is a stable, charcoal-like product that locks-in carbon and can be used in a variety of beneficial ways.
- Through carbonisation, an estimated 2,500 tonnes of carbon would be sequestered annually, equal to removing roughly 600 gas-powered cars from the road.
- Any gases released during heating are captured and reused to fuel the carbonisation process. Any remaining gases are treated through air management systems.
- Protecting air quality is integral to the project which has safeguards, controls and monitoring incorporated at every stage.
- Site-specific modelling and physical testing will inform the provincial permit application, with ongoing monitoring required if the project is approved.
- No untreated gases or odours can escape the fully enclosed system during operation.
- In the City of Logan, Australia, where a similar system is in operation, air discharges from the carbonisation process consist primarily of carbon dioxide and water vapour.
- The new technology would not increase odour, noise, or trucking activity at the facility. In fact, carbonisation is expected to reduce the volume of residuals by half, meaning fewer trucks entering and exiting the Hartland facility.

- At this early stage in planning, the CRD has not determined how the biochar would eventually be used. Further public engagement will occur, once biochar is being produced and tested.
- This technology would be a first for Canada but similar systems designed to treat biosolids from wastewater are now operating in Australia, Asia, Europe, and the United States.
- A similar system in Australia has proven to destroy 95% of synthetic chemicals [such as pharmaceuticals] and 82% of microplastics, demonstrating the effectiveness of this technology.
- Pyrocal, the technology vendor behind the Australian system, has been selected as the preferred proponent to integrate this technology into the Residuals Treatment Facility at Hartland Landfill. Further design work and contract negotiations are still required before a contract is awarded and further capital investment decisions are made.
- The preferred location for the new carbonisation equipment is the northwest corner of the existing Residuals Treatment Facility at the Hartland Landfill, occupying less than 2% of the 2.7-hectare site footprint. The site will be finalized based on further planning and design.
- Final costs will be determined through detailed design and contract negotiations but it is estimated the project will require \$10 million in capital equipment plus related investments such as site preparation and emission monitoring. Later in 2026, staff will bring forward a borrowing bylaw to seek electoral approval from Core Area residents for wastewater infrastructure. The borrowing bylaw will include \$2 million for planning and design of carbonisation equipment. The design phase will help inform air management systems and corresponding provincial permitting, as well as further cost estimates ahead of a future capital investment decision.
- The process will move forward in stages, with clear decision points for the CRD Board and opportunities for input from First Nations and the public.

Webpage Screenshot

The screenshot shows a webpage from the Capital Regional District (CRD) titled "Transforming Biosolids into Biochar". The page features a header with the CRD logo and navigation links for Home, All Projects, About the CRD, a search bar, and Sign in/ Register. The main content area includes a large image of dark biochar and green biochar. The article text discusses the CRD's plan to use carbonisation technology to transform Class A biosolids into biochar, highlighting its benefits for reducing greenhouse gas emissions and storing carbon. It also mentions a public feedback period that is now complete and provides contact information for further inquiries. A video player is embedded in the article, showing a thumbnail for "Innovative Wastewater Treatment: Transforming Biosolids into Biochar". To the right of the article is a sidebar with a "STAY INFORMED" subscription form, a "Who's Listening" section featuring Rory Tooke, a "Related Documents" section with links to information boards and a project timeline, an "Important Links" section with links to management strategy and gasification projects, and an "FAQs" section with questions about the next steps, biochar, and costs.

Display Boards

CRD | Transforming Biosolids to Biochar


Planning for the Long-Term

In 2024, the CRD decided to explore thermal technologies as a long-term approach to converting biosolids to biochar - a stable, carbon-rich material offering a variety of potential benefits across construction, industrial, agriculture, and forestry sectors.

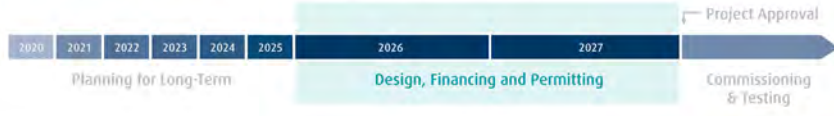
We are taking an important next step towards introducing new carbonisation technology to the Residuals Treatment Facility at Hartland Landfill.

Introducing the carbonisation technology to wastewater treatment is expected to be cost-competitive with current practice, while significantly reducing volumes, destroying contaminants of concern, and locking in carbon.

Long-Term Biosolids Management Strategy
April 23, 2024



Where we are in the project timeline:



CRD

CRD | Transforming Biosolids to Biochar

Project Timeline



Planning for Long-Term

- 2020: Sewage treatment introduced and biosolids produced
- 2024: Engagement on long-term biosolids management
- 2025: Long-term biosolids management strategy approved; Thermal technology selected to convert biosolids to biochar; Pyrocal selected as preferred technology provider for 20-year lifecycle

Design, Financing and Permitting

- Spring 2026: Project update and engagement
- Spring/Summer 2026: Loan Authorization Bylaw (Planning and Design)
- Late 2026 - Early 2027: Detailed design
- 2026: Negotiations with Pyrocal
- 2027: Air discharge permit notification
- 2027: Apply for permit[s] - provincial - municipal - technical safety

Commissioning & Testing

- Installation of Carbonisation Equipment
- Producing biochar
- Engagement on biochar end uses

Provincial Permits Review

Project Approval Milestone

First Nations Engagement - ongoing throughout all phases

public engagement

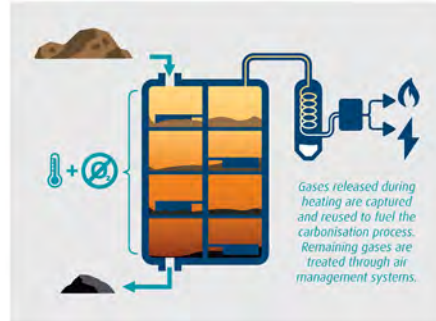
Note: Timeline may be revised as project develops.

