



**TECHNICAL AND COMMUNITY ADVISORY COMMITTEE
CORE AREA WASTEWATER TREATMENT
Meeting Minutes**

Friday, October 27, 2023

**City Hall, City of Victoria
Songhees Nation Meeting Room (second floor)
1 Centennial Square
Victoria, BC V8W 1P6**

1:00 pm

PRESENT: B. Donald, D. Kobayashi (Vice Chair), J. Clary, C. Valeo (EP), J. Roe, C. Coleman (Chair), G. Gillespie, J. Andrews, M. Engelsjord, C. Remington, J. Paul, K. Wilson, D. Monsour, L. Hatch, W. Pugh

STAFF: G. Harris, P. Kickham, D. Green, J. McAloon, L. Maslen (EP), L. Nickerson (Recorder)

GUESTS: K. Hamilton, R. Beise, T. Urquhart, J. Beatty (EP)

REGRETS: I. Leung

(EP) = Electronic Participation

The meeting was called to order at 1:02 pm.

- 1. Territorial Acknowledgement**
- 2. Welcome and description of TCAC purpose (Chair)**

Chair Coleman welcomed everyone and informed the group that this committee is a technical and advisory committee made up of technical and community representatives. This group will provide recommendations to the CRD Board.

- 3. Introductions (all)**

G. Harris introduced himself and CRD staff. Chair Coleman introduced himself and Vice Chair Kobayashi. Other attendees introduced themselves and gave a brief history of their experience and interests relating to this committee. Chair Coleman advised this group will be together for about six months with the first few meetings relating to I&I and the last few meetings relating to biosolids. Chair Coleman advised as the Chair he follows “Robert’s Rules of Order” – he is a fan of Robert’s Rules being relaxed at first to allow more conversations, but once recommendations are being made, there is a need to have a more formal approach to any recommendations or advice we wish to give because the words that make sense to this committee may not make sense to others.

- 4. Presentations**

- a. TCAC process and Liquid Waste Management Plan background (D. Green)**

D. Green provided a brief overview of liquid waste management plans (LWMPs) and the process for the TCAC group. LWMPs are tools that allow regional districts and local governments to develop community-specific solutions for the management of liquid waste and environmental protection under the Province of BC Environmental Management Act. TCAC will meet approximately monthly, which will include a combination of presentations, group discussion and some reading work. The output from this group will be reported back to the Core Area Liquid Waste Management Committee.

b. Inflow & Infiltration (I&I) background and Q&A (J. McAloon)

J. McAloon provided a brief overview of I&I and advised inflow and infiltration refers to “leaky sewers” which can result in overflows to beaches and health concerns. I&I is a capacity issue and will get worse over time if not addressed. The older municipalities (Victoria, Esquimalt and Oak Bay, especially Uplands) have higher I&I rates due to deterioration and/or the types of sewer lines, and the newer municipalities have lower I&I rates. The current LWMP I&I commitment needs to be reviewed and possibly amended.

c. Biosolids background and Q&A (P. Kickham)

P. Kickham provided some background on the process of how the wastewater is managed and treated in the region since the initiation of the new wastewater treatment plant and Residuals Treatment Facility (RTF) in 2021. The process of creating biosolids at the RTF was introduced and discussed. The RTF is already one of the most sophisticated biosolids processing facilities in Canada. To be consistent with provincial requirements, wastewater utilities must not view these biosolids as a waste product but rather as a resource to be beneficially re-used.

LaFarge was contracted to receive the biosolids for beneficial re-use and a contingency plan was put into place allowing the biosolids to be landfilled during LaFarge maintenance periods (anticipated to be 35 days/year). However, due to operational and logistical challenges, LaFarge has only been able to accept a very small amount (5½ days worth in 2023) and the majority of the biosolids have been landfilled. An additional contingency plan was established in the summer of 2023 for reclamation of an aggregate quarry in Cassidy BC, however current space is limited at this location. The province has required broad public consultation on all available beneficial re-use options and a long term biosolids management strategy to be submitted by June 2024 with the expectation that it will be implemented by January 2025. Thermal options and land application options for biosolids were introduced. The CRD requires redundancy and resiliency to ensure service delivery and compliance with legislation, and therefore numerous options (e.g., a preferred option, a support option, and contingency options) are required.

d. Biosolids Public Consultation (K. Hamilton)

K. Hamilton presented a public consultation process for long term management of biosolids and sought feedback from the TCAC. TCAC was supportive of the general approach. K. Hamilton’s role is to ensure a wide range of audiences have access to complete, educational, quality information on this complex issue. They foresee a multi-month engagement process from November 2023 – February 2024. Their communication and consultation objectives are to raise awareness, provide multiple channels and opportunities for the community to provide input and seek to understand public awareness, perceptions and concerns for how biosolids should be managed in the region. They will provide a detailed consultation summary report in March 2024 which will include what input was collected and how that informed or influenced decisions.

5. Action Items

- a. **Chair Coleman** advised he will follow up with Tourism Victoria, the Greater Victoria Chamber of Commerce, Esquimalt Chamber of Commerce and the West Shore Chamber of Commerce regarding the TCAC.
- b. **K. Hamilton** will provide an update to the TCAC on the public consultation process prior to launch (mid-November).
- c. **CRD staff** will determine if virtual or in-person tours of the RTF are possible for TCAC members and/or the public



Making a difference...together

6. Next meeting

The next TCAC meeting will be held on November 24, 2023 at 1:00 pm.

