

**METRO VANCOUVER REGIONAL DISTRICT
LIQUID WASTE COMMITTEE**

REGULAR MEETING

April 13, 2022

1:00 p.m.

**Meeting conducted electronically pursuant to the Procedure Bylaw
28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia
Webstream available at <http://www.metrovanancouver.org>**

A G E N D A¹

1. ADOPTION OF THE AGENDA

1.1 April 13, 2022 Regular Meeting Agenda

That the Liquid Waste Committee adopt the agenda for its regular meeting scheduled for April 13, 2022 as circulated.

2. ADOPTION OF THE MINUTES

2.1 March 9, 2022 Regular Meeting Minutes

That the Liquid Waste Committee adopt the minutes of its regular meeting held March 9, 2022 as circulated.

pg 5

3. DELEGATIONS

4. INVITED PRESENTATIONS

5. REPORTS FROM COMMITTEE OR STAFF

5.1 Appointment of Sewage Control Manager and Enforcement Officers

pg 12

That the GVS&DD Board:

- a) pursuant to the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw* and the *Environmental Management Act*:
 - i. rescind the appointments of former Metro Vancouver employee Ray Robb as a sewage control manager, and of Metro Vancouver employee Kathy Preston as a deputy sewage control manager;
 - ii. appoint Metro Vancouver employee Kathy Preston as a sewage control manager;

¹ Note: Recommendation is shown under each item, where applicable.

- iii. rescind the appointments of former Metro Vancouver employees Toby Gritten, and Dan Saunders, and former City of Vancouver employee Ze Chen Liu as officers; and
- iv. appoint Metro Vancouver employee Muhammad Ali as an officer.
- b) pursuant to Section 28 of the *Offence Act* for the purpose of serving summons for alleged violations under the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw*:
 - i. rescind the appointments of former Metro Vancouver employees Toby Gritten, and Dan Saunders, and former City of Vancouver employee Ze Chen Liu; and
 - ii. appoint Metro Vancouver employee Muhammad Ali.

- 5.2 Regional Public Works Mutual Aid Agreement** pg 15
That the GVS&DD Board authorize the Board Chair and Chief Administrative Officer to sign the new Regional Public Works Mutual Aid Agreement.
- 5.3 Liquid Waste Capital Program Expenditures Update as at December 31, 2021** pg 48
That the Liquid Waste Committee receive for information the report dated March 24, 2022, titled "Liquid Waste Services Capital Program Expenditure Update as at December 31, 2021".
- 5.4 Project Delivery Capital Portfolio Update** pg 60
That the Liquid Waste Committee receive for information the report dated March 23, 2022 titled "Project Delivery Capital Portfolio Update".
- 5.5 North Shore Wastewater Treatment Plant Project Update** pg 63
That the GVS&DD Board receive for information the report dated April 1, 2022, titled "North Shore Wastewater Treatment Plant Project Update".
- 5.6 Iona Island Wastewater Treatment Plant – Cost Sharing of Ferguson Road Upgrades** pg 66
That the GVS&DD Board authorize the Commissioner to execute a Road Corridor Construction and Cost Sharing Agreement with Vancouver Airport Authority for upgrades to and realignment of Ferguson Road, as outlined in the report dated April 6, 2022, titled "Iona Island Wastewater Treatment Plant – Cost Sharing of Ferguson Road Upgrades".
- 5.7 Liquid Waste Management Plan Review and Update – Report on Phase 1** pg 71
That the GVS&DD Board authorize staff to proceed with the next phase of the engagement process to update the Liquid Waste Management Plan, as outlined in the report dated March 23, 2022, titled "Liquid Waste Management Plan Review and Update – Report on Phase 1".

5.8 Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 351, 2022 – Vancouver Sewerage Area and Fraser Sewerage Area Map Administrative Correction *pg 108*

That the GVS&DD Board:

- a) give first, second and third reading to the *Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 351, 2022*; and,
- b) pass, and finally adopt the *Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 351, 2022*.

5.9 Award of Contract Resulting from RFP No. 21-283: Program Management Consulting Services for the Iona Island Wastewater Treatment Plant Projects *pg 121*

That the GVS&DD Board:

- a) approve the award of contract resulting from Request for Proposal No. 21-283: Program Management Consulting Services for the Iona Island Wastewater Treatment Plant Projects to Stantec Consulting Ltd., in an amount of up to \$99,500,000 (exclusive of taxes) over five years, subject to final review by the Commissioner; and
- b) authorize the Commissioner and Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

5.10 Manager's Report *pg 126*

That the Liquid Waste Committee receive for information the report dated March 25, 2022 titled "Manager's Report".

6. INFORMATION ITEMS

7. OTHER BUSINESS

8. BUSINESS ARISING FROM DELEGATIONS

9. RESOLUTION TO CLOSE MEETING

Note: The Committee must state by resolution the basis under section 90 of the Community Charter on which the meeting is being closed. If a member wishes to add an item, the basis must be included below.

That the Liquid Waste Committee close its regular meeting scheduled for April 13, 2022 pursuant to the *Community Charter* provisions, Section 90 (1) (e) as follows:

"90 (1) *A part of a board meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:*

- (e) *the acquisition, disposition or expropriation of land or improvements, if the board or committee considers that disclosure could reasonably be expected to harm the interests of the regional district."*

10. ADJOURNMENT/CONCLUSION

That the Liquid Waste Committee adjourn/conclude its regular meeting of April 13, 2022.

Membership:

Stewart, Richard (C) - Coquitlam
Dominato, Lisa (VC) - Vancouver
Calendino, Pietro - Burnaby
Elford, Doug - City of Surrey

Ferguson, Steve - Langley Township
Little, Mike - North Vancouver District
Loo, Alexa - Richmond
McDonald, Bruce - Delta

McEwen, John - Anmore
Trentadue, Mary - New Westminster
Walker, Darryl - White Rock

**METRO VANCOUVER REGIONAL DISTRICT
LIQUID WASTE COMMITTEE**

Minutes of the Regular Meeting of the Metro Vancouver Regional District (MVRD) Liquid Waste Committee held at 1:02 p.m. on Wednesday, March 9, 2022 in the 28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia.

MEMBERS PRESENT:

Chair, Mayor Richard Stewart, Coquitlam
 Vice Chair, Councillor Lisa Dominato*, Vancouver (arrived at 1:05 p.m.)
 Councillor Pietro Calendino*, Burnaby
 Councillor Doug Elford*, Surrey
 Councillor Steve Ferguson, Langley Township
 Mayor Mike Little*, North Vancouver District
 Councillor Alexa Loo, Richmond
 Councillor Bruce McDonald*, Delta
 Mayor John McEwen*, Anmore
 Mayor Darryl Walker*, White Rock

MEMBERS ABSENT:

Councillor Mary Trentadue, New Westminster

STAFF PRESENT:

Peter Navratil, General Manager, Liquid Waste Services
 Jerry W. Dobrovolny, Chief Administrative Officer
 Natalia Melnikov, Legislative Services Coordinator, Board and Information Services

1. ADOPTION OF THE AGENDA

1.1 March 9, 2022 Regular Meeting Agenda

It was MOVED and SECONDED

That the Liquid Waste Committee adopt the agenda for its regular meeting scheduled for March 9, 2022 as circulated.

CARRIED

*denotes electronic meeting participation as authorized by Section 3.6.2 of the *Procedure Bylaw*

2. ADOPTION OF THE MINUTES

2.1 February 9, 2022 Regular Meeting Minutes

It was MOVED and SECONDED

That the Liquid Waste Committee adopt the minutes of its regular meeting held February 9, 2022 as circulated.

CARRIED

2.2 February 23, 2022 Special Meeting Minutes

It was MOVED and SECONDED

That the Liquid Waste Committee adopt the minutes of its special meeting held February 23, 2022 as circulated.

CARRIED

3. DELEGATIONS

No items presented.

4. INVITED PRESENTATIONS

No items presented.

5. REPORTS FROM COMMITTEE OR STAFF

5.1 Iona Island Wastewater Treatment Plant Projects – Project Definition Engagement Results

Report dated March 2, 2022, from Amanda McCuaig, Director, Communications, and Tom Sadleir, Program Manager, Community Engagement, External Relations, providing the Liquid Waste Committee with a summary of engagement activities and key issues raised during the project definition phase of the Iona Island Wastewater Treatment Plant Projects, for the GVS&DD Board consideration of the final conceptual design and project definition report, which are the subject of a separate report to the Liquid Waste Committee, dated March 2, 2022, titled “Iona Island Wastewater Treatment Plant Upgrade Projects – Project Definition and Conceptual Design Approval.

1:05 p.m. Vice Chair Dominato arrived to the meeting.

Members were provided a presentation on the Iona Island Wastewater Treatment Plant, outlining the conceptual design, community engagement results, including the collaborative meetings with the Musqueam First Nation.

In response to questions, members were informed that mitigation measures to address noise, dust and light have been put in place and further studies will be conducted during the conceptual design phase.

Presentation material titled “Iona Island Wastewater Treatment Plant Projects – Engagement Results” is retained with the March 9, 2022 Liquid Waste Committee agenda.

It was MOVED and SECONDED

That the GVS&DD Board receive for information the report dated March 2, 2022, titled “Iona Island Wastewater Treatment Plant Projects – Project Definition Engagement Results”.

CARRIED

5.2 Iona Island Wastewater Treatment Plant Upgrade Projects – Project Definition and Conceptual Design Approval (Stage Gate 1)

Report dated March 2, 2022, from Brett Young, Director, Major Projects, and Cheryl Nelms, General Manager, Project Delivery, providing the Liquid Waste Committee with an overview of the project definition and conceptual design for the Iona Island Wastewater Treatment Plant Project as presented in the report dated March 2, 2022, titled “Iona Island Wastewater Treatment Plant Projects – Project Definition and Conceptual Design Approval (Stage Gate 1)” for the GVS&DD Board approval.

Members were provided a presentation on the Iona Island Wastewater Treatment Plant upgrade projects outlining the Federal and Provincial regulatory requirements, a projected timeline and an overview of the delivery schedule, funding strategy, and conceptual design.

Presentation material titled “Iona Island Wastewater Treatment Plant Projects – Conceptual Design” is retained with the March 9, 2022 Liquid Waste Committee agenda.

It was MOVED and SECONDED

That the GVS&DD Board:

- a) approve the conceptual design for the Iona Island Wastewater Treatment Plant Upgrade Projects as developed through the project definition process and summarized in the report dated March 2, 2022 titled “Iona Island Wastewater Treatment Plant Upgrade Projects – Project Definition and Conceptual Design Approval (Stage Gate 1)”, with an estimated cost of \$9.9 billion, including escalation and risk reserve, subject to further stage gate approvals;
- b) direct staff to continue focused efforts to pursue funding from Provincial and Federal governments;
- c) direct staff to work collaboratively with member jurisdictions to confirm project cost allocations and rate impacts in accordance with *Greater Vancouver Sewerage and Drainage District Cost Apportionment Bylaw No. 283, 2014*; and,

- d) direct staff to finalize a funding and financing strategy for Board approval, and ensure capital expenditure cash flows for the Projects are updated and included in the annual budgeting process.

CARRIED

5.3 Development Cost Charge Review Process and Rate Amending Bylaw

Report dated March 1, 2022, from Joe Sass, Director, Financial Planning, Finance Services, providing the Liquid Waste Committee with an update on the GVS&DD Development Cost Charges rate review, summarizing feedback from public and First Nations consultation, and recommending the GVS&DD Board give three readings to *Greater Vancouver Sewerage and Drainage District Development Cost Charge Amending Bylaw No.353*.

Members were provided a presentation on the Development Cost Charges review process outlining the engagement activities, and a summary of the compiled feedback.

Presentation material titled “Development Cost Charges Review Process and Rate Amending Bylaw” is retained with the March 9, 2022 Liquid Waste Committee agenda.

It was MOVED and SECONDED

That the GVS&DD Board:

- a) approve the implementation of new Development Cost Charge rates, as proposed, and endorse the inclusion of interest costs directly related to those activities that are approved by the Inspector of Municipalities in the Development Cost Charge program; and
- b) give first, second and third reading to the *Greater Vancouver Sewerage and Drainage District Development Cost Charge Amending Bylaw No.353*; and
- c) direct staff to forward the *Greater Vancouver Sewerage and Drainage District Development Cost Charge Amending Bylaw No.353* to the Inspector of Municipalities for approval.

CARRIED

5.4 Development of a Wet Weather Pricing Approach

Report dated February 14, 2022, from Brent Burton, Division Manager, and Abin Antony, Program Manager, Planning and Analysis, Liquid Waste Services, providing the Liquid Waste Committee with an update on the development of an approach to incorporate wet weather pricing into cost apportionment for regional wastewater services and seeking early feedback on concept development.

Members were provided a presentation on the development of the Wet Weather Pricing Approach outlining the current cost allocation, and development of split dry and wet components in future years.

Presentation material titled “Development of a Wet Weather Pricing Approach” is retained with the March 9, 2022 Liquid Waste Committee agenda.

It was MOVED and SECONDED

That the Liquid Waste Committee receive for information the report dated February 14, 2022, titled “Development of a Wet Weather Pricing Approach”.

CARRIED

5.5 Greater Vancouver Sewerage and Drainage District Trucked Liquid Waste Amending Bylaw No. 352, 2022

Report dated February 16, 2022, from Dana Zheng, Program Manager, Policy, Planning and Analysis, Liquid Waste Services, seeking the GVS&DD Board’s adoption of the *Trucked Liquid Waste Amending Bylaw No. 352, 2022*.

It was MOVED and SECONDED

That the GVS&DD Board:

- a) give first, second and third reading to *Greater Vancouver Sewerage and Drainage District Trucked Liquid Waste Amending Bylaw No. 352, 2022*; and
- b) pass and finally adopt *Greater Vancouver Sewerage and Drainage District Trucked Liquid Waste Amending Bylaw No. 352, 2022*.

CARRIED

5.6 Out-of-Region Trucked Liquid Waste Discharge Requests

Report dated February 7, 2022, from Dana Zheng, Program Manager, Policy, Planning and Analysis, Liquid Waste Services, seeking GVS&DD Board’s authorization for staff to issue out-of-region discharge numbers to three generators for the continuing discharge of out-of-region Trucked Liquid Waste at GVS&DD Wastewater Treatment Plants.

It was MOVED and SECONDED

That the GVS&DD Board:

- a) authorize staff to issue an out-of-region discharge number for trucked liquid waste generated from wastewater treatment plants owned and operated by the Fraser Valley Regional District from June 1, 2022 to May 31, 2024 pursuant to *GVS&DD Trucked Liquid Waste Bylaw No. 345, 2021*;
- b) authorize staff to issue an out-of-region discharge number for trucked liquid waste generated from Correctional Service of Canada’s Kent and Mountain Institutions, Agassiz, BC from June 1, 2022 to December 31, 2022 pursuant to *GVS&DD Trucked Liquid Waste Bylaw No. 345, 2021*; and,
- c) authorize staff to issue an out-of-region discharge number for trucked liquid waste generated from Point Roberts, Washington, U.S. from June 1, 2022 to May 31, 2027 pursuant to *GVS&DD Trucked Liquid Waste Bylaw No. 345, 2021* as presented in the report dated February 7, 2022 titled “Out-of-Region Trucked Liquid Waste Discharge Requests”.

CARRIED

5.7 Contract Amendment of RFP No. 14-205 - Design Build Consulting Services for the Lions Gate Secondary Wastewater Treatment Plant to Design Consultant, Engineer of Record Service

Report dated March 4, 2022, from Cheryl Nelms, General Manager, Project Delivery, providing the Liquid Waste Committee with an update on the project and requesting GVS&DD Board's authorization to amend the contract with AECOM Canada Ltd. to assume the design consultant responsibilities for Phase 1 in an amount of up to \$15,000,000 (exclusive of taxes).

It was MOVED and SECONDED

That the GVS&DD Board:

- a) amend the contract resulting from RFP No. 14-205 - Design Build Consulting Services for the Lions Gate Secondary Wastewater Treatment Plant in an amount of up to \$15,000,000 (exclusive of taxes) to allow AECOM Canada Ltd. to become the design consultant for the project, subject to final review by the Commissioner; and
- b) authorize the Commissioner and Corporate Officer to execute the required documentation once the Commissioner is satisfied that the amendment should proceed.

CARRIED

5.8 Manager's Report

Report dated March 1, 2022, from Peter Navratil, General Manager, Liquid Waste Services, providing the Liquid Waste Committee with an update of the testing program of the COVID-19 virus in collected wastewater in the region.

It was MOVED and SECONDED

That the Liquid Waste Committee receive for information the report dated March 1, 2022 titled "Manager's Report".

CARRIED

6. INFORMATION ITEMS

6.1 2022 Liquid Waste Sustainability Innovation Fund Application

This report was considered by the Climate Action Committee at its meeting on February 11, 2022 and was approved by the Great Vancouver Sewerage and Drainage District Board at its meeting on February 25, 2022, and is being presented to the Liquid Waste Committee for information only.

7. OTHER BUSINESS

No items presented.

8. BUSINESS ARISING FROM DELEGATIONS

No items presented.

9. RESOLUTION TO CLOSE MEETING

No items presented.

10. ADJOURNMENT/CONCLUSION

It was MOVED and SECONDED

That the Liquid Waste Committee conclude its regular meeting of March 9, 2022.

CARRIED

(Time: 2:40 p.m.)

Natalia Melnikov,
Legislative Services Coordinator

Richard Stewart, Chair

51352989 FINAL

To: Liquid Waste Committee

From: Grant McGillivray, Environmental Control Officer, Environmental Regulation and Enforcement, Parks and Environment

Date: March 15, 2022 Meeting Date: April 13, 2022

Subject: **Appointment of Sewage Control Manager and Enforcement Officers**

RECOMMENDATION

That the GVS&DD Board:

- a) pursuant to the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw* and the *Environmental Management Act*:
 - i. rescind the appointments of former Metro Vancouver employee Ray Robb as a sewage control manager, and of Metro Vancouver employee Kathy Preston as a deputy sewage control manager;
 - ii. appoint Metro Vancouver employee Kathy Preston as a sewage control manager;
 - iii. rescind the appointments of former Metro Vancouver employees Toby Gritten, and Dan Saunders, and former City of Vancouver employee Ze Chen Liu as officers; and
 - iv. appoint Metro Vancouver employee Muhammad Ali as an officer.
- b) pursuant to Section 28 of the *Offence Act* for the purpose of serving summons for alleged violations under the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw*:
 - i. rescind the appointments of former Metro Vancouver employees Toby Gritten, and Dan Saunders, and former City of Vancouver employee Ze Chen Liu; and
 - ii. appoint Metro Vancouver employee Muhammad Ali.