CRD

How Carbonisation Works

“Carbonisation” is a thermal process that transforms the leftover solids [biosolids] from wastewater treatment into a stable, charcoal-like substance known as biochar.

- 1 It starts with biosolids**
The nutrient-rich solids left after treating wastewater.
- 2 Apply high heat**
The biosolids are baked (or “carbonised”) in a high-heat, low-oxygen environment. This prevents combustion, removes moisture, and destroys contaminants.
- 3 The Result: Biochar**
What’s left is a lightweight, carbon-rich material like charcoal. It doesn’t easily break down, and locks carbon away for centuries.



Benefits of Carbonisation



Reduces volume by half
Approximately 10 tonnes per day reduced to 5 tonnes per day



Cuts greenhouse gases
Stores carbon instead of releasing it; an estimated 2550 tonnes of carbon dioxide could be sequestered annually, equivalent to the emissions generated by close to 600 gas-powered cars



High heat destroys chemicals like PFAS, pharmaceuticals, and microplastics



Stable, odour-free material that can be stored safely if needed, with various potential benefits and uses to be explored

Site Operations

Pyrocal, an Australian engineering company, has been selected as the preferred proponent to integrate the innovative carbonisation technology into the Residuals Treatment Facility.

Low-impact Design

The equipment can be incorporated into the north-west corner of the facility, occupying less than 2% of the 2.7-hectare site. The site would be finalized based on further planning and design.

Most of the equipment would be approximately 5 metres tall, with the stack reaching 9 metres. Even at its tallest point, the new equipment would be much smaller than the existing structures at the Residuals Treatment Facility, which are 15 metres high.

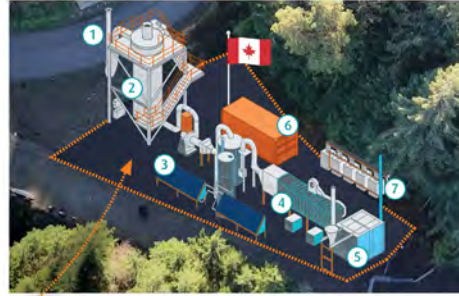


Diagram is conceptual. Final design to be determined.

- 1 Air Stack
- 2 Wet Electrostatic Precipitator
- 3 Heat Rejection
- 4 Thermal Oxidizer & Heat Exchange
- 5 Hearth & Infeed
- 6 Motor Control Centre
- 7 Biochar Out Load

Protecting the Environment

Protecting air quality is built into the design, permitting, operations, and ongoing monitoring.



City of Logan Experience

The project draws on proven technology and real world operations, including lessons from the City of Logan, Australia, where the same carbonisation system is already in use.

- Air discharges are primarily carbon dioxide and water vapour, with low levels of nitrogen oxides, particulates, sulphur oxides, and trace compounds - well below permitted limits.
- Fully enclosed, high-temperature process operated under negative pressure, meaning air flows into the system rather than out - preventing untreated gases or odours from escaping during operation.

This layered emissions-control represents best-available air-pollution control technology and is specifically designed to meet regulatory air-discharge limits.

Waste discharge authorization

Waste discharge authorization is required from the Province of BC for air emissions. Detailed design will inform the air management systems. Public notification is required within the permitting process.

Questions or feedback?

What information related to air emissions and air management systems are you most interested in knowing more about?

From Emissions to Offsets

Carbon Credits

Biochar is currently one of the most established and credible sources of carbon credits.

The benefit of biochar is its ability to store greenhouse gas emissions/carbon, which would have otherwise been released through the decomposition of biomass. Biochar can sequester carbon for hundreds of years.

Carbon credits are a tradable unit sold on a carbon market. Each credit represents one tonne of greenhouse gas removed or avoided. When the CRD produces biochar that locks in carbon, those reductions can be verified and turned into credits. Selling these credits creates a potential revenue stream for the CRD while supporting climate goals.



*Based on 2019 values. Carbon markets are variable.

The CRD would initiate the process to pursue carbon credits, once biochar is being produced and volumes and composition are confirmed.

Neighbourhood Integration

We are designing solutions that respect the neighbouring community and environment while advancing sustainability.

Fewer Trucks, Less Traffic

- The new process reduces truck trips compared to current operations.
- Current: 4-5 trucks per week
- Future: 2-3 trucks per week

No Increase in Odour

- Carbonisation happens in sealed, enclosed systems, preventing odour release. Biochar would then be loaded into trucks for transport.
- Heating eliminates moisture, producing a dry, odour-free charcoal-like material.
- Odour control systems ensure there is no discernible odour in the community from the facility.

No Increase in Noise

- Noise from the facility would be minimal and comply with District of Saanich bylaws.

Safety

- A robust Emergency Response Plan including fire suppression is in place to safeguard environment, staff and community.
- Currently, biosolids can't be stored longer than a few days because of the risk of combustion. The carbonisation process removes moisture and reactive compounds, leaving behind biochar; a stable, carbon-rich material that doesn't easily break down. This makes biochar storage safe and offers greater flexibility for when and how biochar is used.

Questions or feedback?

What questions or feedback do you have about neighbourhood impacts?

How Biochar Can Be Used

Biochar has been used for centuries—from creating rich, fertile soils known as terra preta in the Amazon, where charcoal was added to improve soil health, to modern regenerative agriculture that enriches soil and boosts crop yields.

Modern use of biochar includes green building materials, stormwater filtration, water treatment, soil amendment, and odour control, making it a versatile solution for environmental challenges.

Once the composition of the CRD's biochar is evaluated, potential uses can be assessed to determine the most beneficial and sustainable options. Another phase of First Nations and community engagement will focus on exploring potential end uses for biochar.