7. Adjournment

The meeting was adjourned at 3:01 pm.

TCAC Process and LWMP background



Capital Regional District

Dale Green – Supervisor, Source Control Programs

LWMPs allow regional districts and local governments to develop community-specific solutions for management of liquid waste and environmental protection under the Environmental Management Act.

This Act is current to March 29, 2023

See the [Tables of Legislative Changes](#) for this Act's legislative history, including any changes not in force.

ENVIRONMENTAL MANAGEMENT ACT

[SBC 2003] CHAPTER 53

Assented to October 23, 2003

There are three LWMPs in the CRD: Core, Saanich Peninsula and Sooke

Core LWMP covers Esquimalt FN, Songhees FN, Colwood, Langford, View Royal, Esquimalt, Saanich, Oak Bay and Victoria



The Core LWMP includes commitments for:

- Sewage/wastewater
- Stormwater (watersheds)
- Capital projects and planning
- Trucked liquid waste
- Harbours
- Onsite systems
- Environmental monitoring
- Resource recovery and climate adaptation



The Core LWMP was originally approved by the Minister of Environment in 2003 and was last updated with Amendment 12 in 2018.

Recent amendments were mostly focused on sewage treatment and combined sewer infrastructure separation.

CRD staff wish to update aspects of the Core LWMP to better reflect current service delivery and meet regulatory requirements



The first two sections being updated are due to regulatory requirements:

- **I&I** as a condition of the Minister's approval of Amendment No. 12
- **Biosolids management and beneficial use** as a condition of the Minister's approval of Amendment No. 11

These updates are expected to be conducted with comprehensive consultation with public, local government and First Nations.

Broader public consultation will follow.

This TCAC forms a key part of this consultation and brings together local government, technical experts and community members

First Nations were invited but were unable to attend. CRD staff will engage them separately to ensure their voice is heard.

TCAC will advise the CRD's Core Area Liquid Waste Management Committee which is a standing committee of the CRD Board.



TCAC will meet approximately monthly

There will be a combination of presentations, group discussion and some reading homework

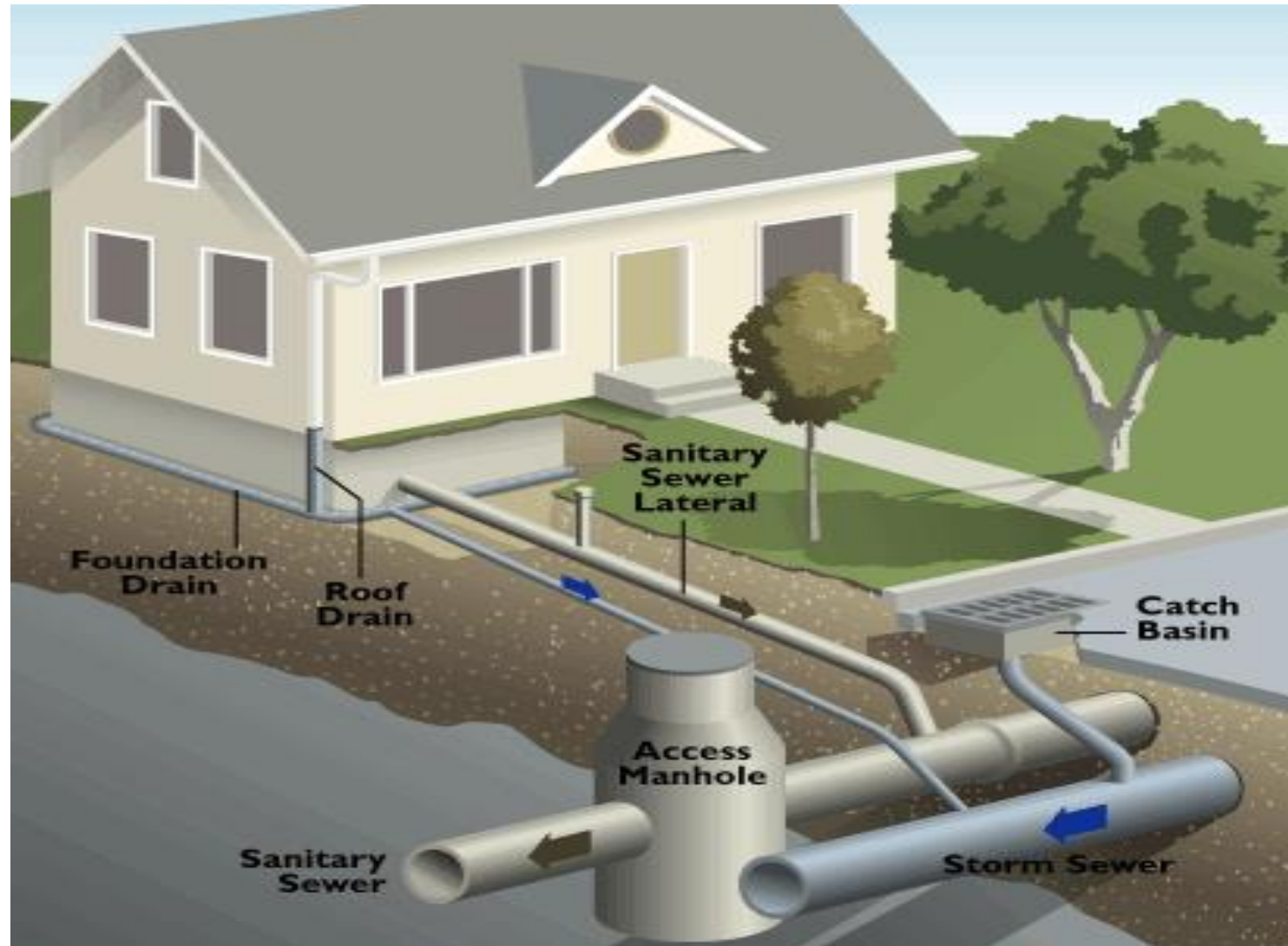
The output from this group will be reported back to the Core Area Liquid Waste Management Committee