EXECUTIVE SUMMARY

Recent changes in staff have resulted in a need to update staff appointments as GVS&DD Board-designated sewage control managers and officers under the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw*, the *Environmental Management Act* and the *Offence Act*. Staff recommend that the GVS&DD Board appoint staff and rescind appointments accordingly.

PURPOSE

To appoint and rescind appointments of Metro Vancouver and City of Vancouver employees as Board-designated sewage control managers and officers.

BACKGROUND

Metro Vancouver's Liquid Waste Regulatory Program supports the goals of the *Integrated Liquid Waste and Resource Management Plan* through regulation of the discharge of non-domestic wastes to the region's sanitary sewer systems.

Employment status changes for Metro Vancouver and City of Vancouver environmental regulatory staff have resulted in a need to update staff appointments to ensure appropriate authority to advance liquid waste management goals. Section 29 of the *Environmental Management Act* and the *Greater*

Vancouver Sewerage and Drainage District Sewer Use Bylaw No. 299, 2007 grants authority to Board-designated sewage control managers and officers.

ROLE OF THE SEWAGE CONTROL MANAGER

The sewage control manager has the same powers as a sewage control manager under the *Environmental Management Act* and is the primary statutory decision maker in the administration of *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw No. 299, 2007*. The sewage control manager's powers include the ability to issue permits, authorizations and orders under this bylaw.

ROLE OF MUNICIPAL SEWAGE CONTROL OFFICERS

Officers may enter property, inspect works, and obtain records and other information to promote compliance with the *Greater Vancouver Sewerage and Drainage District Liquid Waste Management bylaws*.

Metro Vancouver staff are responsible for the administration of the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw* within the boundaries of the GVS&DD. Within the City of Vancouver, City staff have historically administered the Bylaw. This arrangement has been in effect since the Bylaw was first enacted in 1990. A formal agreement between Metro Vancouver and the City of Vancouver was established to ensure that delivery of source control services by the City serves the interests of the GVS&DD and its taxpayers.

The *Offence Act* allows regional districts to appoint enforcement officers for the purpose of serving summons for bylaw violations. Officers, if appointed for that purpose, may serve a summons in respect of alleged offences under the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw No. 299, 2007*.

ALTERNATIVES

1. That the GVS&DD Board:

- a) pursuant to the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw* and the *Environmental Management Act*:
 - i. rescind the appointments of former Metro Vancouver employee Ray Robb as a sewage control manager, and of Metro Vancouver employee Kathy Preston as a deputy sewage control manager;
 - ii. appoint Metro Vancouver employee Kathy Preston as a sewage control manager;
 - iii. rescind the appointments of former Metro Vancouver employees Toby Gritten, and Dan Saunders, and former City of Vancouver employee Ze Chen Liu as officers; and
 - iv. appoint Metro Vancouver employee Muhammad Ali as an officer.
- b) pursuant to Section 28 of the *Offence Act* for the purpose of serving summons for alleged violations under the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw*:
 - i. rescind the appointments of former Metro Vancouver employees Toby Gritten, and Dan Saunders, and former City of Vancouver employee Ze Chen Liu; and
 - ii. appoint Metro Vancouver employee Muhammad Ali.

2. That the GVS&DD Board receive for information the report dated March 15, 2022, titled "Appointment of Sewage Control Manager and Enforcement Officers" and provide alternative direction to staff.

FINANCIAL IMPLICATIONS

There are no financial implications as the GVS&DD appointees are already on staff, and there are no expenditures for rescindments.

CONCLUSION

Recent changes in staff have resulted in a need to update staff appointments as GVS&DD Board-designated sewage control manager and officers under the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw*, the *Environmental Management Act*, and the *Offence Act*. Staff recommend Alternative 1.

50426473

To: Liquid Waste Committee

From: Peter Navratil, General Manager, Liquid Waste Services
Brant Arnold-Smith, Program Manager, Security & Emergency Management

Date: March 11, 2022 Meeting Date: April 13, 2022

Subject: **Regional Public Works Mutual Aid Agreement**

RECOMMENDATION

That the GVS&DD Board authorize the Board Chair and Chief Administrative Officer to sign the new Regional Public Works Mutual Aid Agreement.

EXECUTIVE SUMMARY

A major emergency or other serious incident affecting one or more Local Authorities or Regional Authorities is more and more likely to affect the Metro Vancouver region given the impacts of climate change and the ever present seismic risk. The current GVRD Public Works Mutual Aid Agreement dated February 8, 2000 requires modernizing as several jurisdictions, such as Anmore, Belcarra, Bowen Island, Tsawwassen First Nation, Lions Bay, UBC/UEL, MVRD, GVS&DD and GVWD are not party to the agreement, and would like to be included. The new Regional Public Works Mutual Aid Agreement improves on the agreement from 2000 and is intended to set the terms and conditions for sharing resources, during a coordinated and supportive response.

The new Agreement has undergone extensive consultation through a number of municipal advisory committees, most notably, the Regional Administrators Advisory Committee, who unanimously endorsed the final version of the agreement. Over the next 6 months, Boards and Councils around the region will be given the opportunity to sign the agreement. Once completed, the February 8, 2000 agreement will be repealed.

Staff recommend that the GVS&DD become a signatory.

PURPOSE

The new Regional Public Works Mutual Aid Agreement's (Attachment 1) purpose is to allow for mutual support, aid and assistance to be provided by members to ensure that Public Works are maintained in the event of an emergency or other serious incident. Local Authorities are required under the *Local Authority Emergency Management Regulation* to identify the procedures by which emergency resources, including, without limitation, personnel, equipment and facilities, may be obtained from sources within or outside of the jurisdictional area for which the Local Authority has responsibility.

Resources are intended to be available in the event of a major emergency of such magnitude that it is likely to be beyond the capability of a single Local Authority or Regional Authority and requires the combined resources of several or all the Local Authorities and Regional Authorities in the Agreement. This Agreement shall not supplant, without mutual consent, existing agreements between the Parties

for the exchange or provision of resources on a reimbursable, exchange, or other basis.

BACKGROUND

The current GVRD Public Works Mutual Aid Agreement signed February 8, 2000 (Attachment 2) excludes a number of jurisdictions who would now like to participate. The recent events of the pandemic and extreme flooding in the fall of 2021, along with the ever present seismic risks in the region have highlighted the benefits of mutual aid.

The proposed new Agreement modernizes terms, improves indemnification clauses and opens the Agreement up to all Metro Vancouver members including the MVRD, GVWD and GVS&DD.

AGREEMENT PRINCIPLES

The Regional Public Works Mutual Agreement is designed with the following principles:

- Voluntary support based on each jurisdiction's situation
- Call your neighbours first
- Responders take direction from Requestors
- Costs will be based on Responders "rates of the day" with a 10% overhead allowance added
- All parties are expected to maintain sufficient insurance
- Provision included for Joinder Agreements

ADVISORY COMMITTEE ENGAGEMENT

Since the fall of 2021, staff have engaged with several advisory committees (each committee multiple times) including the Regional Emergency Planners Committee (REPC), the Regional Engineers Advisory Committee (REAC) and the Regional Administrators Advisory Committee (RAAC) to obtain their feedback and input on the proposed new Agreement.

Most of the advisory committees' comments focused on whether the agreement maintains 'task eligibility' with the Province, definitions within the agreement, whether or not to include overhead on costs and finally indemnification.

All of the comments have been taken into account and reviewed by in-house and external legal advice.

In the final briefing to RAAC, they voted unanimously to endorse the agreement.

LEGAL IMPLICATIONS

The local government Councils and Board of the Metro Vancouver Regional District (with respect to Electoral Area A) are "local authorities" within the meaning of the *Emergency Program Act*, [RSBC 1996] Chapter 111. Local Authorities are required under the *Local Authority Emergency Management Regulation* [B.C. Reg. 380/95] to identify the procedures by which emergency resources, including, without limitation, personnel, equipment and facilities may be obtained from sources within or outside of the jurisdictional area for which the Local Authority has responsibility.

The *Local Authority Emergency Management Regulation* [BC Reg. 380/95], states a Local Authority may enter into mutual aid agreements for resources and subsequent cost recovery outside of the jurisdictional area for which the Local Authority has responsibility.

The *Local Government Act* [RSBC 2015, Chapter 1], a board of a regional district has the statutory authority to enter into mutual aid agreements with a Local Authority.

The *Greater Vancouver Sewerage and Drainage District Act* [SBC 1956, Chapter 59] and the *Greater Vancouver Water District Act* [SBC 1924, Chapter 22], the GVS&DD and the GVWD, respectively, have the statutory authority to enter into mutual aid agreements with Local Authorities.

The *University Endowment Land Act* [RSBC 1996 Ch. 469], the Minister of Municipal Affairs has the authority to enter into agreements respecting the administration of the University Endowment Land.

ALTERNATIVES

1. That the GVS&DD Board authorize the Board Chair and Chief Administrative Officer to sign the new Regional Public Works Mutual Aid Agreement.
2. That the GVS&DD Board receive for information the report dated March 11, 2022 titled “Regional Public Works Mutual Aid Agreement” and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

There are no additional financial implications associated with the agreement or its ongoing maintenance. This was accomplished by using each jurisdiction’s ‘rates of the day’ as a way to avoid annual updates to lists for labour, material and equipment rates. A key objective was to develop a simple, and easy to apply agreement that could be activated efficiently by any signatory.

CONCLUSION

Staff recommend Alternative 1, that the GVS&DD Board sign as a signatory to the new Regional Public Works Mutual Aid Agreement. The Agreement will allow for a coordinated and supportive response during a major emergency or other serious incident affecting one or more Local Authorities or Regional Authorities within the Metro Vancouver region.

Attachments

1. Regional Public Works Mutual Aid Agreement
2. GVRD Public Works Mutual Aid Agreement signed February 8, 2000

51295837

REGIONAL PUBLIC WORKS MUTUAL AID AGREEMENT

This Agreement is made as of the ____ day of _____ 2022,

AMONG:

- 1) Village of Anmore
- 2) Village of Belcarra
- 3) Bowen Island Municipality
- 4) City of Burnaby
- 5) City of Coquitlam
- 6) City of Delta
- 7) City of Langley
- 8) Township of Langley
- 9) Village of Lions Bay
- 10) City of Maple Ridge
- 11) City of New Westminster
- 12) City of North Vancouver
- 13) District of North Vancouver
- 14) City of Pitt Meadows
- 15) City of Port Coquitlam
- 16) City of Port Moody
- 17) City of Richmond
- 18) City of Surrey
- 19) Tsawwassen First Nation
- 20) City of Vancouver
- 21) District of West Vancouver
- 22) City of White Rock
- 23) Metro Vancouver Regional District (as to Electoral Area A)
- 24) Greater Vancouver Sewerage and Drainage District
- 25) Greater Vancouver Water District
- 26) Her Majesty the Queen in Right of the Province of British Columbia, as represented by the Minister of Municipal Affairs (as to the University Endowment Land)
- 27) University of British Columbia

WHEREAS:

- A. Capitalized terms used in these recitals and this Agreement have the meanings ascribed to them in Section 1.0;
- B. The local government councils and board of the Metro Vancouver Regional District (with respect to Electoral Area A) are “local authorities” within the meaning of the *Emergency Program Act*, [RSBC 1996] Chapter 111;
- C. Local Authorities are required under the *Local Authority Emergency Management Regulation* [B.C. Reg. 380/95] to identify the procedures by which emergency resources, including personnel, equipment and facilities may be obtained from sources within or outside of the jurisdictional area

for which the Local Authority has responsibility;

- D. A Major Emergency affecting one or more Local Authorities or Regional Authorities is likely to affect the Metro Vancouver region as a whole and as such, the Parties agree that it is in the best interests for the Parties to implement a coordinated and supportive response;
- E. Pursuant to the *Local Authority Emergency Management Regulation* [BC Reg. 380/95], a Local Authority may enter into mutual aid agreements for Resources and subsequent cost recovery outside of the jurisdictional area for which the Local Authority has responsibility;
- F. Pursuant to the *Local Government Act* [RSBC 2015, Chapter 1], a board of a regional district has the statutory authority to enter into mutual aid agreements with a Local Authority;
- G. Pursuant to the *Greater Vancouver Sewerage and Drainage District Act* [SBC 1956, Chapter 59] and the *Greater Vancouver Water District Act* [SBC 1924, Chapter 22], the GVS&DD and the GVWD, respectively, have the statutory authority to enter into mutual aid agreements with Local Authorities;
- H. Pursuant to the *University Endowment Land Act* [RSBC 1996 Ch. 469], the Minister of Municipal Affairs has the authority to enter into agreements respecting the administration of the University Endowment Land;
- I. Pursuant to the *University Act* [RSBC 1996 Ch. 468], the Board of Governors of the University of British Columbia has the authority to enter into agreements on behalf of the university; and
- J. The Parties desire to enter into this Agreement for the purposes of providing for mutual support, aid and assistance to, among other things, ensure that Public Works are maintained in the event of a Major Emergency.

NOW THEREFORE in consideration of the premises and of the sum of \$10.00 and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, each of the above signing Parties hereto covenant and agree with each other as follows:

1.0 Definitions

In this Agreement, unless something in the subject matter or context is inconsistent therewith, the capitalized terms herein will have the meanings set out below:

- (a) **“Agreement”** means this agreement and includes all recitals and schedules to this agreement;
- (b) **“Authorized Representative”** means the representative of the Local Authority or Regional Authority authorized by the municipal council, regional board, Minister of Municipal Affairs or Board of Governors of the University of British Columbia, as applicable, to coordinate, allocate, and prioritize assistance under the terms of this Agreement.
- (c) **“Computer System”** means any computer, hardware, software, communications system, electronic device, server, cloud, or microcontroller, including similar system or any configuration of the aforementioned and including any associated input, output, data

storage device, networking equipment or back up facility.

- (d) **“Cyber Attack”** means an attempt to disrupt, disable, destroy or maliciously control a Computer System and includes, without limitation, an attempt to destroy the integrity of data or to steal controlled information.
- (e) **“Disaster”** means a calamity that:
 - (i) is caused by accident, fire, explosion or technical failure or by the forces of nature; and
 - (ii) has resulted in serious harm to the health, safety or welfare of people, or in widespread damage to property.
- (f) **“Effective Date”** has the meaning given in Section 9.1;
- (g) **“Emergency”** means a present or imminent event or circumstance that:
 - (i) is caused by accident, fire, explosion, pandemic, technical failure or the forces of nature; and
 - (ii) requires prompt coordination of action or special regulation of persons or property to protect the health, safety or welfare of a person or to limit damage to property.
- (h) **“GVS&DD”** means the Greater Vancouver Sewerage and Drainage District;
- (i) **“GVWD”** means the Greater Vancouver Water District;
- (j) **“Joinder Agreement”** means an agreement substantially in the form attached hereto as Schedule “A”, pursuant to which a New Party agrees to join and be bound by the terms of this Agreement;
- (k) **“Local Authority”** means:
 - (i) for a municipality, the municipal council; and
 - (ii) for an electoral area in a regional district, the board of the regional district;

and for the purposes of this Agreement includes the following parties who are not are “local authorities” within the meaning of the *Emergency Program Act*, [RSBC 1996] Chapter 111:

 - (iii) for the University Endowment Lands, the Minister of Municipal Affairs; and
 - (iv) for the University of British Columbia, its Board of Governors.
- (l) **“Major Emergency”** means an Emergency, Disaster or Other Serious Incident that involves one or more Local Authorities or Regional Authorities and requires resources beyond the capability of one or more of the Local Authorities or Regional Authorities

involved.

- (m) **“New Party”** has the meaning given in Section 9.3 below.
- (n) **“Other Serious Incident”** means any sudden, unexpected, or unintended incident, other than a Disaster or Emergency, and including a Cyber Attack, for which a Local Authority or Regional Authority may require assistance to protect the health, safety or welfare of a person or to limit damage to Public Works or other property.
- (o) **“Parties”** means those parties who have signed this Agreement or a Joinder Agreement, and **“Party”** means any one of them.
- (p) **“Public Works”** means any work or property under the management or control of the Local Authority or Regional Authority, including but not limited drinking water, wastewater waste management services, transportation systems and networks and Computer Systems.
- (q) **“Regional Authority”** means the Board of the GVS&DD or the Board of the GVWD.
- (r) **“Requesting Authority”** means a Requesting Local Authority or Requesting Regional Authority, as the case may be.
- (s) **“Requesting Authority’s Personnel”** includes any elected officials, officers, employees or affiliated volunteers of a Requesting Authority.
- (t) **“Requesting Local Authority”** means a Local Authority under a Major Emergency situation that has, pursuant to this Agreement, requested assistance from another Local Authority or Regional Authority.
- (u) **“Requesting Regional Authority”** means a Regional Authority under a Major Emergency situation that has, pursuant to this Agreement, requested assistance from another Local Authority or Regional Authority.
- (v) **“Resources”** means a Local Authority’s personnel, equipment, facilities, services and materials that are available or potentially available for utilization to ensure that Public Works are maintained.
- (w) **“Responding Authority”** means a Responding Local Authority or Responding Regional Authority, as the case may be.
- (x) **“Responding Authority’s Personnel”** includes any elected officials, officers, employees or affiliated volunteers of a Responding Authority.
- (y) **“Responding Local Authority”** means a Local Authority that provides Resources to a Requesting Authority that has, pursuant to this Agreement, requested assistance to confront a Major Emergency.
- (z) **“Responding Regional Authority”** means a Regional Authority that provides Resources to a Requesting Authority that has, pursuant to this Agreement, requested assistance to

confront a Major Emergency.

- (aa) **“Standby Expenses”** means compensation paid or owing to an employee not scheduled for normal work but who is required to be immediately available for call-in work.

2.0 Intent of the Agreement

- 2.1 This Agreement is intended to guide the sharing of Resources amongst Local Authorities and Regional Authorities when assistance has been requested during Major Emergency situations for which the sharing of Resources is required.
- 2.2 Resources are intended to be available in the event of a Major Emergency of such magnitude that it is, or is likely to be, beyond the capability of a single Local Authority or Regional Authority and requires the combined Resources of several or all of the Local Authorities and Regional Authorities to this Agreement.