Key Considerations

- **Environmental impacts:** air discharge from operations and biochar characteristics
- **Regulatory compliance:** Understanding provincial and federal requirements for various uses.
- **Carbon offsets:** Evaluating opportunities for greenhouse gas reduction credits.
- **Volume and market value:** Assessing production scale and potential revenue.
- **Location:** Identifying Vancouver Island and Lower Mainland markets.

Questions or feedback?



What potential uses of biochar interest you most, and why?

What should the CRD consider when exploring how biochar will be used in the future?



The Experience of Others

Primary Case Study:

City of Logan Wastewater Treatment Plant & Pyrocal

www.logan.qld.gov.au/residents/water-and-wastewater/biosolids-gasification

Location: City of Logan, Australia

Biomass used: Dewatered and dried biosolids into a useful biochar

Beneficial use of biochar: Soil improvement, chemical filtering and building materials



Other Case Studies:



Earthcare Solutions

Location: Bethel Township, Pennsylvania, USA
Biomass used: Municipal biosolids, poultry litter
Beneficial uses: Soil amendment, stormwater filtration and treatment media, and as an agricultural supplement in animal bedding



Ephrata Borough Authority & Bioforcetech

Location: Ephrata, Pennsylvania, USA
Biomass used: Undigested dewatered sludge
Beneficial uses: Concrete enhancement



Färevejle Municipal Wastewater Treatment Plant & AquaGreen

Location: Odshøved, Denmark
Biomass used: Dewatered and dried sewage sludge
Beneficial uses: Soil improvement



Main-Taunus Wastewater Treatment Plant & Pyreg

Location: Lorchbach, Germany
Biomass used: Dewatered and dried sewage sludge
Beneficial uses: Biofuel, for energy production



Airex Energy Inc.

Location: Lévesque, Québec
Biomass used: Hardwood and softwood sawdust
Beneficial uses:
- Fertilizers and soil amendment
- Replacement for thermal fossil coal
- Feedstock for sustainable aviation fuel



Understanding the Costs

Costs are expected to be competitive with current out-of-region biosolids management options. Final costs will be determined through detailed design and contract negotiations.

- Once procurement is complete and final pricing is confirmed, the CRD will update the business case before the Board makes any final investment decision.
- Staged investment allows for planning and design, followed by equipment and installation, with opportunities for further enhancements once operational.
- A Loan Authorization Bylaw and alternate approval process will be recommended to the Board to seek elector approval [Core Area residents] for borrowing for wastewater infrastructure including \$2 million for detailed design of the carbonisation equipment.
- Funding options for construction will be determined following design. CRD is also pursuing grant options.

2026 Approved Capital Budget is \$10 million:



\$2 million
Borrowing for planning and design

\$8 million
To be funded through a mix of capital reserves, debt, and/or grants

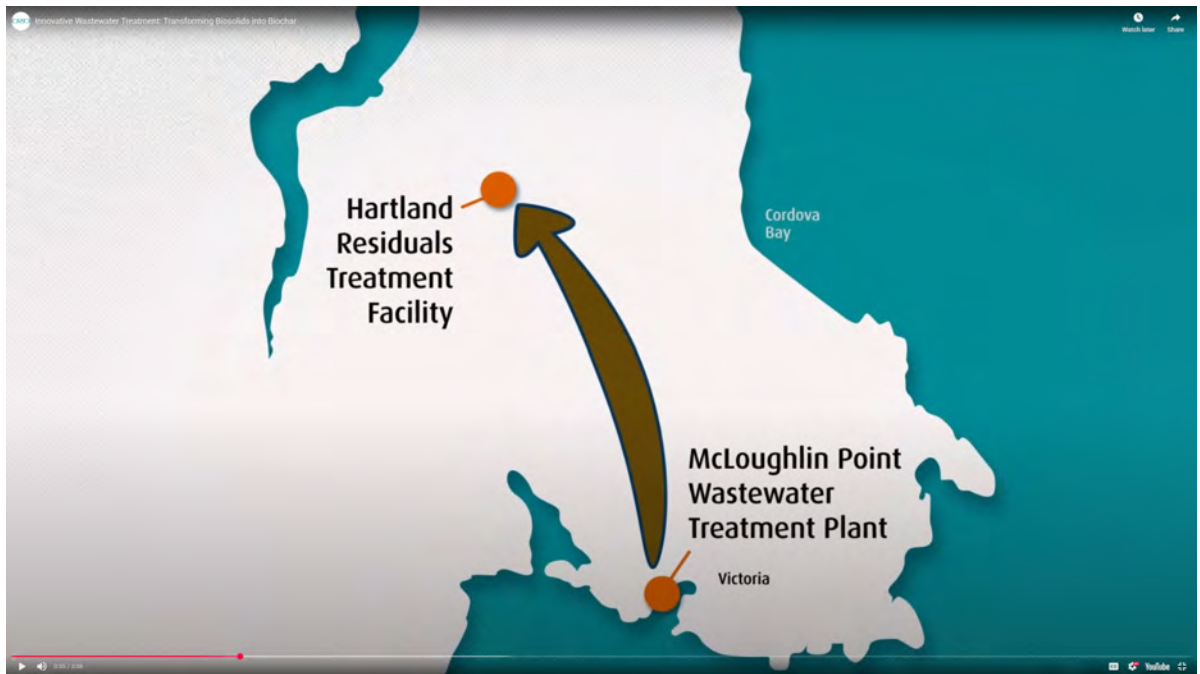
Estimated Annual Costs [20-year lifecycle]:

	CURRENT BIOSOLIDS MANAGEMENT	CARBONISATION TECHNOLOGY
Unit cost (\$ per tonne of biosolids)	\$200 - \$850	\$230 - \$720
Estimated annual biosolids management costs*	\$2.9 million	\$900,000 - \$2.8 million
Financial Risk	Subject to market competition and negotiated agreements	Sensitive to long-term operations and maintenance, and potential revenues

*Annual costs are based on the addition of Samuels Peninsula and Snake biosolids to the Biosolids Treatment Facility. The business-as-usual case assumes the same overall allocation between existing solids management options (current fill, quarry reclamation, and live incinerator).