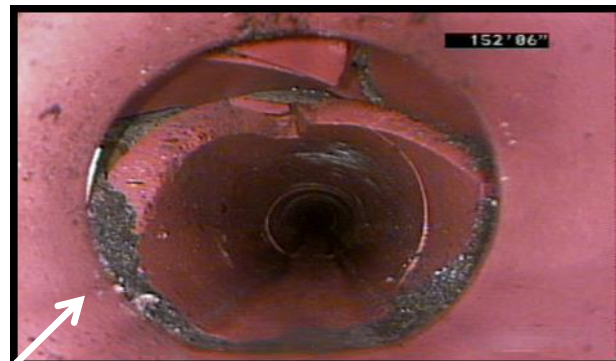
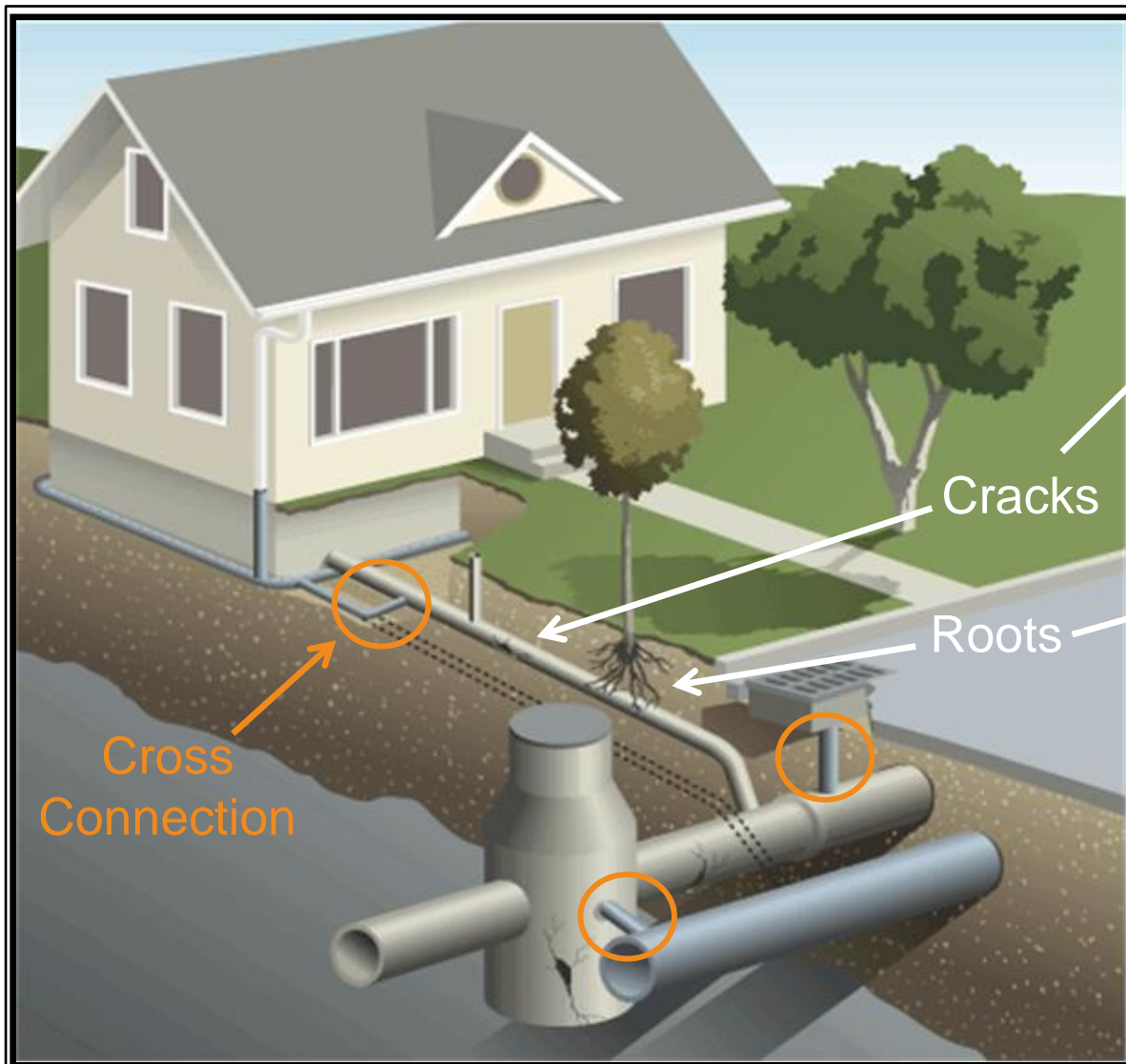


Questions?