3.0 Scope of the Agreement

- 3.1 Except as set out in Section 12.1 below, this Agreement shall not supplant, without mutual consent, existing agreements between the Parties for the exchange or provision of Resources on a reimbursable, exchange, or other basis.
- 3.2 Any activation of this Agreement under Section 4.0 will clearly state that the request for Resources is being made under this Agreement.

4.0 Activation

- 4.1 In the event of a Major Emergency, the Authorized Representative designated by the Requesting Authority may activate this Agreement by making a request for Resources to the Authorized Representative of one or more Parties to this Agreement.
- 4.2 If the Requesting Authority is a Local Authority, such Requesting Local Authority shall first request Resources from their bordering Local Authorities, before requesting Resources from more distant Local Authorities or from Regional Authorities.
- 4.3 If the Requesting Authority is a Regional Authority, the Requesting Regional Authority shall first request Resources from those Local Authorities adjacent to the location of the Major Emergency before requesting Resources from more distant Local Authorities.
- 4.4 Sections 4.2 and 4.3 shall not restrict a Requesting Authority from accepting the first available Resources from any Local Authority.

5.0 Resource Requests and Inventory

- 5.1 Each Party agrees that, in the event of a Major Emergency, it will, upon receipt of a written request from a Requesting Party, furnish such Resources as are available, provided that doing so would not unreasonably diminish the capacity of the Responding Authority to provide any required Resources to its own jurisdictional area. For certainty, the extent of the assistance given will be at the discretion of the Authorized Representative of the Responding Authority, having regard to

its own local needs and situation at the time.

- 5.2 The start date of the provision of Resources will be the date agreed to in writing by both the Requesting Authority and Responding Authority. The termination date for the provision of Resources will be determined by the Responding Authority and shall not exceed the end time of the Major Emergency, as agreed by the Responding Authority and Requesting Authority.
- 5.3 During a Major Emergency, all personnel from a Responding Authority shall report to and work under the direction of the Party within whose jurisdiction the Major Emergency is occurring, in cooperation with the Requesting Authority and any other Responding Authorities.
- 5.4 Each Party should maintain an inventory of Resources that may be made available in the event of a Major Emergency and share that inventory with its neighbouring Local Authorities and Regional Authorities.
- 5.5 If a request for Resources is made pursuant to this Agreement, the Requesting Party will, as necessary, make available to the Responding Authority:
 - (a) maps of its jurisdiction indicating the nearest and most suitable roads to enable responders to get to an emergency as quickly as possible, together with locations of water supplies and access thereto;
 - (b) applicable operating guidelines and communications protocols;
 - (c) a copy of the Requesting Authority's emergency plan; and
 - (d) names and contact information for the Requesting Authority's key personnel.

6.0 Reimbursement

- 6.1 The Requesting Authority will reimburse the Responding Authority for any actual costs incurred providing any Resources requested under this Agreement, plus a sum equal to 10% of those costs and expenses on account of the Responding Authority's overhead.
- 6.2 Without limiting the generality of Section 6.1, a Requesting Authority shall pay to the Responding Authority:
 - (a) Regular Time – Salaries, wages and other regular time employment expenses (including benefits and statutory deductions) of employees or affiliated volunteers, at the current prevailing rates of the Responding Authority.
 - (b) Overtime and Standby Expenses – Overtime employment expenses and Standby Expenses of employees or affiliated volunteers, at the current prevailing rates of the Responding Authority. There is no compensation for banked time of employees.
 - (c) Supplies and Materials – Value of supplies or other materials which are not returnable to the Responding Authority. All charges will be at current market rates or at rates otherwise agreed to. Supplies or materials may be replaced with like supplies or materials, if agreed to by the Responding Authority.

- (d) Equipment – Compensation for the use of equipment, vehicles, computers, or other hardware owned outright by the Responding Authority. Equipment reimbursement rates shall be at a rate agreed to by the Requesting Authority and Responding Authority for vehicles or other equipment. If a rate cannot be agreed, the rate will at the British Columbia standard for equipment reimbursement, as represented by the Blue Book – BC Equipment Rental Rate Guide. The Requesting Authority shall be responsible for the operating costs of equipment provided, including costs of repairs required as a result of the Requesting Authority's use, while in its possession. For certainty, a Requesting Authority is not responsible for the costs of equipment repairs that would have been undertaken by the Responding Authority as a matter of routine repair or maintenance.
 - (e) Facilities – Compensation for the use of Responding Authority facilities. Reimbursement rates will be at the prevailing rate on the day the facility is rented, leased or otherwise made available to the Requesting Authority.
- 6.3 The Requesting Authority's obligation to reimburse the Responding Authority pursuant to this Agreement is irrespective of the Requesting Authority's entitlement to compensation or funding received from Emergency Management BC or any other funding agencies. Accordingly, the Requesting Authority will be responsible for any shortfall in any amounts payable by the Requesting Authority pursuant to this Agreement and any cost recovery by the Requesting Authority from Emergency Management BC or other funding agency.
 - 6.4 The Requesting Authority shall be responsible for any loss or damage to Resources used in the response and shall pay any expense incurred in the operation and maintenance thereof, as well as any expense incurred in the provision of a service or other expense in answering the request for assistance from the Requesting Authority. An itemized claim for loss and damage to the Responding Authority's equipment at the response scene shall be filed within thirty (30) days of such loss or damage occurring.
 - 6.5 All Resources noted in Subsections 6.2(d) and (e) provided to a Requesting Authority shall be returned in the same condition as when such Resources were delivered to the Requesting Authority. These Resources shall be deemed to be provided in good working order, unless otherwise noted by the Responding Authority at the time of delivery.
 - 6.6 The Requesting Authority will arrange for and pay for all costs associated with any necessary repairs or restoration of Resources prior to returning such Resources to the Responding Authority. For certainty, a Requesting Authority is not responsible for the costs of repairs or restoration that would have been undertaken by the Responding Authority as a matter of routine repair or maintenance.
 - 6.7 The Responding Authority will invoice the Requesting Authority detailing all costs incurred in providing Resources under this Agreement, including all overhead amounts referred to in Section 6.1. Payment of such invoices by the Requesting Authority is due in full sixty (60) days from the date of invoice, unless alternate arrangements have been made between the Requesting Authority and Responding Authority or the invoice is in dispute, as contemplated in Section 6.9.
 - 6.8 Payment by the Requesting Authority will be by cheque mailed to the Responding Authority's address, as detailed in the invoice, or if the Responding Authority and Requesting Authority mutually agree, payment may be transferred electronically to the Responding Authorities' bank

account, as stipulated by the Responding Authority.

- 6.9 If a dispute ensues with respect to an invoice issued by a Responding Authority pursuant to Section 6.7, the Parties to the dispute will use best efforts to resolve the dispute as soon as possible in accordance with the dispute resolution process provided in Section 10.0.
- 6.10 The Parties acknowledge and agree that they are each individually responsible for staying apprised of the financial guidelines and eligibility requirements of Emergency Management BC and any other funding agencies related to potential cost recovery that may be available from such agencies in respect of any Resources provided under this Agreement.

7.0 Insurance, Liability and Indemnity

- 7.1 The Parties agree to obtain and maintain sufficient insurance to meet any obligations or liabilities that may arise in connection with this Agreement. Notwithstanding the foregoing, the Parties acknowledge and agrees that they each may self-insure part or all of the risks, subject always to equivalent terms and conditions as though such policies were obtained from licensed commercial insurers.
- 7.2 Any required insurance coverage pursuant to this Agreement will be arranged prior to the acceptance of the request for Resources under this Agreement.
- 7.3 When rendering aid outside their jurisdictional area, all personnel and affiliated volunteers will retain the same powers, duties, rights, privileges and immunities, including any coverage under the *Worker's Compensation Act* that they receive when they are on duty in their home jurisdiction.
- 7.4 A Requesting Authority shall pay to the Responding Authority:
- (a) the Workers' Compensation, death or disability benefits or any other form of compensation (including judgements, damages, costs, penalties and expenses) which the Responding Authority is legally obligated to pay to one of its employees or affiliated volunteers or the family or beneficiaries of such employees or volunteers by reason of the death or injury to an employee or volunteer while working on a Major Emergency on behalf of the Requesting Authority; and
 - (b) all legal fees and disbursements incurred by the Responding Authority to defend any demands, claims, suits or actions arising from, related to or caused by any death or injury to an employee or volunteer while working on a Major Emergency on behalf of the Requesting Authority.
- 7.5 The Requesting Authority shall in no way be deemed liable or responsible for the personal property of Responding Authority Personnel which may be lost, stolen, or damaged while performing their duties in responding under the terms of this Agreement.
- 7.6 No Party to this Agreement shall be liable in damages to another Party, nor to the owner of property within the geographic jurisdiction of the Requesting Authority or another Party for failing to respond to a request for assistance under this Agreement or for failing to render adequate assistance.

- 7.7 When Resources are provided by a Responding Authority to a Requesting Authority pursuant to this Agreement, the Requesting Authority shall release, indemnify and save harmless the Responding Authority and the Responding Authority's Personnel from and against all liabilities, claims, losses, suits, actions, judgments, demands, debts, accounts, damages, costs, penalties and expenses (including all legal fees and disbursements) which may be made against the Responding Authority, or which the Responding Authority may suffer or incur, arising from, related to or caused by:
- (a) the provision of Resources by the Responding Authority to the Requesting Authority under this Agreement;
 - (b) the breach, violation, contravention or non-performance by the Requesting Authority of any of its obligations, agreements, covenants, conditions, representations, warranties or any other term of this Agreement; or
 - (c) the negligence or misconduct of the Requesting Authority's Personnel acting in the course of their duties pursuant to this Agreement,

except where such liabilities, claims, losses, suits, actions, judgments, demands, debts, accounts, damages, costs, penalties and expenses (including all legal fees and disbursements) result from the negligence or misconduct of the Responding Authority's Personnel under this Agreement. The indemnities contemplated in this Section 7.7 will survive the termination or expiration of this Agreement or a Party's withdrawal from the Agreement pursuant to Section 9.2.

- 7.8 Subject to Section 7.7 above, the Responding Authority will not be liable or responsible in any way for all liabilities, claims, losses, suits, actions, judgments, demands, debts, accounts, damages, costs, penalties and expenses (including all legal fees and disbursements) which may be made against the Requesting Authority, or which the Requesting Authority may suffer or incur, including any personal injury that may be sustained by the Requesting Authority's Personnel, or by any other person, or for any loss or damage or injury to, property belonging to or in the possession of the Requesting Authority or the Requesting Authority's Personnel or any other person, including any equipment, materials, supplies, motor or other vehicles, arising from, related to or caused by the provision of Resources by the Responding Authority to the Requesting Authority under this Agreement, unless such liabilities, claims, losses, suits, actions, judgments, demands, debts, accounts, damages, injuries, costs, penalties and expenses (including all legal fees and disbursements) result from the negligence or misconduct of the Responding Authority or the Responding Authority's Personnel while acting in the course of their duties pursuant to this Agreement.

8.0 Modification and Review

- 8.1 This Agreement may only be amended upon the written consent of all signing Parties.
- 8.2 This Agreement may be reviewed by the Parties:
- (a) every five years, starting from the Effective Date, to ensure that it remains up to date and relevant for all Parties; or
 - (b) any time upon the written request of any Party.

- 8.3 The master copy of this Agreement, together with any Joinder Agreements, will be held by the Metro Vancouver Regional District and will be made available electronically to all Parties upon request.

9.0 Effective Date, Term and Addition of Parties

- 9.1 This Agreement shall come into effect as soon as it has been executed by two Parties (the “**Effective Date**”).
- 9.2 Any one of the Parties hereto may withdraw from this Agreement by giving not less than thirty (30) days prior written notice to the other Parties, following which the Agreement shall continue in force between the remaining Parties.
- 9.3 A Governmental Authority may be added as a new party (a “**New Party**”) to this Agreement if such New Party executes and delivers to the Metro Vancouver Regional District a Joinder Agreement substantially in the form of Schedule “A” attached hereto. “**Governmental Authority**” means any federal, provincial, regional, municipal, local or other government, governmental or public department, authority, commission, council, board, bureau or agency.

10.0 Dispute Resolution

- 10.1 In the event of any dispute or material disagreement among two or more Parties regarding the interpretation or application of any provision of this Agreement, the Parties agree that:
- (a) the Parties, through their Authorized Representatives, will, in good faith, make all reasonable efforts to resolve the dispute by negotiation, during which time each Party will disclose to the other Party all relevant information relating to the dispute;
 - (b) if the dispute remains unresolved, the Parties will meet with a qualified mediator in a timely manner and attempt, in good faith, to further negotiate a resolution of such dispute; and
 - (c) if the mediator cannot resolve the dispute within 48 hours, then the dispute will, unless otherwise agreed by the Parties, either:
 - (i) be resolved in accordance with Division 3 of Part 9 of the *Community Charter*, [SBC 2003] Chapter 26; or
 - (ii) for any dispute involving a Party to which Division 3 of Part 9 of the *Community Charter*, [SBC 2003] Chapter 26 does not apply, be submitted to final and binding arbitration by a sole arbitrator appointed pursuant to the *Arbitration Act* (British Columbia).

11.0 Approvals

- 11.1 The Parties signify their approval of this Agreement by the signatures of their respective authorized representatives below.

12.0 **General Provisions**

12.1 **Schedules.** Schedule “A” is attached to and forms part of this Agreement.

12.2 **Interpretation.**

- (a) The words “include”, “includes” and “including” as used in this Agreement shall be deemed to be followed by the phrase “, without limitation,”.
- (b) The captions and headings contained in this Agreement are for convenience only and do not define or in any way limit or enlarge the scope or intent of any provision of this Agreement.

12.3 **Survival of Obligations.** All of the obligations of the Parties which expressly or by their nature survive termination or expiration of this Agreement, will continue in full force and effect subsequent to and notwithstanding such termination or expiration and until they are satisfied or by their nature expire.

12.4 **Amendment.** No amendment of this Agreement will be binding unless made in writing and executed by each of the Parties hereto.

12.5 **Entire Agreement.** This Agreement constitutes the entire agreement amongst the Parties with respect to the subject matter hereof and for certainty this Agreement supersedes the “Mutual Aid Agreement for Public Works Assistance” that was prepared by the Metro Vancouver Regional Engineers Advisory Committee in 2000 and entered into by participating Local Authorities.

12.6 **Governing Law.** This Agreement and any dispute arising out of or in connection with this Agreement will be governed exclusively in accordance with the laws of British Columbia and the laws of Canada applicable in British Columbia which will be deemed to be the proper law of this Agreement.

12.7 **Severability.** Each provision of this Agreement is intended to be severable and if any provision is determined by a court of competent jurisdiction to be illegal or invalid or unenforceable for any reason whatsoever, such provision shall be severed from this Agreement and will not affect the legality or enforceability of the remainder of any other provision of this Agreement.

12.8 **Time of Essence.** Time shall be of the essence of this Agreement.

12.9 **No Derogation.** The Parties acknowledge and agree that nothing contained or implied in this Agreement will be construed as limiting or prejudicing the rights and powers of any Party in the exercise of their respective functions pursuant to the *Local Government Act*, the *Community Charter*, the *Vancouver Charter* and the *Emergency Program Act*, as the case may be, or any other right or power under any public or private statutes, bylaws, orders or regulations, all of which may be fully exercised as if this Agreement had not been entered into.

12.10 **Assignment.** This Agreement shall not be assignable.

12.11 **Counterparts.** This Agreement may be executed in counterparts and returned by email with a PDF attachment, each of which when executed and delivered shall constitute an original and all of which together shall constitute one and the same Agreement.

IN WITNESS WHEREOF this Agreement has been executed and delivered by the Parties as of the day and year first above written.

Village of Anmore

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

Village of Belcarra

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

Bowen Island Municipality

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of Burnaby

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of Coquitlam

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of Delta

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of Langley

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

Township of Langley

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

Village of Lions Bay

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of Maple Ridge

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of New Westminster

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of North Vancouver

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

District of North Vancouver

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of Pitt Meadows

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of Port Coquitlam

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City of Port Moody

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City of Richmond

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Authorized Signatory

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Authorized Signatory

City of Surrey

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

Tsawwassen First Nation

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of Vancouver

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

District of West Vancouver

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

City of White Rock

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

Metro Vancouver Regional District

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

Greater Vancouver Sewer and Drainage District

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

Greater Vancouver Water District

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

**Her Majesty the Queen in Right of the Province of British Columbia, as represented by
the Minister of Municipal Affairs**

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

University of British Columbia

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

SCHEDULE "A"

JOINDER AGREEMENT

This Joinder Agreement is made as of the ____ day of _____.

Pursuant to and in accordance with Section 9.3 of the Regional Mutual Agreement for Major Emergencies made as of the ____ day of _____ (the "**Mutual Aid Agreement**") *[insert name of new party joining the Agreement]* hereby acknowledges and agrees that *[insert name of new party joining the Agreement]* has received and reviewed a complete copy of the Mutual Aid Agreement and shall be fully bound by, and subject to, all of the terms and conditions of the Mutual Aid Agreement as though it were an original party thereto.

[insert name of new party]

Per: _____
Authorized Signatory

Per: _____
Authorized Signatory

Appendix A

WHEREAS the Parties desire to enter into an Agreement whereby Public Works resources can be deployed to assist any Party during an emergency.