CRD

Overview Video



Watch the overview video:

[Innovative Wastewater Treatment: Transforming Biosolids into Biochar \(youtube.com\)](https://www.youtube.com/watch?v=...)

Media Coverage


TIMES COLONIST 3.0 °C ! [JOIN OUR NEWSLETTER](#)

NEWS OPINION EVENTS LIFE & ARTS FEATURES PROPERTIES CLASSIFIEDS OBITUARIES CONNECT E-EDITION

CRD launches survey, open house on proposed thermal treatment plant

The plant would transform biosolids into biochar, a charcoal-like product that can be used in everything from green building materials to stormwater filtration.

Andrew A. Duffy
Feb 18, 2026 9:00 AM



TRENDING TODAY

- 6983** Watch for snowy roads on Tuesday morning, Environment Canada warns
- 5490** Your Good Health: Man with very low kidney function chooses to avoid dialysis
- 2613** Condo Smarts: The provincial budget's impact on strata corporations
- 2429** Adrian Raeside cartoon: Council cost cutting
- 1978** Hold-and-secure at Vic High


VANCOUVER ISLAND FREE DAILY

News Business Community Life Entertainment Sports Opinion Obituaries Public Notices Classifieds

CRD lights the fuse on public input for biosolids treatment in Saanich

Published 11:00 am Saturday, February 14, 2026

By Saanich News Staff



Sample Letter



Parks, Recreation & Environmental Services
625 Fisgard Street, PO Box 1000 T: 250.360.3078
Victoria, BC Canada V8W 2S6 www.crd.ca

February 19, 2026

File: 0220-20
General Correspondence
5200-30
Biosolids

«Contact_Name»
«Organization»
Via email: «Email»

Dear «Contact_Name»:

RE: INNOVATING WASTEWATER TREATMENT: TRANSFORMING BIOSOLIDS TO BIOCHAR

The purpose of this letter is to update you on plans for thermal processing technology to be introduced at the Residuals Treatment Facility at Hartland Landfill to transform biosolids from core area wastewater treatment into carbon-rich biochar. This would be the first system of its kind in Canada and builds on the Capital Regional District's (CRD) strategic investments in wastewater treatment to maximize resource recovery.

As you are aware, the CRD has been pursuing sustainable, cost-effective options to use biosolids for community benefit since wastewater treatment was introduced in the core area in 2020. Although the CRD's class A biosolids meet provincial standards, the CRD Board has been responsive to community concerns about "forever chemicals" like per- and polyfluoroalkyl substances (PFAS), and microplastics and has prohibited the application of biosolids on land within the region since 2011. Rising annual costs for transporting biosolids for use outside the region are rising, creating challenges for managing the biosolids as leftover residuals from wastewater treatment.

In 2024, the CRD decided to explore thermal processing technologies, such as carbonisation, as a long-term approach to converting biosolids to biochar - a stable, carbon-rich product offering a variety of potential benefits across construction, industrial, agriculture, and forestry sectors. Pyrocal PTY Ltd., the Australian-based technology vendor with a demonstrated commercially operating facility, was selected in June 2025 as the preferred proponent as the CRD explores integration of carbonisation technology into the Residuals Treatment Facility at Hartland Landfill.

Introducing the added carbonisation step to wastewater treatment is expected to be cost-competitive with current practice, and would significantly reduce volumes, destroy contaminants of concern like "forever chemicals" and microplastics, and lock in carbon. There is no anticipated increase in odour, noise, or trucking activity should the CRD implement the new technology. In fact, it is expected it would reduce the volume of residuals by half, meaning fewer trucks coming and going.

Air quality safeguards will be incorporated at every stage of the project, from the selection of the technology to the way the facility would be operated and monitored. The project benefits from the real-world operating experience of a comparable facility in Logan, Australia, which uses the same carbonisation technology selected by the CRD. The City of Logan's results provide a strong reference point and will help inform design and performance expectations. At this early stage, the

PRESEI-459532758-6461

CRD does not yet have the detailed design information required to complete air-dispersion modelling or submit a Waste Discharge Authorization application. As the project advances, air-dispersion modelling will be completed using project-specific inputs, including local meteorology, terrain, facility design, operating conditions, and nearby land uses, in accordance with provincial air quality objectives and standards. This information will be shared with regional municipalities, the public and First Nations as part of the provincial permitting process.

Public consultation informed the short and long-term biosolids management strategies, and this next step builds upon what has been heard previously. As we move through a phased planning process, with clear decision points for the CRD Board and opportunities for input from First Nations, residents, and neighbouring community organizations, we want to share upcoming opportunities to learn more about plans to introduce carbonisation technology to the Hartland Residual Treatment Facility. There are several ways to learn more and provide input:

- Visit: www.GetInvolved.crd.bc.ca/biochar
- Attend an open house and tour of the Residuals Treatment Facility on:
Saturday, February 28, 2026 from 10 am - 2 pm
Pre-registration for the tour is required
- Complete the online survey by Thursday, March 5, 2026
- Ask questions or share feedback at: biochar@crd.bc.ca
- Request a presentation by CRD staff

Please feel free to share this information through your networks. All feedback received during this early phase of engagement will be summarized in a “*What We Heard*” summary report and presented to the Core Area Liquid Waste Committee and the CRD Board later this spring.

If you have any questions, or to request a presentation by CRD staff, please contact biochar@crd.bc.ca.

We look forward to keeping you informed and hearing your feedback as the project advances.