Sewer System Overview



Sewer Defects

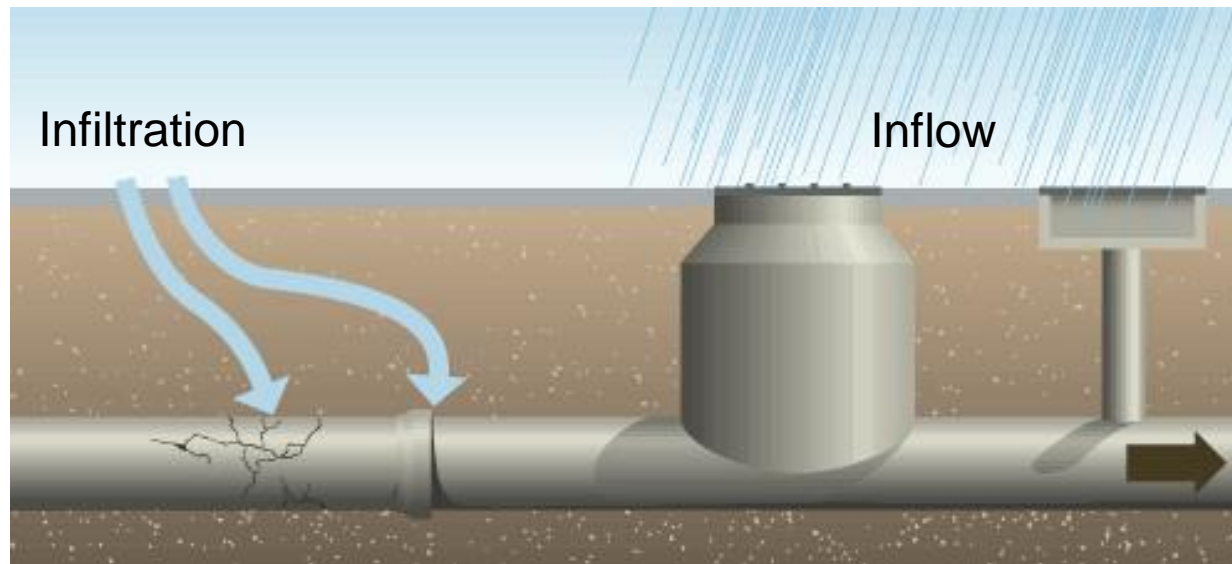


Grease Buildup

Inflow & Infiltration (I&I)

Inflow = rainwater entering the sewer through direct pipe connections (cross-connections, holes in manhole lids, etc.)

Infiltration = groundwater entering pipes through cracks in the pipe.



*Sewers are designed to accommodate some I&I.
Too much creates problems.*

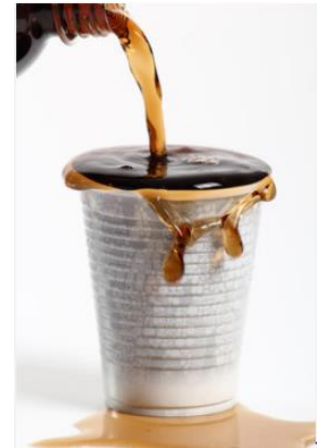
Problems: Too Much I&I



Sewer systems have maximum pipe capacities. If exceeded → overflows.

Capacity is needed for:

- Current needs
- Future growth / densification
- I&I (current and future)



I&I tends to increase with the age of the sewer system because, like all infrastructure, sewers deteriorate over time. This can be minimized through diligent sewer maintenance programs and asset management (sewer replacement) programs.

Regulators don't want overflows!

All CRD overflow locations are monitored

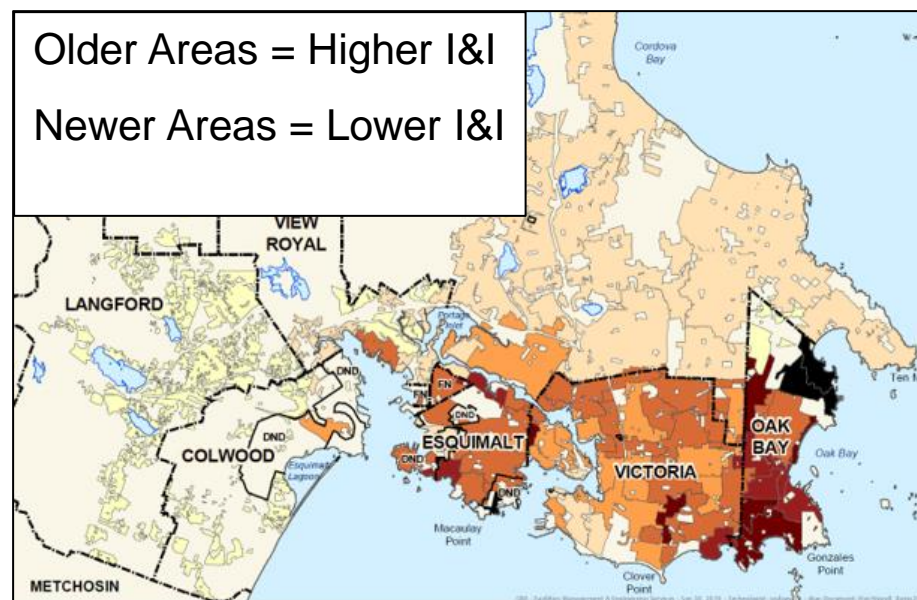
Municipal sewer inputs to CRD system are metered

CRD I&I Program analyzes sewer flow and I&I from 100 catchments

Calibrated Sewer Model

CRD Sewer Allocation Bylaw

- Each municipal input into the regional sewer system has its own peak allocated flow; purchased by the municipalities.