NOW THEREFORE THIS AGREEMENT WITNESSES THAT, in consideration of the mutual covenants and agreements herein contained and subject to the terms and conditions hereinafter set out, the Parties agree as follows:

1. In this Agreement, unless the context otherwise requires,
 - a) **“emergency”** means any present or imminent calamity or sudden or violent disturbance that in the opinion of the City Engineer cannot be brought under control by the use of the available local resources and that requires prompt co-ordination of action or special regulation of persons or property to protect the health, safety or welfare of people, or to limit property damage;
 - b) **“emergency resources”** means all persons, services, equipment and materials held by, or directly available to, the Public Works Services of a Party;
 - c) **“City Engineer”** means, for each Party, the senior municipal employee responsible for the Public Works Services of that Party or his delegate.
2. The procedure to be followed in requesting and rendering aid under this Agreement shall be governed by the following principles, namely:
 - a) A City Engineer will attempt to fully utilize the emergency resources of his bordering Parties before requesting emergency resources from more distance Parties except where special equipment is not available from the bordering Parties.
 - b) Where a City Engineer determines that an emergency exists, he shall request emergency resources from the appropriate Party.
 - c) A City Engineer who receives a request for emergency resources from another Party may determine the extent of and duration for which the emergency resource are available and thereupon such emergency resources, if any are available, shall be dispatched and utilized to control the emergency; but nothing in this Agreement shall be construed to require a City Engineer to dispatch emergency resources.
 - d) The Person in Charge of emergency resources sent to assist in an emergency shall remain in charge of those resources and control and direct those resources in co-operation with the requesting City Engineer.
3. The Parties agree to consult on a regular basis through their City Engineer on the best ways to achieve the optimum deployment of emergency resources to control emergencies.
4. When a Party provides emergency resources:

- a) the Party providing emergency resources may, within sixty days after so doing, render to the Party that requested emergency resources a correct account of the cost of the service.
 - b) the Party that requested emergency resources shall pay the account within thirty days after receiving it.
 - c) Payment for emergency services would be on a cost recovery basis without overhead or profit.
5. Any Party may terminate its rights and responsibilities under this Agreement by giving to the City Clerk of the other Parties, thirty days notice in writing of its intention to do so.
6. This Agreement is not intended to interfere with or supersede any existing written agreements between the parties.
7. Subject to paragraph 8, each party to this Agreement covenants and agrees that it will not initiate legal action or third party proceedings against any other party to this Agreement, based on provision or failure to provide emergency resources. In any action arising from the provision or failure to provide emergency resources, the municipality where the incident requiring emergency resources occurred, shall (a) defend the action on behalf of itself and any other parties to this Agreement who are defendants in the action, and (b) indemnify and save harmless the other parties for liabilities which may result.
8. Any claims as between the Parties to this Agreement arising out of gross or willful negligence in the provision or failure to provide emergency resources or any dispute arising respecting a Party's rights or obligations shall be referred to and finally resolved by arbitration under the rules of the British Columbia International Commercial Arbitration Centre and shall be administered in accordance with its "Procedures for Cases under the BCIAC Rules". Provided the arbitrator in this procedure is satisfied that the dispute arises from gross or willful negligence, the arbitrator has jurisdiction to provide relief against the indemnity in paragraph 7 and may allocate responsibility among the Parties in whatever manner the arbitrator deems appropriate.

For the purpose of Sections 7 and 8, "Party" includes any employee, contractor or volunteer of the Party.

9. Notices or other communications under this Agreement shall be sufficiently given if delivered to a City Engineer personally or left at the City Engineer's office or mailed to the following:

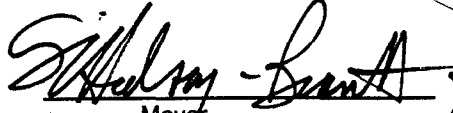
(List of Participating Agencies will be entered here as resolutions are received from Municipal Councils.)

IN WITNESS WHEREOF the Parties hereto have caused to be affixed their seals attested by the signatures of their respective officers duly authorized for such purpose.

The Corporate Seal of the Corporation of

CITY OF RICHMOND

Authorized signing Officers

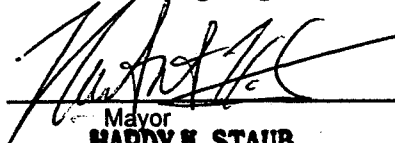

Mayor
GREG HALSEY-BRANDT

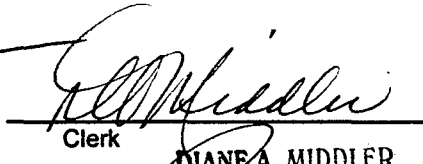

City Clerk J. RICHARD MCKENNA

The Corporate Seal of the Corporation of

CITY OF WHITE ROCK

Authorized signing Officers


Mayor
HARDY K. STAUB
MAYOR

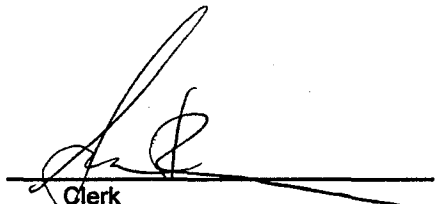

Clerk
DIANE A. MIDDLER
CITY CLERK

The Corporate Seal of the Corporation of

CITY OF NEW WESTMINSTER

Authorized signing Officers

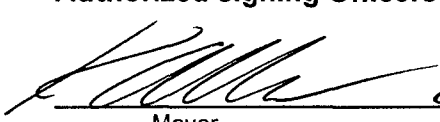

Mayor
CALVIN DONNELLY
ACTING MAYOR

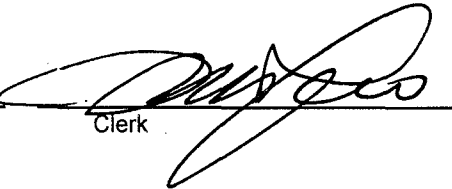

Clerk
SUSAN BROWN
CITY CLERK

The Corporate Seal of the Corporation of

THE TOWNSHIP OF LANGLEY

Authorized signing Officers

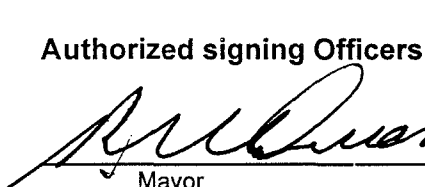

Mayor

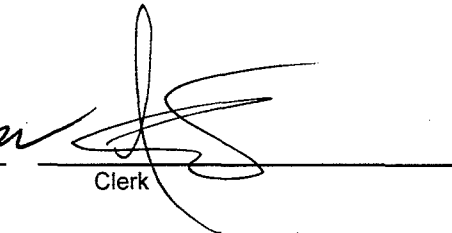

Clerk

The Corporate Seal of the Corporation of

CITY OF VANCOUVER

Authorized signing Officers

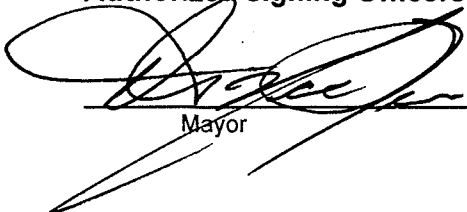

Mayor


Clerk

The Corporate Seal of the Corporation of

DISTRICT OF PITT MEADOWS

Authorized signing Officers

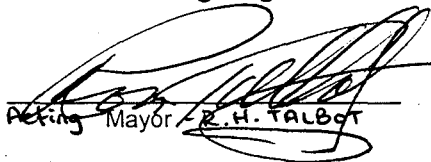

Mayor


Clerk

The Corporate Seal of the Corporation of

City of Port Coquitlam

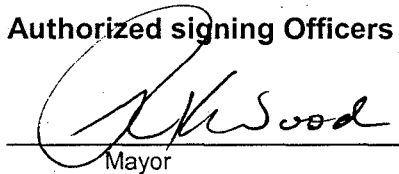
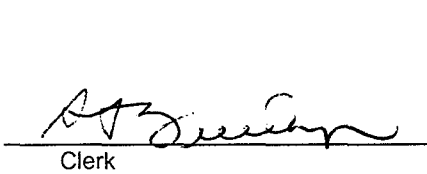
Authorized signing Officers

 Acting Mayor R.H. TALBOT  Clerk SUSAN RAUH, CMC, CITY CLERK

The Corporate Seal of the Corporation of

THE DISTRICT OF WEST VANCOUVER

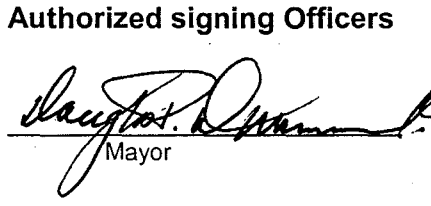
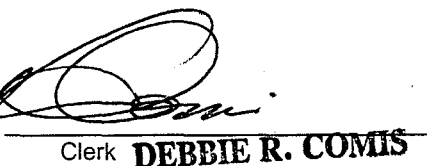
Authorized signing Officers

 Mayor K. Wood  Clerk

The Corporate Seal of the Corporation of

THE CITY OF BURNABY

Authorized signing Officers

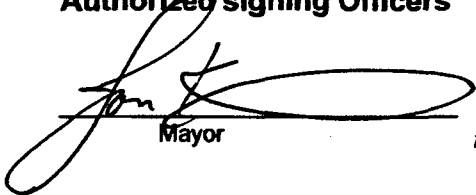
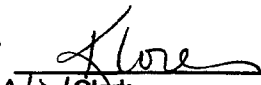
 Mayor  Clerk DEBBIE R. COMIS
City Clerk - Authorized Signatory

Public Works Mutual Aid Agreement
Lower Mainland Municipalities

The Corporate Seal of the Corporation of

The City of Coquitlam

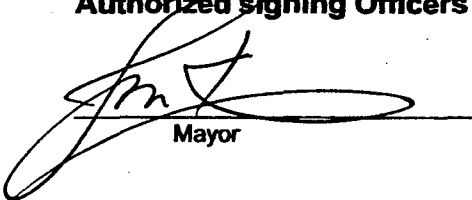
Authorized signing Officers

 Mayor  A/D Clerk

The Corporate Seal of the Corporation of

the City of Coquitlam

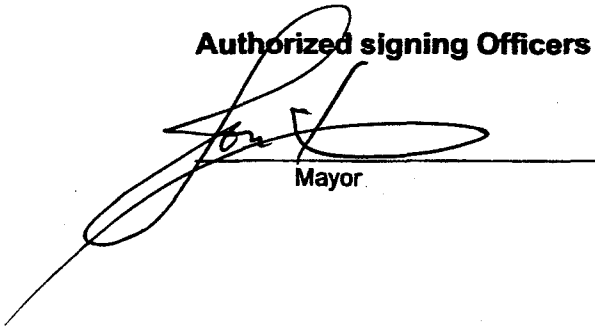
Authorized signing Officers

 Mayor  A/D Clerk

The Corporate Seal of the Corporation of

the City of Coquitlam

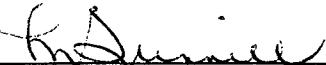
Authorized signing Officers

 Mayor  A/D Clerk

The Corporate Seal of the Corporation of

CITY OF LANGLEY

Authorized signing Officers



Mayor



Clerk

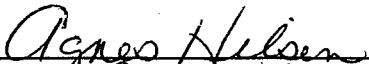
The Corporate Seal of the Corporation of

DISTRICT OF NORTH VANCOUVER

Authorized signing Officers



Mayor Don Bell



Clerk Agnes Hilsen

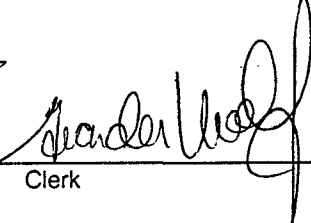
The Corporate Seal of the Corporation of

City of Port Moody

Authorized signing Officers



Mayor

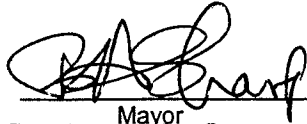


Clerk

The Corporate Seal of the Corporation of

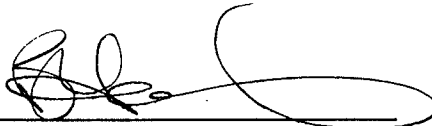
CITY OF NORTH VANCOUVER

Authorized signing Officers



Mayor

Barbara A. Sharp - Mayor



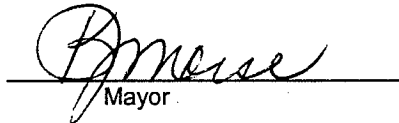
Clerk

Bruce Hawkshaw - Clerk

The Corporate Seal of the Corporation of

DISTRICT OF MAPLE RIDGE

Authorized signing Officers



Mayor

KATHLEEN J. MORSE
MAYOR



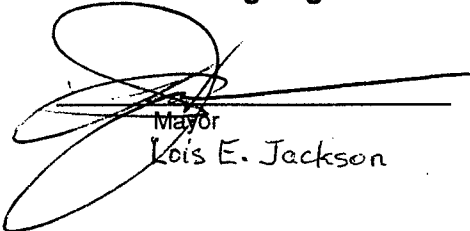
Clerk

TERENCE E. FRYER
MUNICIPAL CLERK

The Corporate Seal of the Corporation of

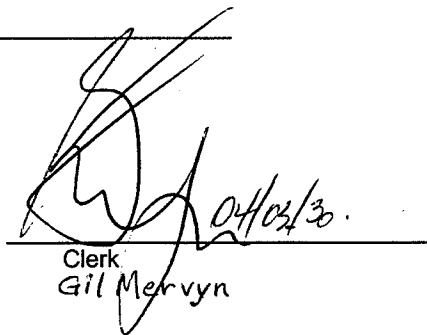
Delta

Authorized signing Officers



Mayor

Lois E. Jackson



Clerk

Gil Mervyn

The Corporate Seal of the Corporation of

City of Surrey

Authorized signing Officers

Dwight Chapman
Mayor Clerk

June 18, 2004

The Corporate Seal of the Corporation of

Authorized signing Officers

Mayor Clerk

The Corporate Seal of the Corporation of

Authorized signing Officers

Mayor Clerk

To: Liquid Waste Committee

From: Colin Meldrum, Director, Engineering, Design & Construction, Liquid Waste Services

Date: March 24, 2022 Meeting Date: April 13, 2022

Subject: **Liquid Waste Services Capital Program Expenditure Update as at December 31, 2021**

RECOMMENDATION

That the Liquid Waste Committee receive for information the report dated March 24, 2022, titled "Liquid Waste Services Capital Program Expenditure Update as at December 31, 2021".

EXECUTIVE SUMMARY

The capital expenditure reporting process as approved by the GVS&DD Board provides for regular status reports on capital expenditures three times per year. This is the third report for 2021 which includes the overall capital program for Liquid Waste Services with a multi-year view of capital projects, and the actual capital spending for the 2021 fiscal year to December 31, 2021 in comparison to the annual budget. As of December 31, the 2021 capital expenditures for Liquid Waste Services are \$420.9 million, compared to an annual capital budget of \$934.5 million. This shortfall is primarily due to some delays in initiating construction as well as issues on the North Shore Secondary Wastewater Treatment Plant.

Forecasted expenditures for the current Liquid Waste Services capital program generally remain within the approved budgets through to completion.

PURPOSE

To report on the status of the Liquid Waste Services' capital program and financial performance for the 2021 fiscal year to December 31, 2021.

BACKGROUND

The capital expenditure reporting process as approved by the GVS&DD Board provides for regular status reports on capital expenditures with interim reports sent to the Water, Liquid Waste, Zero Waste, and Performance and Audit Committees, in July and October, with a final year-end report to the Committees and the Boards in April of each year.

This is the third in a series of three reports for 2021 and looks at both the overall capital program for Liquid Waste Services with a multi-year view of capital projects and the actual capital spending for the 2021 fiscal year to December 31, 2021 in comparison to the annual budget.

2021 CAPITAL EXPENDITURES

Capital Program Funding

The capital spending for Liquid Waste Services is funded through the Liquid Waste Operating Budget by a combination of contribution to capital (pay-as-you-go funding) and debt service costs (principal

and interest payments) which is generated annually from the regional ratepayers. As a result, the annual impact on the ratepayers is significantly less than the level of budgeted capital expenditures.

Overall Capital Program

The overall capital program for Liquid Waste Services includes capital projects which require multiple years to complete. These projects are broken down into various phases such as project definition, pre-design, detailed design and construction. With the completion of each phase, more information is learned for the appropriate costing of subsequent phases.

It is expected that the capital spending on the Liquid Waste Services capital projects completed in 2021 or ongoing at some point in 2021 will be over their previously approved budgets by approximately \$335.5 million, or 5.3% of total budget. These budgets were generally amended as part of the *GVS&DD 2022 Budget and 2022 – 2026 Financial Plan*. For the most part, all of the projects include contingencies in their budgets. Often, these amounts are not fully expended, and will result in projects being completed under budget.

Table 1 in Attachment 1 provides a summary of Liquid Waste Services capital expenditures for both ongoing and completed projects. Completed Projects include a summary of actual spending compared to the Board approved spending limits while the Ongoing Projects include a summary of projected spending to completion compared to GVS&DD Board approved spending limits.

Attachment 2 provides the details behind the summary information including specific capital projects, summary financial information and notes where required. Attachment 3 provides additional project status information for some of the key projects included in Attachment 1 – Table 1.

2021 Capital Program Progress

The Metro Vancouver financial planning process includes Board approval of both an annual Operating Budget (operations, contribution to capital and debt service) and an annual Capital Budget for the planned capital infrastructure projects. The annual Capital Budget comprises the projected spending for a list of capital projects either continuing or to be started within the calendar year.

Table 2 in Attachment 1 provides a summary of the 2021 actual capital spending to December 31, 2021 compared to the GVS&DD Board approved capital budget. As of December 31, 2021, capital expenditures for Liquid Waste Services were \$420.9 million compared to the annual capital budget of \$934.5 million. These projects are managed either by the Project Delivery Department or internally by the Liquid Waste Services Department.

The underspend is due to a variety of factors, including delays in tendering works or initiating construction, Covid-19 induced delays, protracted property negotiations and permitting delays.

Specifically, the following projects have had expenditures delayed to 2022 or later due to tendering issues, resolving permits and property issues, and delays by outside parties:

- Burnaby Lake North Interceptor – Winston Section
- Gilbert Road Trunk Sewer – South and Central Sections
- AIWWTP Gravity Thickeners

- Utility Relocations for Pattullo Bridge, Harbour East and West Interceptor, Fraser Surrey Docks and the Broadway Subway.

In addition, the North Shore Secondary Wastewater Treatment Plant project was previously forecasted to have two milestone payments in 2021, however the contract has been terminated.

Capital Program Impacts from COVID-19

During these unprecedented times of health and economic uncertainty, all departments have been monitoring the impacts of the pandemic on their operations. This includes capital program expenditures.

Overall, the impact to the Liquid Waste Service's capital program has largely been schedule related, with few notable impacts to project expenditures confirmed to date. Staff are monitoring impacts on their projects regularly. Some impacts to project schedules or expenditures are included under the respective project section of Attachment 3.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

Capital expenditures are funded internally (pay as you go) and through debt service costs (interest and principal payments). As capital expenditures are incurred, short term financing is secured and converted twice per year to long term debt through the Municipal Finance Authority.

CONCLUSION

This is the third in a series of three reports on capital expenditures for 2021. Although the 2021 Liquid Waste Services capital expenditures are less than the budgeted amounts, the variance is generally a result of cash flow timing, with a number of projects having expenditures deferred to future years. Any surplus resulting from a 2021 underspend will be used to directly fund capital in 2022 and avoid future borrowing.