Sincerely,



Rory Tooke, Ph.D.
Senior Manager, Environmental Innovation

List of Community Group Recipients

Outreach to the following groups occurred by way of emailed letter:

- Biosolids Free BC
- Friends of Tod Creek
- Highlands District Community association
- Mount Work Coalition
- Peninsula Biosolids Coalition
- Peninsula Streams
- Prospect Lake Community Association
- Saanich Inlet Protection Society
- Willis Point Community Association

Saanich Peninsula Environmental Coalition [SPEC], which includes:

- *Friends of North Saanich Parks*
- *Friends of Shoal Harbour*
- *NatuR&D*
- *North Saanich PROW Association*
- *Peninsula Streams and Shoreline Society*
- *Roberts Bay Residents*
- *Saanich Inlet Protection Society*
- *SeaChange Marine Conservation Society*
- *Tsehum Harbour Task Force*

South Island Climate Network [SI-CAN], which includes:

- *Citizens' Environment Network in Colwood (CENIC)*
- *Esquimalt Climate Organizers (ECO)*
- *Gorge Waterway Society (GWAS)*
- *Metchosin Climate Action Team (MCAT)*
- *Oak Bay Climate Force (OBCF)*
- *Saanich Eco Advocates (SEA)*
- *Saanich Peninsula Environmental Coalition (SPEC)*
- *Transition Sooke (TS)*
- *Victoria Climate Action Team (VCAT)*
- *Victoria Climate Hub*
- *View Royal Climate Coalition (VRCC)*

Open House & Tour Promotional Poster



Open House & Tours



Making a difference...together

Residual Treatment Facility Open House & Tours



Saturday, February 28, 2026

Pre-Register for Tours:
getinvolved.bc.ca/biochar

Social Media

Capital Regional District
February 13 at 10:30 AM

The CRD is inviting the public to help shape the future of wastewater treatment and biosolids management in our region.

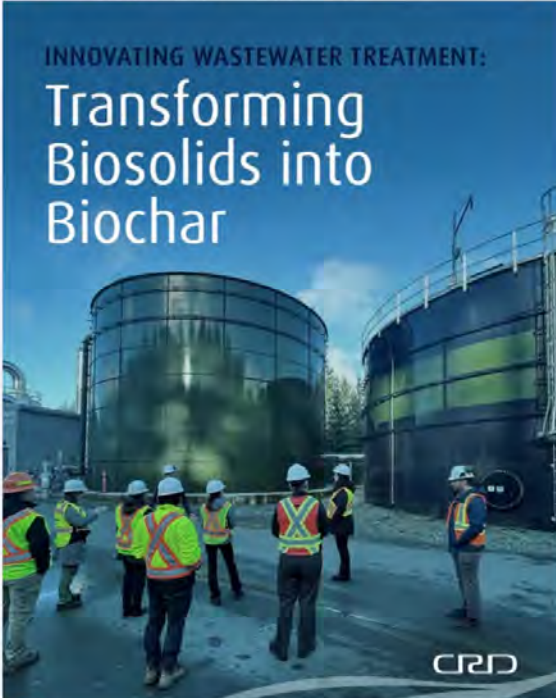
We're exploring the use of carbonisation technology to transform biosolids - the solids left over from wastewater treatment - into biochar, a stable, carbon rich product that cuts residual volumes in half, destroys contaminants of concern, captures carbon, and improves soil nutrients.

This proposed addition to the Residuals Treatment Facility at Hartland Landfill would be the first project of its kind in Canada and represents an important step in maximizing resource recovery from wastewater.

Your voice matters. There are several upcoming opportunities to learn more and provide input:

- 📍 Open House + Facility Tour
When: Saturday, February 28, 2026, 10am-2pm
Where: Residuals Treatment Facility, Hartland Landfill
Preregistration required for tours.
- 📄 Participate in the Online Survey
Open until Thursday, March 5, 2026

Learn more and share your feedback: [GetInvolved.crd.bc.ca/Biochar](https://getinvolved.crd.bc.ca/Biochar)



INNOVATING WASTEWATER TREATMENT:
Transforming Biosolids into Biochar

CRD

17 2 comments 4 shares

Capital Regional District
February 26 at 2:35 PM

Help shape the future of wastewater treatment in our region.


The CRD is exploring carbonisation technology - a high-heat process that transforms biosolids into biochar, reducing greenhouse gases, destroying contaminants, and storing carbon.

This would be the first project of its kind in Canada, and your feedback will help guide the next steps.

Get involved:

- ✓ Learn about the project
- ✓ Take the online survey (open until March 5, 2026)
- ✓ Join the open house + facility tour on February 28, 2026

Share your feedback and learn more at [GetInvolved.crd.bc.ca/Biochar](https://getinvolved.crd.bc.ca/Biochar)



GETINVOLVED.CRD.BC.CA

Transforming Biosolids into Biochar [Learn more](#)


29 2 comments 7 shares 6.9K views

Capital Regional District
March 2 at 12:20 PM

Thanks for Joining Us!


Thank you to everyone who attended the Biochar Open House and Tours at the Residuals Treatment Facility on Saturday. We were pleased to see such strong interest from the community who were eager to learn more about biochar and its role in supporting a more sustainable approach to resource management.

If you missed the open house, there is still time to share your feedback. Visit getinvolved.crd.bc.ca/biochar to learn more and complete the survey by March 5.



7


Print Advertising




**Innovating
Wastewater Treatment:
Transforming Biosolids
Into Biochar**

The CRD is exploring a new carbonisation technology to convert the leftover solids from wastewater treatment into carbon-rich biochar.

Learn more about this innovative technology and share your input through the online survey.



**Complete the online survey
by Thursday, March 5, 2026:**
getinvolved.crd.bc.ca/biochar



Left: 5.11" x 6" ad - ran in Black Press publications on Vancouver Island.