Notable Projects to Date



Sewage Treatment

- McLoughlin Treatment Plant (2020)
- Solids processing plant at Hartland (2020)

>\$800M

Includes sewage treatment and efforts to reduce the number of locations that overflow and the impact of those overflows.

Reducing Overflows

- Arbutus Storage Tank (2021)
- Marigold Storage Tank (2001)
- Trent Forcemain Connector (2021)
- Clover PS and Forcemain Upgrade (2020)
- Craigflower PS Replacement (2015)
- Trent PS / Forcemain (2008)

Prioritizes sensitive receiving environments (Bowker Creek, the Gorge)

Key Municipal Projects

- Municipal Pump Stations: real-time monitoring / backup power (early 2000's)
- Ongoing system upgrades

Predicted Overflow Locations *(Sub 5-yr Storms)*

1) Clover Long Outfall

- Discharged continuously from the 1970's to 2020 prior to treatment.
- CRD sewer model predicts ~80 hours of overflows per year; >4x dilute.

2) Uplands combined sewers *(Oak Bay has a plan in place with Province to separate).*



Work is needed in Oak Bay and Victoria to eliminate overflows from Clover Point.

Municipalities have lots of expensive infrastructure that needs periodic replacement and repair. Important to find synergies (i.e. replacing multiple types of underground infrastructure when the road is already dug up).

Infrastructure upgrades best done through long-term asset management plans.

- For example, if pipes are expected to last 100 years, each year 1% should be fixed or budgeted for replacement. Most municipalities are behind on this.

Municipalities have finite budgets and resources.

Commitment:

- By 2030, peak 24-hour sewer flows during storm events will not exceed 4x average dry weather flow (ADWF)
- ADWF = typical daily summer flows

Problematic:

- ADWF doesn't relate to capacity / overflows.
- Example 1: Densification increases ADWF, making it easier to meet the 4x ADWF commitment, but doesn't reduce overflows.
- Example 2: Low flow plumbing fixtures, required since 2008, decreased ADWF by ~20%, making it substantially harder to meet the 4x ADWF commitment.

Where Things Stand Now

Most of the “high yield”, easily justified, large projects are already complete (i.e. storage tanks).

Future I&I reductions will require “defect by defect” level fixes.

The older municipalities with high I&I are focusing on sewer renewal / replacement.

The younger municipalities with low I&I are focusing on good installation practices and routine inspections / repairs.



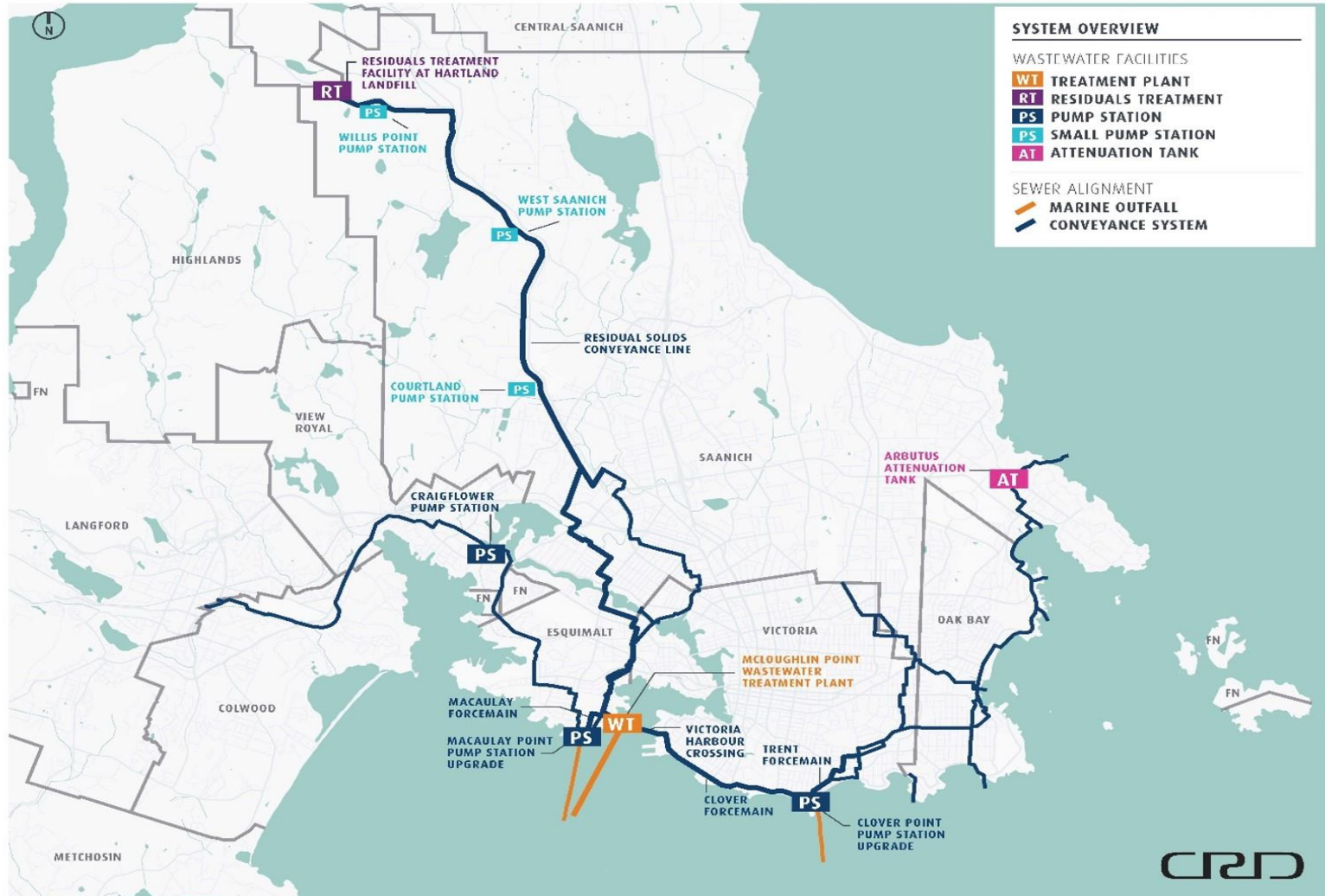
Capital Regional District Long-Term Biosolids Beneficial Use Strategy