Attachments

1. Liquid Waste Services Capital Expenditure Summary as at December 31, 2021
2. Detailed Capital Expenditure Summary – Liquid Waste Services
3. Liquid Waste Services Capital Project Status Information

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Metro Vancouver

Capital Expenditures Summary

Liquid Waste Services

As at December 31, 2021

Table 1 - Capital Program Summary by Status

Liquid Waste Services	Total Budget	Total Projected Expenditures At Completion	Total Budget Less Projected Expenditures
Ongoing	\$ 6,105,287,000	\$ 6,441,874,000	\$ (336,587,000)
Completed	249,250,000	248,180,000	1,070,000
Not Started	241,055,000	219,505,000	21,550,000
Cancelled	53,300,000	2,895,000	50,405,000
	\$ 6,648,892,000	\$ 6,912,454,000	\$ (263,562,000)

Table 2 - 2021 December Capital Spending Summary

Liquid Waste Services	2021 Budget	Actual Expenditures To December 31, 2021	
Infrastructure Growth Capital	\$ 270,800,000	\$ 196,292,587	
Infrastructure Maintenance Capital	193,050,000	44,830,620	
Infrastructure Resilience Capital	21,500,000	7,744,548	
Infrastructure Upgrade – Waste Treatment Capital	426,278,000	140,543,301	
Infrastructure Upgrade Capital	16,950,000	17,482,039	
Opportunity Capital	5,950,000	14,004,306	
	\$ 934,528,000	\$ 420,897,400	45%

		Lifetime									
Project Name	Project Location	Total Project Budget	Total Expenditures to Date	Remaining Budget	Projected Expenditures	Total Budget Less Projected Expenditures	Percent Complete	Status	Project on Schedule?	Note	Comments
Infrastructure Growth Capital											
AIWWTP Site Construction Layout	Delta	1,500,000	325,026	1,174,974	450,000	1,050,000	37%	Ongoing	Y		
Albert Street Trunk Sewer	Port Moody	8,250,000	9,006,527	(756,527)	9,200,000	(950,000)	98%	Ongoing	Y		Tunnelling resulted in increased costs. Construction is complete and sewer is in service
Annacis Outfall System	Delta	378,000,000	166,055,400	211,944,600	378,000,000	-	44%	Ongoing	Y		
Annacis Stage 5 Expansion Phase 1 T1 & T2	Delta	243,500,000	242,355,188	1,144,812	243,500,000	-	100%	Completed	Y		
Annacis Stage 5 Expansion Phase 2	Delta	22,000,000	17,901,112	4,098,888	22,000,000	-	81%	Ongoing	Y		
Annacis Stage 5 Expansion Phase 2a	Delta	180,000,000	176,861,944	3,138,056	180,000,000	-	98%	Ongoing	Y		
Annacis Stage 5 Expansion Phase 2b	Delta	390,000,000	37,799,281	352,200,719	390,000,000	-	10%	Ongoing	N		Project to be transferred to Project Delivery Department. Budget to be reassessed in 2022.
Burnaby Lake North Interceptor Cariboo Section	Burnaby	41,000,000	-	41,000,000	41,000,000	-	0%	Not Started	Y		Project scheduled to start in 2023
Burnaby Lake North Interceptor Winston Section	Burnaby	116,950,000	23,703,655	93,246,345	111,950,000	5,000,000	20%	Ongoing	Y	(1)(2)	Tunnel construction to start in Apr 2022. Project expected to be delivered under budget.
Burnaby South Slope Interceptor West Branch Extension	Burnaby	13,200,000	-	13,200,000	13,200,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Cloverdale Pump Station Capacity Upgrade	Surrey	36,400,000	296,977	36,103,023	36,400,000	-	1%	Ongoing	N		Delay to determine scope of upgrades
Cloverdale Trunk Sewer Capacity Upgrade	Surrey	29,000,000	-	29,000,000	29,000,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Glenbrook Combined Trunk Kingsway Sanitary Section	Burnaby	7,200,000	306,216	6,893,784	7,200,000	-	4%	Ongoing	N		Project delayed by about one year due to resourcing challenges, to be resumed in 2022
Hastings Sanitary Trunk Sewer No. 2	Burnaby	8,000,000	7,451,802	548,198	7,770,000	230,000	93%	Ongoing	Y	(1)(2)	Project in close out stages
Hastings-Cassiar Intake Connection	Vancouver	2,350,000	273,765	2,076,235	5,350,000	(3,000,000)	10%	Ongoing	N		Project delayed by one year to accommodate expanded scope (dynamically controlled gates) to improve functionality.
Lozells Sanitary Trunk Golf Course Section	Burnaby	27,650,000	-	27,650,000	27,650,000	-	0%	Not Started	Y		Future project scheduled to start in 2025
Lulu Island WWTP Digester No 3	Richmond	53,300,000	1,393,607	51,906,393	2,895,000	50,405,000	100%	Withdrawn	N		Project being withdrawn, some additional studies and analysis to improve system performance.
Marshend Pump Station Capacity Upgrade	Burnaby	13,775,000	649,235	13,125,765	13,775,000	-	5%	Ongoing	N		Project delayaed to properly define scope.
North Road Trunk Sewer	Coquitlam	11,675,000	6,755,667	4,919,333	11,675,000	-	58%	Ongoing	N		Majority of workis complete. Protracted permitting and negotiations are delaying the railway crossing component.
North Road Trunk Sewer Phase 2	Coquitlam	8,438,000	888,086	7,549,914	8,438,000	-	11%	Ongoing	Y		Construction deferred to 2022 at the request of the City of Coquitlam
North Vancouver Interceptor - Lynn Branch Pre-build	Dist of North Van	3,950,000	3,213,011	736,989	3,300,000	650,000	100%	Completed	Y		work complete
Northwest Langley Wastewater Treatment Program	Langley Township	1,330,700,000	198,397,652	1,132,302,348	1,629,700,000	(299,000,000)	12%	Ongoing	N	(5)	
NSI 104th Ave Extension	Surrey	12,950,000	4,938,694	8,011,306	12,950,000	-	38%	Ongoing	N		Project had been on hold for several years, and is being rescopeed.
NSI Flow Management	Surrey	94,500,000	5,188,968	89,311,033	94,500,000	-	5%	Ongoing	N		Project delayed to confirm facility sizing and configuration, and address regulatory and permitting concerns
Port Moody Pump Station Capacity Upgrade	Port Moody	10,550,000	507,913	10,042,087	10,550,000	-	5%	Ongoing	N	(4)	Project on hold since Aug 2020 to revise scope with regard to revised flow requirements.
Port Moody South Interceptor Capacity Upgrade	Port Moody	3,450,000	-	3,450,000	3,450,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Rosemary Heights Pressure Sewer Capacity Upgrade	Surrey	10,750,000	-	10,750,000	10,750,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Sapperton Pump Station	New Westminster	82,003,000	74,658,883	7,344,117	77,549,000	4,454,000	98%	Ongoing	N	(1)	Substantial completion in July 2021, still to resolve deficiencies and complete decommissioning of old station.
South Surrey Interceptor Johnston Section	Surrey	84,026,000	49,523,360	34,502,640	84,026,000	-	59%	Ongoing	N		Final section delayed due to protracted property and permitting issues.
SSI - King George Section - Odor Control Facility (OCF) and Grit Chamber	Surrey	19,500,000	16,435,720	3,064,280	18,500,000	1,000,000	84%	Ongoing	N		Grit Chamber and 1 OCF operational, 2nd OCF delayed to address municipal servicing concerns.
		3,244,567,000	1,044,887,686	2,199,679,314	3,484,728,000	(240,161,000)					
Infrastructure Maintenance Capital											
AIWWTP Chemical Lab UPS System Replacement	Delta	600,000	9,497	590,503	600,000	-	2%	Ongoing	Y		
AIWWTP Cogen Building Refurbishment	Delta	1,500,000	95,415	1,404,585	1,500,000	-	6%	Ongoing	Y		
AIWWTP Fibre Optic Infrastructure	Delta	1,500,000	1,315,446	184,554	1,400,000	100,000	88%	Ongoing	Y		
AIWWTP ICS Replacement Program	Delta	14,350,000	-	14,350,000	14,350,000	-	0%	Not Started	N		Delayed to give way to Stage V Activities.
AIWWTP Influent System Remediation	Delta	82,500,000	416,865	82,083,135	82,500,000	-	1%	Ongoing	Y		Existing Annacis outfall condition led to change in risk profile and work scope of project. Conducting risk assessment prior to revising estimate and schedule
AIWWTP IPS Pump Building Roof Replacement Phase 2	Delta	830,000	-	830,000	830,000	-	0%	Not Started	N	(4)	Future project scheduled to start in 2024
AIWWTP Outfall Repair	Delta	1,800,000	-	1,800,000	1,800,000	-	0%	Not Started	N	(4)	Scope review underway to account for new inspection information.
AIWWTP Replacement of ICS Equipment in Galleries	Delta	2,895,000	2,558,316	336,684	2,895,000	-	88%	Ongoing	Y		
AIWWTP Scheduled 64kV Potential & Current Transformer Replacements	Delta	800,000	150,300	649,700	800,000	-	19%	Ongoing	Y		
AIWWTP SCL Flow Balancing	Delta	2,450,000	913,895	1,536,105	2,450,000	-	37%	Ongoing	Y		
AIWWTP SCL Flow Control	Delta	31,500,000	18,277,418	13,222,582	31,500,000	-	58%	Ongoing	Y		
AIWWTP Scum Pump Replacement	Delta	1,350,000	-	1,350,000	1,350,000	-	0%	Not Started	Y	(4)	Future project scheduled to start in 2024

Metro Vancouver
**Liquid Waste Services Capital Expenditures Summary
As of December 31, 2021**

Project Name	Project Location	Lifetime					Percent Complete	Status	Project on Schedule?	Note	Comments
		Total Project Budget	Total Expenditures to Date	Remaining Budget	Projected Expenditures	Total Budget Less Projected Expenditures					
AIWWTP Secondary Effluent Discharge Flowmeter Replacement	Delta	400,000	44,719	355,281	200,000	200,000	99%	Ongoing	Y	(2)	Project in final closeout phases, and will be completed significantly under budget by coordination with other works.
AIWWTP Spare Tricking Filter Pump & Motor Purchase	Delta	1,950,000	-	1,950,000	1,950,000	-	15%	Ongoing	N		tender for supply of pump was issued.
AIWWTP Station Battery Replacement - PHASE 2	Delta	400,000	155,083	244,917	400,000	-	39%	Ongoing	Y	(2)	
AIWWTP Tricking Filter Media & Distributor Arms & Ducting Replacement	Delta	90,700,000	32,890,863	57,809,137	90,700,000	-	50%	Ongoing	Y		
Annacis Island WWTP - ICS Component Replacement and Upgrade Program	Delta	1,500,000	1,405,577	94,423	1,500,000	-	94%	Ongoing	Y		
Annacis MCC 80 051, 80 070, 80 071 Replacement	Delta	2,844,000	2,171,429	672,571	2,844,000	-	76%	Ongoing	Y		
Annacis Secondary Clarifier Corrosion Repair and Leveling Phase 2	Delta	22,000,000	9,188,811	12,811,189	22,000,000	-	42%	Ongoing	Y		
Big Bend Forcemain - Gate Replacement	Richmond	2,680,000	70,209	2,609,791	2,680,000	-	3%	Ongoing	N	(4)	Project on hold to confirm scope of repairs
Cambie Trunk Sewer Relocation for Broadway Subway Project	Vancouver	4,500,000	1,155	4,498,845	1,500,000	3,000,000	1%	Ongoing	N		Externally driven and executed project. Scope has been clarified since original submission and expected MV costs reduced.
Combined Sewer Overflow Sampling Station Enhancements	Regional	1,900,000	515,480	1,384,520	1,900,000	-	27%	Ongoing	Y		
Crescent Beach FM - Replacement	Surrey	29,070,000	6,637,856	22,432,144	28,095,000	975,000	23%	Ongoing	Y		
English Bay/Balaclava Outfalls Improvement	Vancouver	900,000	-	900,000	900,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
FSA Flow Metering Program	Regional	3,500,000	1,674,324	1,825,676	3,500,000	-	48%	Ongoing	Y		
FSA Statutory Right of Way Acquisitions Phase 1	Delta/Port Moody	24,000,000	-	24,000,000	35,100,000	(11,100,000)	0%	Ongoing	Y		For acquisition of rights-of-way as opportunities arise.
Gilbert/Brighouse Trunk Pressure Sewer Rehab Phase 5	Richmond	23,200,000	-	23,200,000	23,200,000	-	0%	Not Started	Y		Future project scheduled to start in 2023.
Gilbert/Brighouse Trunk Pressure Sewer Twinning Phase 3	Richmond	54,300,000	14,456,592	39,843,408	54,300,000	-	27%	Ongoing	N		Tender to be issued Feb. 2022 Construction to begin fall of 2022
Gilbert/Brighouse Trunk Pressure Sewer Twinning Phase 4	Richmond	41,800,000	1,105,049	40,694,951	41,800,000	-	3%	Ongoing	N		Tender to be issued Mar. 2022 Construction to begin end of 2022
Glen Eagles Forcemains Replacement Phase 2	West Vancouver	7,750,000	722,627	7,027,373	8,200,000	(450,000)	9%	Ongoing	N		Project delayed due to alignment changes and difficult site conditions.
Glen Eagles Pump Stations Phase 1	West Vancouver	22,500,000	1,472,180	21,027,820	22,500,000	-	7%	Ongoing	N		Delays in design due to permitting and properties. Design now complete.
Glen Eagles Pump Stations Phase 2	West Vancouver	5,000,000	-	5,000,000	5,000,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Harbour Pump Station Discharge Header Repair and Valve Replacements	Vancouver	1,500,000	-	1,500,000	1,500,000	-	0%	Not Started	Y		Design underway. Construction expected in summer 2023.
Harbour Pump Station Power Distribution Equipment Replacement	Vancouver	3,300,000	95,381	3,204,619	3,300,000	-	3%	Ongoing	Y		
Harbour West & East Interceptors Reloc & Protect	Vancouver	16,900,000	5,149,307	11,750,693	19,500,000	(2,600,000)	30%	Ongoing	Y		Externally driven and executed projects. Estimate based upon latest scope of work.
Highbury Interceptor Diversion Junction Chamber Wall Rehabilitation	Vancouver	6,000,000	-	6,000,000	6,000,000	-	0%	Not Started	N		Project delayed to coordinate with other work.
IWWTP Digester 4 Roof Replacement & Mixing Replacement	Richmond	24,800,000	17,708,752	7,091,248	20,300,000	4,500,000	95%	Ongoing	Y	(2)	
IWWTP Grit System Refurbishment	Richmond	8,100,000	7,503,949	596,051	8,100,000	-	93%	Ongoing	Y		
IWWTP ICS IPS Control Replacement	Richmond	1,750,000	357,630	1,392,370	1,750,000	-	20%	Ongoing	Y		
IWWTP ICS Replacement Program	Richmond	750,000	-	750,000	750,000	-	0%	Not Started	Y		
IWWTP Influent Gate Refurbishment	Richmond	1,350,000	552,463	797,537	1,110,641	239,000	41%	Ongoing	Y		
IWWTP IPS Drive Remediation	Richmond	1,400,000	-	1,400,000	1,400,000	-	0%	Not Started	N	(4)	Project was delayed to confirm scope
IWWTP MCC/Power Distribution Assess/Replace - Phase 2	Richmond	1,000,000	603,103	396,897	750,000	250,000	99%	Ongoing	Y	(2)	Project at close out stages and will see a surplus.
IWWTP PA-Sed Tank & Gallery Wall Refurbishment	Richmond	925,000	-	925,000	925,000	-	0%	Not Started	N		Work delayed to confirm scope of repair.
IWWTP Replacement of CoGen Control System	Richmond	2,470,000	1,090,592	1,379,408	2,470,000	-	44%	Ongoing	Y		
IWWTP Siphon Chamber Refurbishment	Richmond	2,150,000	-	2,150,000	2,150,000	-	0%	Not Started	N		Project delayed to allow improved coordination of other related works and improve safe operating conditions for work site.
IWWTP Solids Handling Refurbishment	Richmond	30,500,000	30,293,884	206,116	30,350,000	150,000	99%	Ongoing	Y	(2)	
Iona Island Control & Instrumentation Replacement 2011	Richmond	2,750,000	2,033,547	716,453	2,750,000	-	74%	Ongoing	Y		
Jervis Pump Station 25kV Voltage Conversion	Vancouver	1,300,000	11,489	1,288,512	1,300,000	-	1%	Ongoing	Y		
Kent Pump Station High Voltage Switchgear Replacement	Vancouver	2,000,000	-	2,000,000	2,000,000	-	0%	Ongoing	Y		Future project scheduled to start in 2022
LIWWTP CCT Isolation Gates	Richmond	2,050,000	669,623	1,380,377	2,050,000	-	33%	Ongoing	Y		
LIWWTP High Efficiency Boiler	Richmond	1,330,000	156,382	1,173,618	1,330,000	-	12%	Ongoing	N	(4)	Rescheduled to after Biogas Cleanup Project is completed and in operation.
LIWWTP ICS Component Replacement	Richmond	360,000	338,299	21,701	360,000	-	94%	Ongoing	Y		
LIWWTP ICS Replacement Program	Richmond	6,750,000	454,996	6,295,004	6,750,000	-	7%	Ongoing	Y		
LIWWTP PA-Sed Tank Refurbishment	Richmond	4,115,000	46,529	4,068,471	4,115,000	-	1%	Ongoing	Y		
LSA Flow Metering Program	Richmond	300,000	76,399	223,601	300,000	-	25%	Ongoing	Y		
Marshend PS Rehab	Burnaby	7,000,000	1,037,052	5,962,948	7,000,000	-	15%	Ongoing	N		Project delayed to confirm scope, but is now proceeding.
New West Interceptor Grit Chamber	New Westminster	9,050,000	221,159	8,828,841	9,050,000	-	2%	Ongoing	N		Project delayed to coordinate with Sapperton PS completion and focus on higher priority work.
New Westminster Interceptor Repair Columbia St. Section	New Westminster	32,782,000	5,522,820	27,259,180	32,782,000	-	17%	Ongoing	N		Project under construction and experiencing some delays in execution.
NLWWTP Screw Pump Replacement	Langley City	1,550,000	1,218,261	331,739	1,550,000	-	79%	Ongoing	Y		
North Surrey Interceptor Annieville Channel Crossing Scour Protection	Regional	995,000	397,633	597,367	995,000	-	40%	Ongoing	Y		
NSA Flow Metering Program	West Vancouver	900,000	205,310	694,690	900,000	-	23%	Ongoing	Y		
NSA Scour Protection Upgrades	Regional	2,250,000	-	2,250,000	2,250,000	-	0%	Ongoing	Y		
NSI Rehab or Replacement	Surrey	46,463,000	3,894,715	42,568,285	46,463,000	-	8%	Ongoing	N		Port Mann rehabilitation nearing completion, Manson Road section delayed to confirm future flow requirements.
NWI - Annacis Section 2 Improvement	Delta	45,000,000	4,875,170	40,124,830	45,000,000	-	11%	Ongoing	N		Project delayed to improve scope definition, and coordination with other works.