Below: 6.2" x 5.3" ad - ran in Victoria's Times Colonist.



**Innovating
Wastewater Treatment:
Transforming Biosolids Into
Biochar**

The CRD is exploring a new carbonisation technology to convert the leftover solids from wastewater treatment into carbon-rich biochar.

Learn more about this innovative technology and share your input through the online survey.



**Complete the online survey by
Thursday, March 5, 2026:**
getinvolved.crd.bc.ca/biochar



Fact Sheet



Capital Regional District | February 2026

Protecting air quality is built into the design, permitting, operations, and ongoing monitoring.



Air quality safeguards are incorporated at every stage of the project, from the selection of the technology to the way the facility will be operated and monitored. Robust controls and continuous oversight will ensure emissions remain within provincial requirements.

The project draws on proven technology and real world operating experience, including lessons from the City of Logan, Australia, where the same carbonisation system is already in use.

Multiple layers of air emission controls will be built into the system to treat gases before they are released. Site specific modelling and physical testing will inform the provincial permit application, with ongoing monitoring required if the project is approved. Once operational, continuous monitoring and operational adjustments will be used to maintain compliance and ensure emissions stay low.



Proven technology operating in the City of Logan, Australia



Learning from the City of Logan Experience

The City of Logan's results provide a strong reference point and will help inform design, performance expectations, and air quality safeguards.

Air discharges from the carbonisation equipment in Logan primarily consist of carbon dioxide and water vapour. Low concentrations of nitrogen oxides (NO₂), particulate matter, sulphur oxides (SO₂), and trace compounds have been measured - all well below permitted limits for common air contaminants.

Dioxins and furans were reported at non-detectable or near-zero levels in the City of Logan's independently verified testing results, demonstrating the effectiveness of the multi-step emissions control system.

HOW AIR QUALITY IS PROTECTED IN THE CITY OF LOGAN

1. The carbonisation equipment operating at Loganholme uses a fully enclosed, high-temperature process operated under negative pressure, meaning air flows into the system rather than out. This design prevents untreated gases or odours from escaping during operation.
2. Gases are treated through a multi-step air-emissions control system before release including:
 - a) **Thermal Oxidizer** operating at high temperature to destroy organic compounds
 - b) **Rapid Gas Cooling** to prevent formation of dioxins and furans
 - c) **Wet Scrubbing** to remove particulates and soluble gases
 - d) **Wet Electrostatic Precipitation** to capture ultra-fine particles



3. This layered emissions-control represents best-available air-pollution control technology for biosolids gasification systems and is specifically designed to meet regulatory air-discharge limits.

WHAT IS EVENTUALLY RELEASED TO AIR

The experience from the City of Logan shows that air discharges from carbonisation systems consist primarily of carbon dioxide and water vapour. Measured emissions are well below permitted limits for common air contaminants and particulate. Specific emission quantities for the CRD will be confirmed through site-specific modelling and permitting.



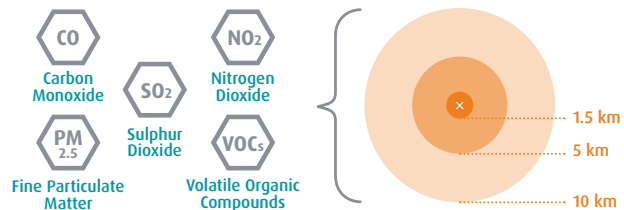
Designing for the local context: What's required in BC

While we are benefiting from the experience of others, we must plan and design based on our specific design requirements and local conditions.

In BC, air quality impacts are assessed through a site-specific air-dispersion modelling process required to support a Waste Discharge Authorization under the Environmental Management Act. This modelling is used to evaluate potential impacts to human health and the environment and must reflect the equipment's detailed design, operating conditions, and location.

WHAT EMISSIONS ARE TESTED FOR?

Air emissions are modelled and tested within a 1.5-kilometre, 5-kilometre, and 10-kilometre radius of the equipment. The modelling will test for the following contaminants:



At this stage of the project, the CRD does not yet have the detailed design information required to complete air-dispersion modelling or submit a Waste Discharge Authorization application. Representative modelling requires inputs such as finalized equipment configuration, air-emissions control systems, stack parameters, operating scenarios, and site-specific meteorological data, which are developed through detailed design.

As the project advances, air-dispersion modelling will be completed using project-specific inputs, including local meteorology, terrain, facility design, operating conditions, and nearby land uses, in accordance with provincial air-quality objectives and standards. This information will be shared with the public and First Nations as part of the provincial permitting process.

Approval to construct and operate the carbonisation equipment is contingent on provincial review and acceptance of the air-quality assessment and issuance of a Waste Discharge Authorization.

The CRD will not proceed with construction or operation of the carbonisation equipment until this authorization is in place.

What's next?

The CRD has initiated the permitting process, and it may take approximately 2 years. Public notification will occur once detailed design has advanced, and site-specific modelling has been completed.



Email: biochar@crd.bc.ca



Website: www.getinvolved.crd.bc.ca/biochar

CRD
Making a difference...together

Capital Regional District
625 Fisgard Street, Victoria, BC V8W 1R7
250.360.3000 | www.crd.bc.ca

Presentation



CRD | RESIDUALS TREATMENT FACILITY

Planning for the Long Term

In 2024, the CRD decided to explore thermal technologies as a long-term approach to converting biosolids to biochar - a stable, carbon-rich material offering a variety of potential benefits across construction, industrial, agriculture, and forestry sectors.

We are taking an important next step towards introducing new carbonisation technology to the Residuals Treatment Facility at Hartland Landfill.

Introducing the carbonisation technology to wastewater treatment is expected to be cost-competitive with current practice, while significantly reducing volumes, destroying contaminants of concern, and locking in carbon.