Peter Kickham, Manager, Regulatory Services, Environmental Protection

Technical And Community Advisory Committee

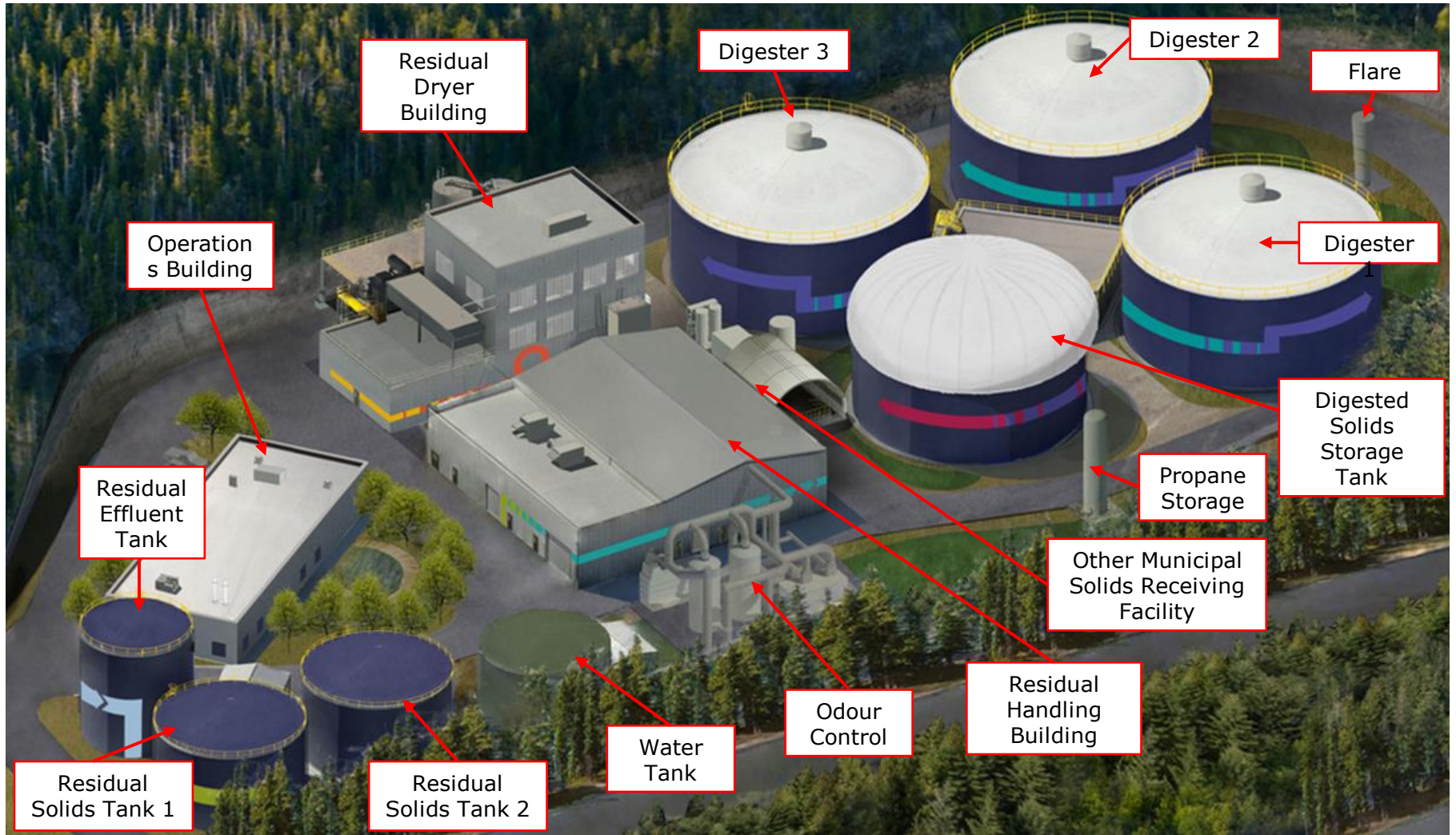
October 27, 2023

Core Area Wastewater Treatment Overview Map



Residuals Treatment Facility

CRD



Dried Class A Biosolids



What is Beneficial Use?



Beneficial use is defined in the *Canadian Council for Ministry of the Environment (CCME) Canada-Wide Approach for the Management of Wastewater Biosolids*.

Beneficial use options capitalize on the nutrient and organic matter value and energy content of the municipal biosolids for use in:

- energy production (e.g. combustion)
- compost and soil products
- agricultural land application as a fertilizer or soil conditioner
- forestry application as a fertilizer or soil conditioner
- land reclamation.