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Project Name	Project Location	Lifetime					Percent Complete	Status	Project on Schedule?	Note	Comments
		Total Project Budget	Total Expenditures to Date	Remaining Budget	Projected Expenditures	Total Budget Less Projected Expenditures					
NWL WWTP 25 kV Substation Replacement	Langley Township	10,025,000	8,704,590	1,320,410	8,666,000	1,359,000	87%	Ongoing	Y	(1)	Project in final closeout phases, and will be completed significantly under budget. Future project scheduled to start in 2022. Scope changed since original concept, and a replacement pump station is now likely required. The budget was updated in the 2022 Capital Plan
Ocean Park Trunk Crescent Section (OPC) Pipe Rehabilitation/Replacement	Surrey	4,953,000	2,639,076	2,313,924	2,753,000	2,200,000	98%	Ongoing	N	(1)	
Ocean Park Trunk Manholes Lining	Surrey	550,000	-	550,000	550,000	-	0%	Not Started	Y		
Port Coquitlam Pump Station Refurbishment	Port Coquitlam	9,250,000	263,866	8,986,134	51,100,000	(41,850,000)	1%	Ongoing	Y		
Port Moody Storm Drain Rehabilitation	Port Moody	1,650,000	-	1,650,000	1,650,000	-	0%	Not Started	N		Future project scheduled to start in 2023
Royal Ave PS Rehabilitation	New Westminster	7,238,000	1,364,859	5,873,141	8,238,000	(1,000,000)	16%	Ongoing	Y		Costs updated to reflect scope as per 70% detail design.
Sewer Relocations and Protections at Fraser Surrey Docks	Surrey	25,800,000	-	25,800,000	4,000,000	21,800,000	0%	Not Started	N		Externally driven and executed project. Scope has been reduced since BHP pulled out of terminal upgrade proposal.
Sewer Relocations and Protections for Pattullo Bridge Replacement Project	New Westminster	7,000,000	3,218	6,996,783	7,000,000	-	1%	Ongoing	N		Externally driven and executed project.
SSI Influent Control Chamber Repair and Replace Gates	Delta	1,305,000	13,554	1,291,446	1,305,000	-	1%	Ongoing	N	(4)	Project on hold to confirm scope of repairs. Project delayed to confirm configuration and location of facility.
Surrey Corrosion Control Facility Replacement	Surrey	2,900,000	461,699	2,438,301	7,250,000	(4,350,000)	16%	Ongoing	N		
VSA Flow Metering Program	Regional	5,800,000	683,346	5,116,654	5,800,000	-	12%	Ongoing	Y		Project delayed in early 2021 to focus on higher priority work
Westridge FM Replacement	Burnaby	3,650,000	686,027	2,963,973	3,650,000	-	19%	Ongoing	N		
Westridge Pump Stations 1 & 2 Refurbishment	Burnaby	16,250,000	731,798	15,518,202	16,250,000	-	5%	Ongoing	Y		Future project scheduled to begin in 2022
White Rock Forcemain Rehabilitation	White Rock/Surrey	8,700,000	19,949	8,680,051	8,700,000	-	0%	Not Started	Y		
Works Yard	Burnaby	32,000,000	26,550,793	5,449,207	32,000,000	-	83%	Ongoing	Y		
		889,880,000	222,886,326	666,993,674	919,059,641	(29,180,000)					
Infrastructure Resilience Capital											
AIWWTP 69 kV Substation Modifications	Delta	5,500,000	2,575,199	2,924,801	5,500,000	-	47%	Ongoing	Y		Project nearing completion and expected to come in under budget.
AIWWTP Automation of Influent Gates	Delta	3,700,000	3,583,620	116,380	3,694,681	5,000	97%	Ongoing	Y		
AIWWTP Cogeneration Backup Power	Delta	75,003,000	70,237,858	4,765,142	72,003,000	3,000,000	94%	Ongoing	Y		
AIWWTP PST Area Walkway & Column Remediation	Delta	1,800,000	1,391,248	408,752	1,380,000	420,000	100%	Completed	Y	(1)(2)	Under budget due to efficient design, competitive market pricing and less tank defects than anticipated.
AIWWTP UPS Condition Monitoring System	Delta	550,000	-	550,000	550,000	-	0%	Not Started	N	(4)	Construction on hold until resolution of design issues.
Highbury Interceptor North Arm Crossing - Upgrade of Siphons	Vancouver	12,500,000	12,246,186	253,814	12,500,000	-	98%	Ongoing	N		Project execution delayed to coordinate safety approvals
IIWWTP - Biogas Lines Relocation	Richmond	5,780,000	3,942,379	1,837,621	5,780,000	-	75%	Ongoing	N		Delays due to challenges with approvals and supply chain issues.
IIWWTP Standby Diesel Generators	Richmond	5,000,000	2,791	4,997,209	5,000,000	-	1%	Ongoing	N		Project delayed due to procurement and to coordinate design issues.
LIWWTP Power Reliability	Richmond	8,202,000	1,830,816	6,371,184	8,202,000	-	22%	Ongoing	N		
SSI Sulfide Odour and Corrosion Control	Delta	7,700,000	1,074,954	6,625,046	7,700,000	-	14%	Ongoing	N		Project delayed due to procurement issues. 5 of 7 units are complete, 2 stations (Jervis and Chilco PS) are delayed due to protracted property and permitting issues.
VSA Emergency Backup Power	Vancouver	24,310,000	12,945,579	11,364,421	24,310,000	-	53%	Ongoing	N		
		150,045,000	109,830,630	40,214,370	146,619,681	3,425,000					
Infrastructure Upgrade - WasteTreatment Capital											
Iona Secondary Treatment Upgrade	Richmond	750,000,000	24,740,016	725,259,984	750,000,000	-	3%	Ongoing	Y	(5)(6)	
North Shore WWTP Secondary Upgrade and Conveyance	Dist of North Van	1,057,867,000	497,387,107	560,479,893	1,057,867,000	-	37%	Ongoing	N	(5)	
		1,807,867,000	522,127,122	1,285,739,878	1,807,867,000	-					
Infrastructure Upgrade Capital											
AIWWTP Ammonia Removal – Sidestream	Delta	125,900,000	734,499	125,165,501	125,900,000	-	1%	Ongoing	Y	(4)	Continuing with data collection with more analyses in 2022 to confirm study results. Design not scheduled to start until late in the decade.
AIWWTP Electrical Distribution System Protection Control and Monitoring	Delta	2,650,000	607,205	2,042,795	2,650,000	-	23%	Ongoing	Y		Project delayed to confirm location (AIWWTP vs NWL WWTP)
AIWWTP Replacement of Protective Relays	Delta	3,258,000	2,242,665	1,015,335	3,258,000	-	69%	Ongoing	Y		
All WWTPs Power Quality Monitoring & Outage Alarming Network	Regional	2,870,000	2,632,027	237,973	2,870,000	-	92%	Ongoing	Y		
Biosolids Dryer	Delta	211,700,000	11,722,975	199,977,025	211,700,000	-	1%	Ongoing	Y		
Ferguson Road Paving Refurbishment	Richmond	850,000	-	850,000	1,100,000	(250,000)	0%	Not Started	Y		Project Scheduled to start in 2022. Initial phase (project scoping) is complete. Balance of project not scheduled to start for some years.
Glenbrook Combined Trunk Sewer Separation	New Westminster	73,450,000	268,911	73,181,089	73,450,000	-	1%	Ongoing	Y		
IIWWTP Biosolids Dewatering Facility	Richmond	61,300,000	56,409,219	4,890,781	61,300,000	-	92%	Ongoing	N		Project delayed due to construction and permitting issues, but is nearing completion
IIWWTP Sludge Lagoons Dewatering Facility	Richmond	4,000,000	1,949,205	2,050,795	4,000,000	-	90%	Ongoing	N		Delayed due to supply chain issues.
LIWWTP Effluent Heat Recovery Project	Richmond	10,000,000	-	10,000,000	10,000,000	-	0%	Not Started	Y		

Metro Vancouver

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Project Name	Project Location	Lifetime					Percent Complete	Status	Project on Schedule?	Note	Comments
		Total Project Budget	Total Expenditures to Date	Remaining Budget	Projected Expenditures	Total Budget Less Projected Expenditures					
New CSO Management Gates for New Westminster Interceptor	New Westminster	5,925,000	608,135	5,316,865	5,925,000	-	10%	Ongoing	Y		
Ocean Park Trunk Sewer - Air Management Facility	Surrey	7,750,000	-	7,750,000	7,750,000	-	0%	Not Started	N	(4)	On hold due to protracted property negotiations
WWTPs Electrical System Studies & Upgrades	Regional	1,900,000	11,405	1,888,595	1,900,000	-	1%	Ongoing	N	(4)	Awaiting completion of AI Stage 5 Ph1 and AI Cogen projects studies.
		511,553,000	77,186,246	434,366,754	511,803,000	(250,000)					
Opportunity Capital											
AIWWTP Hydrothermal Processing Pilot	Delta	19,380,000	1,072,859	18,307,141	19,380,000	-	10%	Ongoing	Y		
Fraser Sewerage Area Integrated Resource Recovery (IRR) Study	Regional	1,200,000	137,146	1,062,854	1,200,000	-	11%	Ongoing	N		Adding scope to the study. Anticipated completion Fall 2022
LIWWTP Biogas Clean-up Project	Richmond	13,800,000	11,928,139	1,871,861	13,800,000	-	86%	Ongoing	Y		
LIWWTP Pilot Digestion Optimization Facility	Richmond	3,100,000	1,398,421	1,701,579	3,100,000	-	45%	Ongoing	Y		
North Surrey Interceptor - Port Mann Section - Odour Control	Surrey	7,500,000	253,199	7,246,801	7,500,000	-	2%	Ongoing	N		Project delayed due to resourcing and scope definition. Project now proceeding
		44,980,000	14,789,764	30,190,236	74,580,000	(29,600,000)					
Grand Total Liquid Waste Services		6,648,892,000	1,991,707,776	4,657,184,224	6,912,454,000	(263,562,000)					

Notes:

- (1) Project will be completed under budget - savings due to competitive pricing.
- (2) Full contingency not required.
- (3) Design work done in house resulting in lower cost.
- (4) Project on hold.
- (5) Separate status reports are being provided to Liquid Waste Committee and Board.
- (6) Project budget is for up to 2025 only.

Capital Project Status Information December 31, 2021

GREATER VANCOUVER SEWERAGE & DRAINAGE DISTRICT (Liquid Waste Services)

Major GVS&DD liquid waste capital projects are generally proceeding on schedule and within budget. The following capital program items and exceptions are highlighted:

Infrastructure Growth Program

- **FSA – Albert Street Trunk Sewer** – The Albert St. Trunk Sewer is a sanitary sewer located in the City of Port Moody that was constructed in the 1960's and is in need of a capacity upgrade. Phase 1 construction was completed in 2019. Phase 2 of the project includes the upgrade of a section that is approx. 200 m long and crosses Barnet Hwy just north of St. John St using the microtunneling construction method. The sewer surcharges in a residential area under heavy rain. Construction was completed in late 2021.
- **FSA – Burnaby Lake North Interceptor – Winston Street Section** – Phase 1 of the sewer was completed in October 2021, and involves 880 m of 914 mm sewer constructed by open cut methods. It located to the east of Sperling Avenue. Phase 2 of the project involves 2.9 km of 2.1 m diameter sewer constructed primarily by tunneling. The RFP for the tunneling portion of the work closed in December 2021. The successful contractor was Pomerleau Bessac Infrastructure (PBI) and the construction contract was awarded in January 2022. Construction is scheduled to begin in April 2022. The project is projecting a surplus.
- **FSA – South Surrey Interceptor – King George Section Odour Control Facility (OCF) and Grit Chamber** - This project involves three separate installations: two odour control facilities (at King George Boulevard near 56 Ave in Surrey and at Highway 10 and Highway 91 in Delta) and a grit chamber at the King George location. The grit chamber portion of this project is complete and in service. Tritech Group Ltd., the contractor for the odour control facilities, has completed the facility at Highway 91, which has been operational since March 2020. Tritech is still working on the King George facility which is scheduled to be commissioned later in the spring of 2022. The project is projecting a surplus at the end of construction.
- **FSA – Annacis Island WWTP Stage 5 Expansion Phase 1** – This work involves expansion of treatment process units including primary sedimentation tanks, secondary clarifiers, solid contact tanks, and odour control facilities. This construction contract was awarded to Graham and AECON Joint Venture in April 2017. Substantial completion of the overall project was achieved in May 2021, and the various processes were all in service in late 2021.
- **FSA - Annacis Island WWTP Outfall – Surge Control** - This project involves the replacement of four hydraulic gates in the Influent Control Chamber and ancillary equipment to mitigate the risk of transient surges to upstream infrastructure. The construction contract was awarded to Maple Reinders Construction Limited in March 2021. Long lead equipment submittals have been approved for fabrication. Construction is approximately 10% complete. The project is tracking on schedule with the substantial completion in late Q3 2023.

Infrastructure Maintenance Program

- **LSA – Gilbert Trunk Sewer Twinning** - Construction of the 5.3 km long Phase 1 and 2 is complete. The remaining 2 Phases have a total length of 4.7 km consisting of 1.8 m diameter sewers. Phase 4, from Steveston Highway to the Lulu Island WWTP, was tendered in 2020 but due to contractual issues the process was collapsed and restarted. It has been re-tendered and is expected to close on March 31 2022. Phase 3 which extends from Blundell Road south to the Steveston Highway, is expected to be tendered in early April 2022. The Phase 4 construction contract is expected to be awarded in July 2022 and construction will begin in late 2022. Phase 3 is expected to be awarded in the fall of 2022 with construction commencing in late 2022 or early 2023.
- **FSA - North Surrey Interceptor Rehab or Replacement** - This project involves two components. The first is rehabilitating approximately 220m of the existing NSI near the Port Mann Bridge. It also involves relocation and upgrading of City of Surrey connection to the NSI. Work is currently underway and is expected to be completed in June 2022.

The other part of this project is twinning and rehabilitation of approximately 760m of the existing NSI-Manson Road section. The project is currently moving on to preliminary design. Construction is expected to commence in mid-2023 for the twinning portion. Rehabilitation may begin earlier in 2022 depending on the result of an upcoming condition analysis.

- **FSA - Crescent Beach FM Replacement** – This project involves the design and construction of approximately 2 km of sanitary force main to replace the existing 500 mm diameter FRP (fiber reinforced plastic) pipe which is aging and in poor condition. JJM Construction was awarded the contract in July 2021. Construction started in the fall of 2021, and is scheduled to be completed by the end of 2022.
- **FSA - New Westminster Interceptor Repair – Columbia Street Section** – This project involves the rehabilitation of 1,600 m of the 1.5 m diameter New Westminster Interceptor from Front St. to McBride Blvd. The contract was awarded to Southland Holdings. Construction started in July 2021. Phase 1, which involves the first 800 m of sliplining, is scheduled to be completed in May 2022. Phase 2 and 3 will follow, with timing to be determined in conjunction with the Contractor, the City of New Westminster and the Ministry of Highways.
- **FSA - Ocean Park Trunk Crescent Section (OPC) Pipe Rehabilitation/Replacement** - This project involves the design and construction of a 420m long sewer between 24 Avenue and Bayview Street, in Surrey. It is a combination of open cut work and trenchless work using cured in place pipe (CIPP) technology. The contract was awarded to BEL Contracting. Work was finished in Q4 2021.
- **FSA – Annacis Island WWTP Secondary Clarifier Corrosion Repair** – This project involves replacing 12 secondary clarifier mechanisms that have been damaged by corrosion and are at the end of their service life. This project is combined with the Secondary Clarifier Flow Control project, which involves the addition of 12 new influent flow balancing gates and the replacement of 12 effluent launders and weirs. The current construction contract, awarded to NAC Constructors Ltd. in March 2019 for the amount of \$17.8M, consists of the replacement of the 5 remaining mechanism units, the addition of 9 flow balancing gates and the replacement of the 12 existing effluent launders and weirs. Construction started in May 2020 and is scheduled to be complete by end of 2022. To date 12 mechanisms, 8 launders and weirs have been replaced, and 11 flow balancing gates have been installed.

- **FSA – Annacis Island WWTP Trickling Filter Media, Distributor and FOA Duct Replacement** – This project replaces the rotary distributors, plastic media and foul air ducting for the four Trickling Filters (TF) at the AIWWTP. These components have been in service for over 20 years and are reaching the end of their service life. The distributors and ducting have experienced significant corrosion, resulting in recent equipment failures requiring emergency maintenance in the past few years. The construction will be completed in two contracts, with the first contract for two TFs and the second contract for the remaining two TFs. This work was to be executed one unit at a time with one TF per year during the low flow season. Maple Reinders Construction Ltd. have completed the refurbishment for the first TF (TF 1) started in April 2020 and was successfully completed in September 2020 before the start of the wet weather season. Refurbishment of the second TF (TF 3) started in mid-April 2021 and was completed in September 2021. The second contract for the refurbishment of the remaining two TFs (TF 2 and TF4) was awarded to Pomerleau in July 2021. There has been a delay due to delivery of equipment, and TF2 and TF4 will now be completed in 2023 and 2024 which is a 1 year delay.
- **FSA – Northwest Langley WWTP 25 kV Substation Replacement** - This project involves the design and construction of a new 25kV substation to replace the existing outdoor substation which transforms and distributes power to areas in the plant. Due to its age and poor condition of the switchgear enclosures, the existing substation has been assessed as unreliable for maintenance and operations. The contract was awarded to Pomerleau, and construction commenced in Q1 2019. The construction was substantially completed in July 2021. Project closeout and correction of minor deficiencies remain and Owner's acceptance of the project is expected in Q3 2022.