Long-Term Biosolids Management Strategy
April 23, 2024

The image shows a hand holding a small amount of dark biochar particles, with more particles scattered on the surface below. The report cover also features the CRD logo.

Slide 2

Project Timeline



First Nations Engagement - ongoing throughout all phases

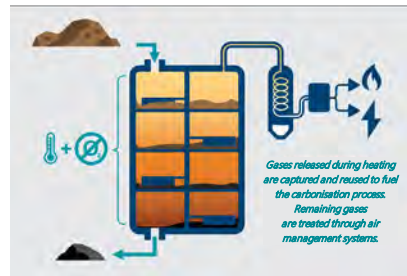
Note: Timeline may be revised as project develops.

Slide 3

How Carbonisation Works

“Carbonisation” is a thermal process that transforms the leftover solids [biosolids] from wastewater treatment into a stable, charcoal-like substance known as biochar.

- 1 It starts with biosolids**
 The nutrient-rich solids left after treating wastewater.
- 2 Apply high heat**
 The biosolids are baked (or “carbonised”) in a high-heat, low-oxygen environment. This prevents combustion, removes moisture, and destroys contaminants.
- 3 The Result: Biochar**
 What’s left is a lightweight, carbon-rich material like charcoal. It doesn’t easily break down, and locks carbon away for centuries.



Slide 4

Benefits of Carbonisation



Reduces volume by half

Approximately 10 tonnes per day reduced to 5 tonnes per day.



Cuts greenhouse gases

Stores carbon instead of releasing it; an estimated 2550 tonnes of carbon dioxide could be sequestered annually, equivalent to the emissions generated by close to 600 gas-powered cars.



Destroys contaminants of concern

High heat destroys chemicals like PFAS, pharmaceuticals, and microplastics.



Creates a valuable carbon-rich product

Stable, odour-free material that can be stored safely if needed, with various potential benefits and uses to be explored.

Slide 5

Site Operations

Pyrocal, an Australian engineering company, has been selected as the preferred proponent to integrate the innovative carbonisation technology into the Residuals Treatment Facility.

Low Impact Design

The equipment can be incorporated into the north-west corner of the facility, occupying less than 2% of the 2.7-hectare site. The site would be finalized based on further planning and design.

Most of the equipment would be approximately 5 metres tall, with the stack reaching 9 metres. Even at its tallest point, the new equipment would be much smaller than the existing structures at the Residuals Treatment Facility, which are 15 metres high.

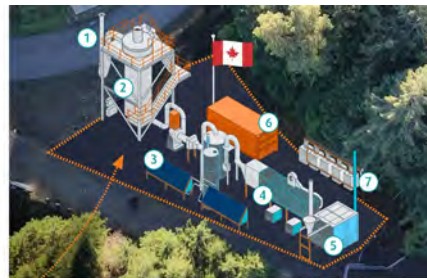


Diagram is conceptual. Final design to be determined.

- 1 Air Stack
- 2 Wet Electrostatic Precipitator
- 3 Heat Rejection
- 4 Thermal Oxidizer & Heat Exchange
- 5 Hearth & Infeed
- 6 Motor Control Centre
- 7 Biochar Out Load

Slide 6

Protecting the Environment



Protecting air quality is built into the design, permitting, operations, and ongoing monitoring.

City of Logan Experience

The project draws on proven technology and real world operations, including lessons from the City of Logan, Australia, where the same carbonisation system is already in use.

- Air discharges are primarily carbon dioxide and water vapour, with low levels of nitrogen oxides, particulates, sulphur oxides, and trace compounds - well below permitted limits.
- Fully enclosed, high-temperature process operated under negative pressure, meaning air flows into the system rather than out - preventing untreated gases or odours from escaping during operation.

Waste discharge authorization

Waste discharge authorization is required from the Province of BC for air emissions. Detailed design will inform the air management systems. Public notification is required within the permitting process.

This layered emissions-control represents best-available air-pollution control technology and is specifically designed to meet regulatory air-discharge limits.

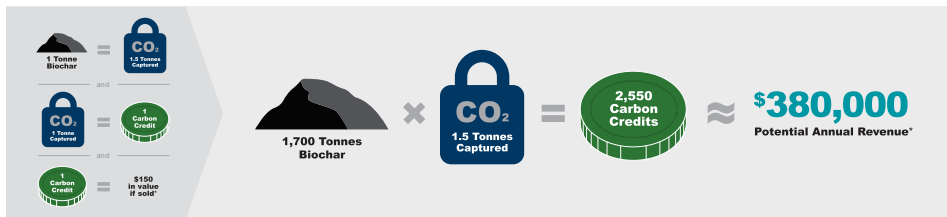
Slide 7



From Emissions to Offsets – Carbon Credits

Biochar is currently one of the most established and credible sources of carbon credits.

The benefit of biochar is its ability to store greenhouse gas emissions/carbon, which would have otherwise been released through the decomposition of biomass. Biochar can sequester carbon for hundreds of years.



Carbon credits are a tradable unit sold on a carbon market. Each credit represents one tonne of greenhouse gas removed or avoided. When the CRD produces biochar that locks in carbon, those reductions can be verified and turned into credits. Selling these credits creates a potential revenue stream for the CRD while supporting climate goals.

The CRD would initiate the process to pursue carbon credits, once biochar is being produced and volumes and composition are confirmed.

*Based on 2025 values. Carbon markets are variable.

Slide 8



Neighbourhood Integration

We are designing solutions that respect the neighbouring community and environment while advancing sustainability.



Fewer Trucks, Less Traffic

- The new process reduces truck trips compared to current operations.
- Current: 4–5 trucks per week
- Future: 2–3 trucks per week



No Increase in Noise

- Noise from the facility would be minimal and comply with District of Saanich bylaws.