When combustion is used for municipal sludge or municipal biosolids management, it may be considered a disposal option or a beneficial use option. To qualify as a beneficial use option, combustion must meet the following three criteria:

- result in a positive energy balance
- emit low levels of nitrous oxides
- recover a significant portion of ash or phosphorus.

Broadly, beneficial use options fit into two categories; land application or energy production.

Short Term Biosolids Beneficial Use Strategy (Definitive Plan): Alternative fuel in cement kiln

CRD



Short-Term Biosolids Contingency Plan: Engineered Cover at Hartland Landfill

CRD



Short Term Alternative Contingency Plan: Gravel Quarry Reclamation

CRD



As a condition to the Provincial approval of the short-term strategy, the CRD must:

- a) Consult with the public on all available beneficial use options, and
- b) Submit a long term biosolids management strategy by June 2024, to be implemented by January 2025.



The CRD has hired an external consultant to act as a technical advisor for biosolids planning.

This consultant has completed an analysis of available beneficial use options, and after public and first nations engagement will be drafting the long-term strategy.



Long-Term Biosolids Beneficial Use Option Analysis

Capital Regional District

05 July 2023

→ The Power of Commitment



Pyrolysis



- Absence of oxygen
- 300-800 °C
- Produces syngas, biochar, steam, ash

Gasification



- Limited oxygen
- 600-1000 °C
- Produces syngas, biochar, pyrolysis oil, ash

Incineration



- Excess oxygen
- 800-1200 °C
- Produces energy (steam, electricity, heat)

Land Application Options

Soil Products



- Mixing with soil/sand to create nutrient rich soil
- Mixing with organics for compost

Agricultural



- Fertilizing for agricultural land
- Reduces use of synthetic fertilizers

Forest Fertilization



- Supplementing nutrients in forest soil
- Increases tree production

Mine Reclamation



- Reclaiming barren soils damaged from mining activity
- Minimizes impact of long-term effects of mining sites on ecosystem

Regardless of the type of management option selected, the CRD requires a combination of multiple options to ensure redundancy and resiliency as well as consistent service delivery and regulatory compliance.

1. Preferred Option
2. Support Option
3. Contingency Options





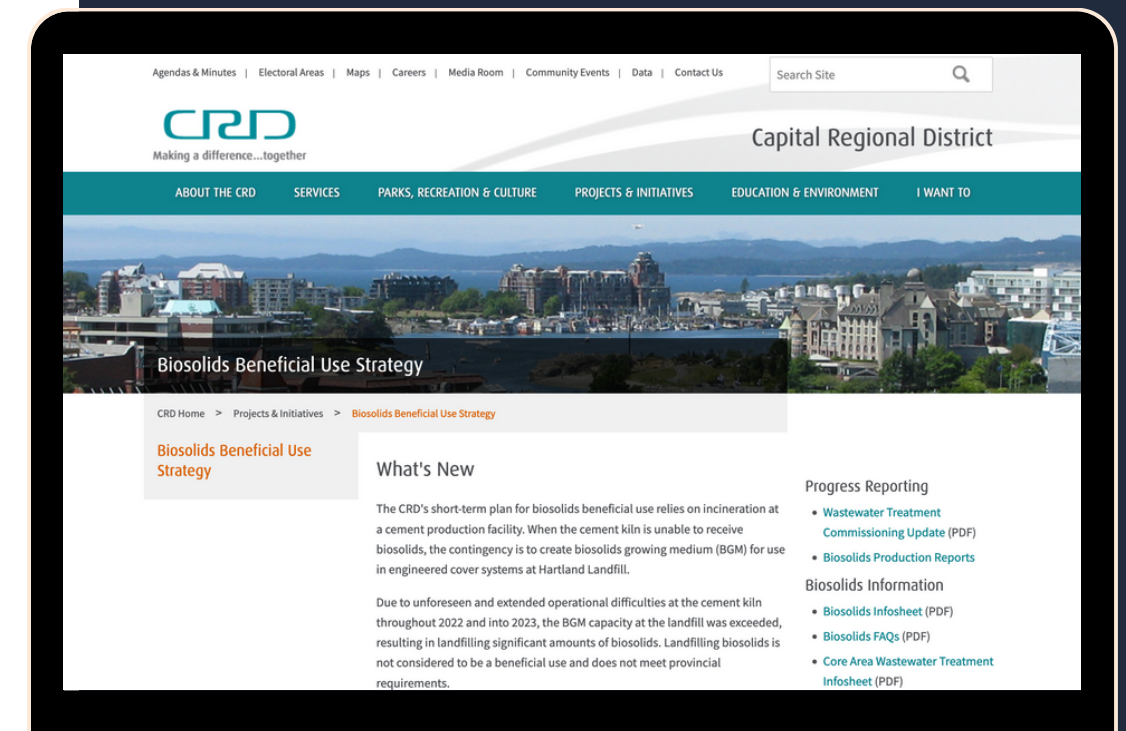
CAPITAL REGIONAL DISTRICT

LONG TERM BIOSOLIDS MANAGEMENT
PUBLIC ENGAGEMENT STRATEGY
OCTOBER 2023



BACKGROUND

- The leftover material from the sewage treatment process, “biosolids” are a nutrient-rich resource that can benefit the community in a variety of different ways.
- The Province of BC’s Organic Matter Recycling Regulation sets the requirements for the production of high-quality biosolids and subsequent beneficial uses related to land application and composting. The CRD produces Class A biosolids, the highest quality category of biosolids.
- A Definitive (Long-term) Biosolids Management plan must be submitted to the Province by June 2024. The Province of BC has specific requirements for what must be included in the plan. It’s expected that a combination of beneficial uses may need to be considered within the long-term plan.
- Public consultation about the potential in-region beneficial uses, including land application, must be included in the plan.