Infrastructure Resilience Program

- **VSA – Emergency Backup Power** - This project involves design, supply and installation of standby emergency backup generators at the Chilco, Columbia, Harbour, Hudson, Jervis, Kent and Willingdon pump stations to allow the stations to remain operational during power failure events and reduce the risk of a spill. Three separate tenders for the Columbia, Harbour, Hudson, Kent and Willingdon upgrades were issued in Q4 2019. The construction at Harbour, Hudson, Kent and Willingdon pump stations were completed earlier in 2021 and the generators were commissioned. The Columbia PS generator was completed and commissioned in Q4 of 2021. The Vancouver Parks Board approved the Jervis PS Generator concept in the fall of 2019, and the design and permitting of the Jervis facility is advancing. Construction has been rescheduled until late 2023, due to unresolved property issues. The Chilco facility concept is currently being reviewed with the Vancouver Parks Board, prior to starting the detailed design. To prevent future spills during power outages, MV is actively working on design and installation of temporary generators at both Chilco and Jervis PS later in 2022.

Infrastructure Upgrade Program

- **VSA – Iona Island WWTP Biosolids Dewatering Facility** – This project involves the construction of a mechanical dewatering facility to dewater on-going plant production of biosolids so that they can be transported for beneficial reuse or disposal. This facility will permit the decommissioning of the four existing digested sludge lagoons and the sludge drying area to make space for the construction of the new tertiary treatment plant. The \$55 million design-build contract was awarded to NAC Constructors in April 2019. The design phase is 99% completed, and the construction phase is about 95% complete as of December 2021. Ground improvement and civil works underground piping, foundations and concrete works are complete. The two Digested Sludge Storage Tanks, Dewatering Building, Truck Load-out Building, Mechanical/Electrical/Control Rooms have been erected, enclosed, and finished except for minor touch-up painting and remedial

work. All mechanical process equipment such as the centrifuges, hoppers, pumps, and screw conveyors have been delivered and installed and will be rotationally-checked and functionally-tested in Q1 2022. The project has nearly completed the electrical installation phase – i.e. cable pulls, transformer installation, switchgear, motor control centers, and the wiring of field devices and instrumentation. The electrical switchgear and field devices will be loop-checked and functionally-tested in Q1 2022. The dewatering facility is targeted for acceptance by MV in Q3 2022 with 30 days of Owner Commissioning commencing in Q2 2022.

Opportunity Program

- **FSA – Annacis Island WWTP Hydrothermal Liquefaction** – This work involves the design and construction of a demonstration scale plant to convert wastewater biomass to biocrude as a low carbon fuel. The objective of the demonstration scale is to assess the technology performance and the feasibility of full-scale implementation at an existing or future WWTP. Six separate contracts are anticipated as part of this project including a qualitative risk analysis of the HTL system and an operations-maintenance contract independent of the AIWWTP facility operations. Procurement of a progressive design build contractor for the HTL system is underway and the design portion of the contract is expected to be awarded in Q1 2022. Design of the supporting ancillary systems outside of the HTL system is currently underway and is expected to be substantially completed in Q3 2022. The entire HTL demonstration plant is scheduled to be completed in 2025 and put in operation from 2025 to 2027.
- **LSA - Lulu Island WWTP Biogas Cleanup Project** - This project involves the design and construction of a new digester gas clean-up facility at LIWWTP for producing pipeline quality RNG (a.k.a. bio-methane) for sale to Fortis Energy Inc. This project supports Metro Vancouver's commitment to protect public health and the environment. This innovative treatment system will result in a decrease in the flaring of digester gas, a reduction in regional greenhouse gas emissions, and the reuse of a sustainable resource. The system will produce enough renewable natural gas to heat 400 homes and gas production will increase as our local population grows. The project is 97% completed as of December 2021 and is presently undergoing the 30-day commissioning period under the supervision of LIWWTP staff to prove out the system and remedy any deficiencies or performance shortcomings of the equipment as provided by the various suppliers and contractors. Owner's commissioning is expected to be completed by March of 2022.
- **LSA – LIWWTP Pilot Digestion Optimization Facility** - The Pilot Digestion Optimization Facility (PDOF) fabrication and installation was awarded to Tritech in Q1 2021. Fabrication of the equipment mounted in modular skids is currently underway in the contractor's facilities following a full review of shop drawings by MV in Q3 2021. The PDOF's purpose is to facilitate the evaluation of sludge digestion optimization techniques without risking full-scale operations. Lessons learnt at the pilot scale could be incorporated in existing and future plants leading to the deferral of significant investments such as building new digesters. The project is measured at 42% complete as of December 2021 with an expected completion date in Q3 2022. The PDOF is designed to be adaptable and transportable (being built in modules) to other WWTP sites (such as AIWWTP or ARC) for further research and testing purposes. Experimentation, data collection and trend analyses will be undertaken by both MV PPA and O&M in cooperation with UBC Okanagan research staff.

To: Liquid Waste Committee

From: Cheryl Nelms, General Manager, Project Delivery

Date: March 23, 2022

Meeting Date: April 13, 2022

Subject: **Project Delivery Capital Portfolio Update**

RECOMMENDATION

That the Liquid Waste Committee receive for information the report dated March 23, 2022 titled "Project Delivery Capital Portfolio Update".

EXECUTIVE SUMMARY

Metro Vancouver is providing an update on the Liquid Waste portfolio of major capital projects being delivered by the Project Delivery Department. This update contains project specific information and a portfolio dashboard that provides information on the various programs and projects being delivered by the Department. The next updates will be in July and October 2022.

PURPOSE

This report provides an update on the progress of major capital projects being delivered by the Project Delivery Department.

BACKGROUND

Metro Vancouver is implementing best practices related to governance and oversight on the highest value, risk, and consequence capital projects. A key deliverable is to provide regular, standardized updates on the portfolio of major capital projects being delivered by the Project Delivery Department. Metro Vancouver has developed a standardized dashboard report, which includes the following information for each major capital project:

- Primary location
- Project schedule over the next 10 years
- Project update
- Current status
- Anticipated date for next review by the relevant Metro Vancouver Board

To improve communication and transparency on these major capital projects, Metro Vancouver plans to provide three updates in 2022 – April, July and October.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

This is an information report. No financial implications are presented.

CONCLUSION

This report provides a progress update on the portfolio of capital projects being delivered by the Project Delivery Department. The next updates will be in July and October 2022.

Attachment

Project Delivery Capital Portfolio Dashboard – Liquid Waste Projects – April 2022

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Metro Vancouver Capital Projects Gantt Chart - Project Delivery
April 2022



Grandparent Name	Project Name	Municipality	Years										Comments	Status	Next Expected Board Review Date
			2022-2026 Capital Plan												
			2022	2023	2024	2025	2026	2027	2028	2029	2030	2031			
Liquid Waste															
Annacis Outfall															
	Annacis Outfall System	Delta											Construction is approximately 60% complete. In-river work is at some risk of delay due to poor performance of sub-contractor and global shipping issues.		Oct 2022
Annacis Stage 5															
	Annacis Stage 5 Expansion Phase 2	Delta											Engineering services in final stages of procurement and award		Jan 2024
	Annacis Stage 5 Expansion Phase 2a	Delta											Construction ongoing and nearing completion. Construction engineering services supporting Phase 2b construction ongoing to 2023.		n/a
	Annacis Stage 5 Expansion Phase 2b	Delta											Construction in progress for three early Phase 2 projects. Remaining Phase 2 projects to be constructed after detailed design.		Jan 2024
Biosolids Dryer															
	Biosolids Dryer	Langley Township											Regional biosolids drying facility will produce pellets that can be used as fuel in cement kilns or as an ingredient in fertilizer. (May be located at Northwest Langley or Annacis Island Waste Water Treatment Plant)		Sep 2023
Iona Island Waste Water Treatment Plant (IIWWTP)															
	IIWWTP Outfall Refurbishment	Richmond											Existing Iona Waste Water Treatment Plant outfall refurbishment (land based portion) to be completed by 2030		Nov 2022
	Iona Secondary Wastewater Treatment Upgrade - Phase 1	Richmond											Baseline budget and schedule has been established as part of final Project Definition Report and Stage Gate 1 approval in March 2022. Status is yellow as completion is 5-years beyond regulatory deadline.		Mar 2022
	Iona Secondary Wastewater Treatment Upgrade - Phase 2	Richmond													Mar 2022
	Iona Secondary Wastewater Treatment Upgrade - Phase 3	Richmond													Mar 2022
North Shore Waste Water Treatment Plant Secondary Upgrade & Conveyance															
	North Shore WWTP Secondary Upgrade	Dist of North Van											Construction 37% complete. Design Bid Finance contract terminated. New contractor RFQ process in progress.		Oct 2022
	North Shore WWTP Secondary Conveyance	Dist of North Van											Pump Station Acceptance achieved. Conveyance piping completion on schedule.		Oct 2022
	North Shore WWTP Secondary Decommissioning	Dist of North Van											Early design and investigation ongoing, decommissioning work to follow completion of treatment plant and conveyance; work is currently on hold		Oct 2022
Northwest Langley Waste Water Treatment Plant (NLWWTP)															
	Golden Ears Forcemain and River Crossing	Maple Ridge											Construction started in Q4 2021		
	Golden Ears Pump Station & SSO Tank	Maple Ridge											Construction of phase 1 started in 2020. 2nd phase of construction (River crossing pump installation and associated work) to be undertaken in 2027/2028 to align with WWTP.		
	NLWWTP Ground Improvements	Langley Township											Phase 1 construction completed 2020. Phase 2 expected completion 2024. Phase 3/4 expected completion 2025. Archaeology-finding dependent timelines.		Apr 2022
	NLWWTP Outfall	Langley Township											New outfall for the new expanded WWTP. This project has been significantly delayed due to the change in outfall location, but is not presently on the Program critical path.		
	NLWWTP Stage 1	Langley Township											New upgraded WWTP to be delivered in two main contracts (liquid stream and solid stream). Archaeological findings during ground Improvements delaying completion from 2027 to 2029; utilizing delay to perform re-design cost mitigation efforts.		Apr 2022

To: Liquid Waste Committee

From: Cheryl Nelms, General Manager, Project Delivery

Date: April 1, 2022 Meeting Date: April 13, 2022

Subject: **North Shore Wastewater Treatment Plant Project Update**

RECOMMENDATION

That the GVS&DD Board receive for information the report dated April 1, 2022, titled “North Shore Wastewater Treatment Plant Project Update”.

EXECUTIVE SUMMARY

Metro Vancouver has terminated its contract with Acciona Wastewater Solutions LP (Project Co) and is moving forward with a new project delivery model to complete the North Shore Wastewater Treatment Plant Project. Under the new model, Metro Vancouver is working with the general contractor PCL Constructors Westcoast Inc (PCL) to finalize construction and the design consultant AECOM to complete the design, to be the Engineer of Record, and to provide quality assurance services.

AECOM is proceeding with detailed design, and preparing “Issued for Construction” drawings which will be used in “Early Works Packages” for construction by PCL. PCL has signed the Pre-Construction Services Agreement and has taken responsibility for safety and security of the Project Site as of April 1, 2022 when it was transferred from Project Co. PCL is mobilizing resources for the construction management services contract and is commencing work toward developing a detailed Execution Plan, project schedule, and detailed cost estimate.

Project Co’s transition from the project is in progress, scheduled to be complete in late April 2022.

PURPOSE

The purpose of this report is to provide information to the Liquid Waste Committee and GVS&DD Board about the progress of the North Shore Wastewater Treatment Plant Project.

BACKGROUND

On January 20, 2022, the GVS&DD issued a notice of termination of the contract between GVS&DD and Project Co. Following termination of the contract, Metro Vancouver proceeded with work to engage an alternate general contractor and design consultant to deliver the project as quickly as possible and in the best interest of the region, with an intent to minimize costs and risks to the public.

The design and construction of the North Shore Wastewater Treatment Plant Project is partially complete. Completed construction includes ground improvement, approximately half of the superstructure structural concrete, and some in-street wastewater conveyance works.

Under the previous project delivery model, Project Co was responsible for the design, construction, commissioning, and process for performance for the plant. To help to expedite the project while also retaining the ability for competitive pricing of construction for the final delivery of the project, Metro Vancouver adjusted the project delivery model to retain a general contractor and a design consultant separately.

In accordance with this adjusted project delivery model, the project will be delivered in 2 phases: under Phase 1, the design consultant and the general contractor will work collaboratively with Metro Vancouver to advance the design and to develop a detailed execution plan, schedule and cost estimate to complete the project; Phase 2 will be the completion of all design, construction, and commissioning of the project.

DESIGN CONSULTANT SERVICES

Metro Vancouver staff have negotiated with AECOM to develop an amendment to their current “Owners Engineering” agreement allowing AECOM to assume all design responsibilities and obligations for the North Shore Wastewater Treatment Facility.

AECOM are in the process of building their team, familiarizing the team with the design completed by Project Co, and have started on detailed design of the structures on the critical path. It is anticipated that AECOM will be in a position to issue “Issued for Construction” drawings to support recommencement of construction works during Phase 1.

Having submitted all required documentation to the District of North Vancouver, AECOM is also now the Coordinating Registered Professional, the Discipline Engineer(s) of Record and Architect of Record, which are requirements of the BC Building Code.

GENERAL CONTRACTOR SERVICES

Following approval to award the Phase 1 contract to PCL by the GVS&DD Board February 25, 2022, Metro Vancouver entered into a formal agreement for construction management services with PCL in March 2022.

Transfer of the project site from Project Co to PCL occurred on April 1, 2022, whereby PCL assumes responsibility for site safety and security, environmental protection, limited maintenance on West 1st Street, dewatering operations, and site utilities.

In addition, Metro Vancouver is preparing the agreement necessary for issue of “Early Works Packages” to PCL. Early Works Packages will enable PCL to undertake specific construction work prior to Phase 2, to take advantage of the summer construction season and to deliver the project as quickly as possible and in the best interest of the region.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The current approved program budget for the North Shore Wastewater Treatment Plant Program is \$1.058B. The current approved budget for 2022 is \$267M. The project is working within the budget and current year cash flow.

As part of Phase 1, Metro Vancouver will work with AECOM and PCL to develop a plan to complete the project, including a revised project budget and schedule. The project will come to the Board in Q4 2022 with the revised project budget and schedule for approval.

CONCLUSION

Metro Vancouver has terminated its contract with Project Co and is moving forward with a new project delivery model to complete the North Shore Wastewater Treatment Plant Project. Under the new model, Metro Vancouver is working with the general contractor (PCL) to finalize construction and the design consultant (AECOM) to complete the design, to be the Engineer of Record, and to provide quality assurance services.

Design is underway by AECOM, and “Issued for Construction” drawings are being prepared which will be used to negotiate “Early Works Packages” upon commencement of PCL.

PCL has signed the Pre-Construction Services Agreement and has taken responsibility for safety and security of the Project Site as of April 1, 2022 when it was transferred from Project Co.

The project will come to the Board in Q4 2022 with the revised project budget and schedule for approval.

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To: Liquid Waste Committee

From: Cheryl Nelms, General Manager, Project Delivery

Date: April 6, 2022 Meeting Date: April 13, 2022

Subject: **Iona Island Wastewater Treatment Plant – Cost Sharing of Ferguson Road Upgrades**

RECOMMENDATION

That the GVS&DD Board authorize the Commissioner to execute a Road Corridor Construction and Cost Sharing Agreement with Vancouver Airport Authority for upgrades to and realignment of Ferguson Road, as outlined in the report dated April 6, 2022, titled “Iona Island Wastewater Treatment Plant – Cost Sharing of Ferguson Road Upgrades”.

EXECUTIVE SUMMARY

Ferguson Road is the only vehicle access point to Iona Island and the Iona Island Wastewater Treatment Plant (IIWWTP). The road cannot accommodate expected IIWWTP construction traffic volumes due to poor pavement conditions and does not have separation of cyclists and pedestrians from vehicular traffic. It also does not meet servicing requirements for the construction of the upgraded plant. A realigned and upgraded western section of Ferguson Road is required to address the existing road condition, separation between different road users, and servicing issues. These upgrades are part of critical works needed prior to commencement of ground improvement work for the new IIWWTP. These upgrades are in alignment with Metro Vancouver’s Regional Recreation Greenway Network as outlined in the *Regional Growth Strategy*, City of Richmond’s *2041 Official Community Plan* mobility and access objectives, and TransLink’s *Regional Transportation Strategy* goals. The Ferguson Road upgrades will be delivered through Vancouver Airport Authority with Metro Vancouver responsible for 50% of the capital costs and 50% of the maintenance costs until commissioning of the new IIWWTP. Staff recommend that the Board authorize the Commissioner to execute a Road Corridor Construction and Cost Sharing Agreement with Vancouver Airport Authority as outlined in this report.

PURPOSE

To provide the Board with information about Metro Vancouver’s negotiations with Vancouver Airport Authority for the cost of Ferguson Road upgrades in relation to the Iona Island Wastewater Treatment Plant Upgrade Projects (the “Iona Island Projects”), and to request that the Board authorize the Commissioner to execute a Road Corridor Construction and Cost Sharing Agreement with Vancouver Airport Authority.

BACKGROUND

At its March 25, 2022 meeting, the GVS&DD Board approved the conceptual design for the Iona Island Wastewater Treatment Plant Upgrade Projects as developed through the project definition process and summarized in the report dated March 2, 2022 titled “Iona Island Wastewater Treatment Plant Upgrade Projects – Project Definition and Conceptual Design Approval (Stage Gate 1)” (Reference 1),

with an estimated cost of \$9.9 billion, including escalation and risk reserve, subject to further stage gate approvals.

The Iona Island Wastewater Treatment Plant (IIWWTP) is located across the Fraser River from Musqueam's primary reserve IR#2 and the Vancouver International Airport with only one vehicle connection via Ferguson Road on the Vancouver International Airport side of the river. Ferguson Road provides access to core airport-related land uses and developments including Canada Post, UPS, airport fuel facilities, and YVR construction contractor yards. The road is also a popular route for cyclists, recreational users, and visitors to Iona Beach Regional Park.