Safety

- A robust Emergency Response Plan including fire suppression is in place to safeguard environment, staff and community.
- Currently, biosolids can't be stored longer than a few days because of the risk of combustion. The carbonisation process removes moisture and reactive compounds, leaving behind biochar; a stable, carbon-rich material that doesn't easily break down. This makes biochar storage safe and offers greater flexibility for when and how biochar is used.



No Increase in Odour

- Carbonisation happens in sealed, enclosed systems, preventing odour release. Biochar would then be loaded into trucks for transport.
- Heating eliminates moisture, producing a dry, odour-free charcoal-like material.
- Odour control systems ensure there is no discernible odour in the community from the facility.

Slide 9

CRD

How Biochar Can Be Used

Biochar has been used for centuries—from creating rich, fertile soils known as terra preta in the Amazon, where charcoal was added to improve soil health, to modern regenerative agriculture that enriches soil and boosts crop yields.



Modern use of biochar includes green building materials, stormwater filtration, water treatment, soil amendment, and odour control, making it a versatile solution for environmental challenges.

Once the composition of the CRD's biochar is evaluated, potential uses can be assessed to determine the most beneficial and sustainable options. Another phase of First Nations and community engagement will focus on exploring potential end uses for biochar.

Key Considerations

- **Environmental impacts:** air discharge from operations and biochar characteristics.
- **Regulatory compliance:** Understanding provincial and federal requirements for various uses.
- **Carbon offsets:** Evaluating opportunities for greenhouse gas reduction credits.
- **Volume and market value:** Assessing production scale and potential revenue.
- **Location:** Identifying Vancouver Island and Lower Mainland markets.

Slide 10

CRD

The Experience of Others

Primary Case Study:

City of Logan Wastewater Treatment Plant & Pyrocal

Location: City of Logan, Australia
Biomass used: Dewatered and dried biosolids into a useful biochar
Beneficial use of biochar: Soil Improvement, chemical filtering and building materials



Slide 11

Other Case Studies:



Earthcare Solutions
Location: Bethel Township, Pennsylvania, USA
Biomass used: Municipal biosolids, poultry litter
Beneficial uses: Soil amendment, stormwater filtration and treatment media, and as an agricultural supplement in animal bedding



Ephrata Borough Authority & Bioforcetech
Location: Ephrata, Pennsylvania, USA
Biomass used: Undigested dewatered sludge
Beneficial uses: Concrete enhancement



Fårevejle Municipal Wastewater Treatment Plant & AquaGreen
Location: Oddsherred, Denmark
Biomass used: Dewatered and dried sewage sludge
Beneficial uses: Soil improvement



Main-Taunus Wastewater Treatment Plant & Pyreg

Location: Lorsbach, Germany
Biomass used: Dewatered and dried sewage sludge
Beneficial uses: Biocoal, for energy production



Airex Energy Inc.
Location: Becancour, Quebec

Biomass used: Hardwood and softwood sawdust
Beneficial uses:

- Fertilizers and soil amendment
- Replacement for thermal fossil coal
- Feedstock for sustainable aviation fuel

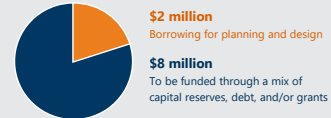


Understanding the Costs

Costs are expected to be competitive with current out-of-region biosolids management options. Final costs will be determined through detailed design and contract negotiations.

- Once procurement is complete and final pricing is confirmed, the CRD will update the business case before the Board makes any final investment decision.
- Staged investment allows for planning and design, followed by equipment and installation, with opportunities for further enhancements once operational.
- A Loan Authorization Bylaw and alternate approval process will be recommended to the Board to seek elector approval [Core Area residents] for borrowing for wastewater infrastructure including \$2 million for detailed design of the carbonisation equipment.
- Funding options for construction will be determined following design. CRD is also pursuing grant options.

2026 Approved Capital Budget is \$10 million:



Estimated Annual Costs [20-year lifecycle]:

	CURRENT BIOSOLIDS MANAGEMENT	CARBONISATION TECHNOLOGY
Unit cost (\$ per tonne of biosolids)	\$200 - \$850	\$230 - \$720
Estimated annual biosolids management costs*	\$2.9 million	\$900,000 - \$2.8 million
Financial Risk	Subject to market competition and negotiated agreements	Sensitive to long-term operations and maintenance, and potential revenues

*Annual costs are based on the addition of Saanich Peninsula and Sooke biosolids to the Residuals Treatment Facility. The business-as-usual case assumes the same current allocation between existing solids management options (cement kiln, quarry reclamation, and tree nurseries).

Slide 12



Event Feedback Form



Thank you for joining us!

This was the first time the CRD has hosted an open house at the Residual Treatment Facility and offered public tours. Your feedback will help us shape future engagement events.

1. Overall Experience

How would you rate your overall experience at today's open house and tours?

Excellent Good Fair Poor

2. What Worked Well

What aspects of the open house or tour worked well for you? What helped you learn, feel comfortable, or engage meaningfully?

3. Opportunities for Improvement

What could be improved for future events or tours?

4. Tour Experience *(if applicable)*

If you participated in a tour, how was your experience?

Excellent Good Fair Poor

Comments on the tour format, information, or timing:

5. Information & Engagement

How clear and useful was the information provided today?

Very Clear Mostly Clear Somewhat Clear Unclear

Comments on the information provided:

6. Comfort & Accessibility

Did you feel welcomed and able to participate comfortably?

Yes Mostly Somewhat No

Any suggestions to make future events more inclusive or accessible?

7. Future Participation

How likely are you to attend future events or tours on this topic?

Very Likely Somewhat Likely Not Sure Unlikely

8. Is there anything else you'd like to share?

Your responses will be anonymous, and no comments will be attributed to any individuals. Please do not include any information that identifies you or others in your responses. Feedback will be aggregated and used to report the event's level of success, and to inform planning for future events.