COMMUNICATIONS AND CONSULTATION OBJECTIVES

1. Raise awareness of the need to develop a long-term biosolids management plan that outlines how the Capital Regional District will utilize the benefits of biosolids in-region.
2. Provide multiple channels and opportunities for the community to learn more and provide input into the development of the definitive biosolids management plan.
3. Seek to understand public awareness, perceptions, concerns and top-of-mind considerations for how biosolids should be managed in the Capital Region.



AUDIENCES

Residents and taxpayers of LWMP Core area

Residents of the Capital Region

CRD Board of Directors

Municipal Councils within the Capital Region

Technical and Community Advisory Committee (Core Area Liquid Waste Management)

News media

Various sectors/groups

a. Environmental organizations (non-profits, advocacy, volunteers)

b. General business

c. Agriculture (farmers, agricultural organizations)

d. Silviculture (forestry companies)

e. Mine reclamation (mining companies)

f. Construction industry

g. Industry and technology providers

h. Research institutions and individuals (universities, research groups, scientists)



AUDIENCES (CON'T)

Community members and groups

- a. Biosolid Free BC, Peninsula Biosolids Coalition

Hartland landfill neighbours

- a. Community Associations (e.g., Willis Point Community Association, Mount Work Coalition)
- b. Local Stream keeper and Watershed Protection Community Groups

Other regional districts in the Province of BC

Communities outside of the Capital Region that are currently receiving CRD biosolids

Provincial Government

Ministry of Environment and Climate Change Strategy

**A parallel engagement effort will occur with Core Area and Regional First Nations.*

STRATEGIC CONSIDERATIONS

- The importance of plain language and visuals to make the topic of biosolids more accessible and ensure those who are less familiar aren't intimidated by the technical jargon or dialogue.
- Establishing a solid context of the need to plan for the long term and the many associated considerations is critical to community and stakeholder understanding and support.
- Recognize that there are different opinions and that all perspectives are welcome, including many less familiar with biosolids and their potential uses.
- Ensure all considerations associated with beneficial uses are presented (e.g. environmental, health, beneficial uses, costs, timelines, siting, etc.)
- Aside from levels of acceptance about various options, it is important to explore how biosolids can be an opportunity and resource, not merely a waste product/problem.
- Important to create a space where people can learn more and understand the community's values and top-of-mind considerations, concerns, and mitigations and avoid a debate over options.
- A transparent process with a detailed *What We Heard Consultation Summary report* will ensure participants to see their input and how it influenced the long-term plan.



KEY TOPICS

What are biosolids	Inform
Why is a long-term plan needed / provincial requirement	Inform
Engagement process and opportunities to provide input	Inform
Potential options for beneficial use of biosolids / and associated considerations	Inform
Level of acceptance for various options	Consult
Top of mind considerations associated with biosolids management and specific options	Consult
Perceived benefits with options	Consult
Perceived concerns and potential mitigations associated with options	Consult
How best to keep you informed about biosolids management	Consult
What we heard during engagement process	Inform



ENGAGEMENT METHODS

AWARENESS-RAISING

- “One-stop” project website with FAQ, videos, interactive features and technical documents
- Fact sheet/FAQ
- Videos
 - What are biosolids and “beneficial uses”, tour of facility
- Social media and digital advertising
- Earned media
- Letter to stakeholders
- Presentation materials

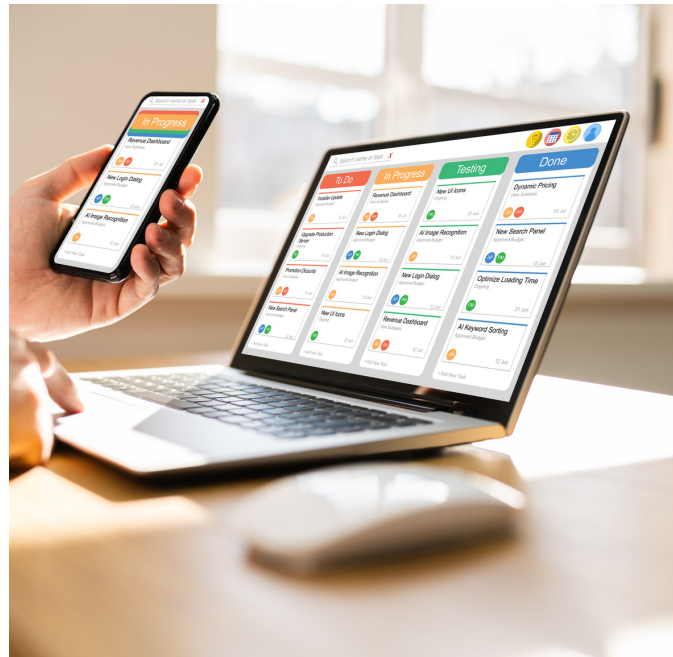
WAYS TO PROVIDE INPUT

- Online survey and interactive engagement platform
- Written submissions
- Online Open House
- Representative focus groups
- Facility Tour*
- Technical and Community Advisory Committee



STAGES IN THE PROCESS

A 3-month consultation process utilizing a variety of engagement methods.



Planning

October 2023



Public Consultation

November -
February 2023



What We Heard

March 2024



Report to CRD Board

Spring 2024



QUESTIONS?