FERGUSON ROAD

The current Ferguson Road alignment is comprised of two distinct sections:

1. The eastern section which is approximately 2.1 km long and has a robust two lane road complete with center turning lane and cycling lanes up from Grauer Road to the Canada Post facility near McDonald Road; and



Figure 1: Ferguson Rd - Eastern Improved Section

2. The western portion which is approximately 1.8 km long and consists of two sub-standard vehicle lanes, no shoulders, poor asphalt conditions, significant cracking and potholes, and is bordered by deep drainage ditches.



Figure 2: Ferguson Rd - Western Unimproved Section

Metro Vancouver requires road upgrades because the existing western road section cannot accommodate the expected IIWWTP construction traffic volumes due to the poor road conditions and separation of pedestrians and cyclists. This is a fundamental requirement to ensure safe operations of the high construction traffic volumes and duration. Construction traffic to support

ground improvements are currently forecast to start in Q3 2024. Additionally, relocation of the existing IIWWTP water, communications, electrical, and gas service is required prior to commencing ground improvement construction. Metro Vancouver would need to seek land tenure rights to construct the improvements as large portions of Ferguson Road are located on federally owned lands.

Vancouver Airport Authority has plans to realign the western portion of the road through federally owned property to address safety concerns and to support future Vancouver Airport Authority land development in this area. Vancouver Airport Authority would have undertaken this upgrade in the future at its own cost; however, the timing of the Iona Island Projects requires these improvements at an earlier date.



Figure 3: Ferguson Road Alignment

Metro Vancouver has been in ongoing discussions with Vancouver Airport Authority about the realignment and upgrades of the western portion of Ferguson Road to meet the objectives of the Iona Island Projects and future Vancouver Airport Authority land development in the area. The realigned and upgraded Ferguson Road will address safety concerns and IIWWTP utility requirements by providing the following:

- Improved pavement structure to support heavy construction traffic;
- Cycling lanes on both sides of Ferguson Road;
- A 4.0m wide multi-use path on the north side of Ferguson Road;
- Turning lanes; and,
- Utility improvements to service the existing and upgraded IIWWTP

Vancouver Airport Authority has agreed to deliver the Ferguson Road upgrades to Metro Vancouver's benefit with construction starting in May 2022 and completing summer 2024. These upgrades are a critical safety and servicing component to the Iona Island Projects and must be completed to maintain the current project baseline schedule.

The Ferguson Road upgrades are in alignment with Metro Vancouver’s Regional Recreation Greenway Network as outlined in the *Regional Growth Strategy* (Reference 2), City of Richmond’s *2041 Official Community Plan* (Reference 3) mobility and access objectives, and TransLink’s *Regional Transportation Strategy* goals (Reference 4).

ALTERNATIVES

1. That the GVS&DD Board authorize the Commissioner to execute a Road Corridor Construction and Cost Sharing Agreement with Vancouver Airport Authority for upgrades to and realignment of Ferguson Road, as outlined in the report dated April 6, 2022, titled “Iona Island Wastewater Treatment Plant – Cost Sharing of Ferguson Road Upgrades”.
2. That the GVS&DD receive for information the report dated April 6, 2022, titled “Iona Island Wastewater Treatment Plant – Cost Sharing of Ferguson Road Upgrades”, and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

The Ferguson Road capital upgrades are estimated by the Airport Authority to be \$26 million. If the Board authorizes the Commissioner to execute a Ferguson Road upgrades cost sharing agreement with Vancouver Airport Authority, Metro Vancouver will be responsible for approximately 50% of these capital costs. Metro Vancouver will also be responsible for 50% of the costs for maintenance of Ferguson Road until the expected commissioning of the upgraded IIWWTP in 2035. Following commissioning of the IIWWTP, Metro Vancouver’s financial obligation for maintenance will cease. The Iona Island Projects capital estimate includes an adequate allowance for the construction and maintenance of the Ferguson Road upgrades.

OTHER IMPLICATIONS

If Metro Vancouver does not execute a Road Corridor Construction and Cost Sharing Agreement with Vancouver Airport Authority, there could be significant delays to the overall schedule of the Iona Island Projects which would result in a delay to the currently expected commissioning of the upgraded IIWWTP in 2035. As portions of these lands are federally owned, Metro Vancouver would still need to seek land tenure rights to construct road improvements.

CONCLUSION

Ferguson Road is the only vehicle access point to Iona Island and the existing poor road conditions, lack of separation between pedestrian and cyclists with vehicular traffic, or servicing meet the requirements for the construction of the new treatment plant. A realigned and upgraded Ferguson Road will address these concerns as well as demonstrate Metro Vancouver’s commitment to the Regional Recreation Greenway Network. These upgrades are part of critical work needed prior to starting ground improvements for the new treatment plant. Staff recommend authorizing the Commissioner to execute a Ferguson Road cost sharing agreement with Vancouver Airport Authority.

References

1. [“Iona Island Wastewater Treatment Plant Upgrade Projects – Project Definition and Conceptual Design Approval \(Stage Gate 1\)”](#), report dated March 2, 2022
2. [Metro 2040 \(Regional Growth Strategy\)](#)

3. [City of Richmond Bylaw 9000 \(2041 Official Community Plan\)](#)
4. [Transport 2050 \(Regional Transportation Strategy\)](#)

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To: Liquid Waste Committee

From: Tom Sadleir, Program Manager, Community Engagement, External Relations
Brent Burton, Division Manager, Policy, Planning and Analysis, Liquid Waste Services

Date: March 23, 2022 Meeting Date: April 13, 2022

Subject: **Liquid Waste Management Plan Review and Update – Report on Phase 1**

RECOMMENDATION

That the GVS&DD Board authorize staff to proceed with the next phase of the engagement process to update the Liquid Waste Management Plan, as outlined in the report dated March 23, 2022, titled “Liquid Waste Management Plan Review and Update – Report on Phase 1”.

EXECUTIVE SUMMARY

Metro Vancouver began engagement activities for the Integrated Liquid Waste and Resource Management Plan review and update in July 2021. The first phase of engagement included reviewing the existing plan and seeking input on a vision and guiding principles for the next plan. Staff engaged Metro Vancouver’s technical advisory committees, the public, stakeholders, and Indigenous Nations and peoples. Some key themes that emerged during engagement interest in: improving local ecosystem health for recreational, agricultural, and Indigenous uses; being resilient to climate change; ensuring everyone has access to clean waterways, including future generations; and keeping rates affordable and fair. An engagement strategy has been developed to support the next phase of engagement, which includes developing goals, strategies, and actions for the updated plan. Staff will share the Phase 1 engagement results and Phase 2 engagement strategy with the Ministry of Environment and Climate Change Strategy for information before initiating Phase 2 engagement this spring.

PURPOSE

To provide the Board with the results of the first phase of engagement on the Liquid Waste Management Plan review and update and seek authorization to begin the next phase of engagement to develop draft goals, strategies, and actions for the updated plan.

BACKGROUND

Since mid-2020, staff have been meeting with member jurisdiction staff to identify early priorities for the plan review and update through presentations and workshops. On March 26, 2021, the Ministry of Environment and Climate Change Strategy approved the engagement-focused plan review and update strategy following approval by the GVS&DD Board at its meeting of October 2, 2020. Following receipt of this approval, staff initiated the first phase of the formal engagement process, which included reviewing the existing plan and identifying high-level priorities, including a new vision and guiding principles for the updated plan.

ENGAGEMENT PROCESS

Activities by Audience

Metro Vancouver engaged the following groups during the first phase:

Metro Vancouver Advisory Committees

In addition to providing updates at regular meetings, staff hosted two joint special meetings with the Regional Administrative Advisory Committee (RAAC) and Regional Engineers Advisory Committee (REAC) in July 2020 and October 2021. Staff presented to the Regional Finance Advisory Committee (RFAC) in October 2020 and November 2021.

Staff hosted technical workshops and meetings, and delivered presentations to the following groups:

- REAC Liquid Waste Subcommittee (REAC-LWSC): March 2020, July 2021, and February 2022
- Stormwater Interagency Liaison Group (SILG): May 2020, July 2020, September 2020, November 2020, January 2021, March 2021, May 2021, July 2021, and February 2022
- Environmental Monitoring Committee (EMC): April 2020, April 2021, and November 2021
- Combined Sewer Overflow Elimination Working Group (CSOEWG): November 2021 and February 2022
- Regional Planners Advisory Committee – Environment Subcommittee (RPAC-ENV): February 2021 and November 2021

Indigenous Nations and Peoples

The following were contacted about engagement opportunities for the plan update:

- | | | |
|------------------------------------|------------------------------|--|
| • Cowichan Tribes | • Penelakut Tribe | • St'at'imc Chiefs Council (Lillooet Tribal Council) |
| • Douglas Band (Xa'xtsa) | • Peters First Nation | • Stó:lō Nation |
| • Halalt First Nation | • Qayqayt First Nation | • Stó:lō Tribal Council |
| • Katzie First Nation | • Samahquam First Nation | • Stz'uminus First Nation |
| • Kwantlen First Nation | • Seabird Island Band | • Te'mexw Treaty Association |
| • Kwikwetlem First Nation | • Semiahmoo First Nation | • Tsartlip First Nation |
| • Lake Cowichan First Nation | • Shxw'ow'hamel First Nation | • Tsawout First Nation |
| • Lyackson First Nation | • Skatin Nations | • Tsawwassen First Nation |
| • Matsqui First Nation | • Skawahlook First Nation | • Tseycum First Nation |
| • Métis Nation of British Columbia | • Snaw-Naw-As First Nation | • Tsleil-Waututh Nation |
| • Musqueam Indian Band | • Soowahlie First Nation | • Vancouver Aboriginal Friendship Centre Society |
| • Pauquachin First Nation | • Squamish Nation | |

Tsleil-Waututh Nation, Musqueam Indian Band, and Kwikwetlem First Nation provided comments related to the overall direction of the plan update and have confirmed their interest in participating in the next phase of engagement. Cowichan Tribes also provided comments on the existing plan. Staff will continue to keep Indigenous Nations and peoples informed of upcoming engagement opportunities.

Liquid Waste Management Plan Public Advisory Committee

The Liquid Waste Management Plan Public Advisory Committee (PAC) includes nine community members who were appointed by the GVS&DD Board and bring a variety of perspectives to wastewater issues. The public advisory committee members participated in two meetings in fall 2021 and will continue to advise the project team during the plan update. They will make recommendations to the Liquid Waste Committee at the end of the next engagement phase.

Public

- Two online open houses (November 9 and 16, 2021), 50+ participants
- Online questionnaire (October 25 – November 30, 2021), 60 responses
- Booth and survey at Pacific National Exhibition (PNE) (August 2021), 1,500+ responses
- Students (presentations to Masters in Engineering Leadership students at the University of British Columbia and Metro Vancouver's Youth4Action Program)

A comprehensive report of the public engagement activities and results appear in Attachment 1: Phase 1 Public Engagement Summary.

COMMUNICATIONS

The following communication tools were used to raise awareness about the plan update, provide project updates, and encourage participation in engagement opportunities:

- Updates posted regularly to the project webpage (see Reference)
 - 3,280+ page views (July 2021 to February 2022)
 - 1,140+ page visits to project engagement portal (October 25 to November 30, 2021)
- Project video highlighting key topics and engagement opportunities
 - 360 online views
- 6 email updates and invitations to engagement opportunities provided via the project email subscription database
 - 970+ subscribers, as of February 2022
- 2 advertisements placed in the Vancouver Sun and Province newspapers
 - Promoted public advisory committee opportunity
- 22 social media posts about the project, 6,090+ comments, reactions, shares and clicks on Facebook, Instagram and Twitter

ENGAGEMENT RESULTS

The scope of the first phase of engagement was to review the existing plan and seek input on the overall direction for the next plan, including a draft vision and guiding principles. Staff developed a draft vision statement and concepts for guiding principles for input, which have been refined to reflect feedback from member jurisdiction staff, technical advisory committees, the public, and Indigenous Nations. The vision and principles could be further refined if necessary to reflect input from future engagement phases:

Vision Statement

Healthy Waters: For All. Forever.

"Healthy Waters": Protect the waters that sustain life and make this region a great place to be

"For All": Protect these waters for all life

"Forever": Protect these waters for generations to come

Concepts for Guiding Principles

All liquid waste management plans must hold paramount the protection of public and environmental health to be approvable, and this will be an overarching principle of the plan. Other principles which have been established include:

- Be resilient, innovative, and cost-effective: The plan will integrate opportunities to do things better and enhance resilience — all while striving for value and cost-effectiveness in everything we do.
- Collaborate openly and transparently with others: Opportunities will be included to openly share data and metrics on how we're doing and to work with others on key challenges including constituents of environmental concern and climate change.
- Embrace fairness and equity: The plan needs to progress social equity where opportunities arise — for example, in conversations as to where liquid waste facilities are located and how they are operated.
- Integrate reconciliation: Many past decisions (such as siting of wastewater treatment plants) haven't been made with adequate engagement with Indigenous Nations and peoples. Moving forward, there are many opportunities to do things better using liquid waste management as a pathway towards reconciliation.
- Be a good global citizen: There are many opportunities in the new plan for Metro Vancouver to demonstrate its global commitment — for example, by integrating targets for greenhouse gas mitigation.

Themes We Heard:

Overall, engagement participants were supportive of the high-level direction for the next plan. Online polling in workshops with member jurisdictions and the public indicated the majority of participants feel the draft vision and guiding principle concepts reflect their values for the next plan. Other key themes that emerged during engagement reflect a desire to:

- Improve local ecosystem health for recreational, agricultural, and Indigenous uses
- Be resilient to climate change
- Ensure everyone has access to clean waterways, including future generations
- Keep rates affordable and fair, and provide value for services
- Integrate improved performance metrics and streamline progress reporting to focus on key areas of interest and importance to the Ministry of Environment and Climate Change Strategy and the public
- Accelerate action on wet weather flows, including those originating on private property from inflow and infiltration (I&I), that lead to sewer overflows

The comments and questions raised by the public and Indigenous Nations during engagement and Metro Vancouver's responses to those issues appear in Attachment 2: Feedback – Response Table.

PHASE 2 – DEVELOPING GOALS, STRATEGIES AND ACTIONS

Metro Vancouver's next liquid waste management plan is proposed to follow a similar format as the current plan and the current draft Metro 2050 Regional Growth Strategy – vision, principles, goals, strategies and actions. Later this spring, staff plan to begin the second phase of the engagement program focusing on developing a range of detailed goals, strategies, and actions for the updated

plan. A preliminary framework for the second phase of engagement appears in Attachment 3: Phase 2 Engagement Strategy. Based on engagement to date and work done by the project team, the following topics have been identified for further engagement with members, the public, and Indigenous Nations and peoples, during the next phase:

- Wet weather flows and sanitary sewers
- Sewer separation and combined sewer overflow elimination
- Holistic stormwater management
- Treatment levels and resource recovery
- Affordability
- Measuring success

Staff will provide multiple and diverse opportunities for all interested and impacted people and organizations to share their ideas on each topic area through a series of workshops, meetings, and online questionnaires.

Once draft goals, strategies, and actions have been developed, they will be grouped into several scenarios, reflecting future pathways for the next plan ranging from meeting minimum regulatory requirements in the most cost-effective manner to international leadership on environmental action. At the conclusion of Phase 2, staff will request the GVS&DD Board to provide direction on which pathway to follow.

The Liquid Waste Management Plan Public Advisory Committee will also provide recommendations to the Liquid Waste Committee at the end of Phase 2.

ALTERNATIVES

1. That the GVS&DD Board authorize staff to proceed with the next phase of the engagement process to update the Liquid Waste Management Plan, as outlined in the report dated March 23, 2022, titled “Liquid Waste Management Plan Review and Update – Report on Phase 1”.
2. That the GVS&DD Board receive for information the report dated March 23, 2022, titled “Liquid Waste Management Plan Review and Update – Report on Phase 1”, and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

The costs of liquid waste management plan engagement are included in annual GVS&DD budgets.

CONCLUSION

Metro Vancouver began engagement activities for the Integrated Liquid Waste and Resource Management Plan review and update in July 2021. The first phase of engagement included reviewing the existing plan and seeking input on a vision and guiding principles for the next plan. Staff engaged technical advisory committees, the public, stakeholders, and Indigenous Nations and peoples. Based on engagement input, staff have identified several topics for further engagement during the next phase, as outlined in the Phase 2 engagement strategy. Staff will share the Phase 1 engagement results and Phase 2 engagement strategy with the Ministry of Environment and Climate Change Strategy for information before starting Phase 2 engagement this spring.

Attachments

1. Phase 1 Public Engagement Summary, dated March 16, 2022
2. Feedback – Response Table, dated March 10, 2022
3. Phase 2 Engagement Strategy, dated March 17, 2022

References

[Liquid Waste Management Plan Update webpage](#)

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Liquid Waste Management Plan Update

Phase 1 Public Engagement Summary Report

Acknowledgements

Thank you to everyone who provided input on the first phase of public engagement for the Liquid Waste Management Plan update. Metro Vancouver embraces collaboration and innovation to provide sustainable regional services, contributing to a livable and resilient region, and a healthy natural environment for current and future generations. The purpose of this first phase of engagement was to stimulate ideas and gather feedback on the direction for the next plan. The content developed will form the basis for the next engagement phase, which includes developing draft goals, strategies, and actions for the updated plan. We appreciate your time as well as the insights and comments you shared with us during this first phase. We invite you to participate in the second phase of engagement later in 2022.

About Metro Vancouver

Metro Vancouver is a federation of 21 municipalities, one electoral area, and one treaty First Nation that collaboratively plans for and delivers regional-scale services. Its core services are drinking water, wastewater treatment, and solid waste management. Metro Vancouver also regulates air quality, plans for urban growth, manages a regional parks system, and provides affordable housing. The regional district is governed by a Board of Directors of elected officials from each local authority.

4515 Central Blvd, Burnaby, BC, V5H 0C6
www.metrovancouver.org

March 2022



Fraser River - Northwest Langley Wastewater Treatment Plant

About the Liquid Waste Management Plan

We all create wastewater as part of our daily lives when we use our sinks, toilets, washing machines, and anything else that sends water into a drain. We also create it when we use water in our businesses and industries. How we manage and treat this wastewater, along with stormwater from rain and melting snow, plays an important role in protecting our public health and environment — including the oceans, rivers, and streams all around us.

Metro Vancouver and our members are part of a regional system that collects and treats over 1 billion litres of wastewater every day. The management of this regional system is guided by the **Liquid Waste Management Plan**.

Our current *Integrated Liquid Waste and Resource Management Plan*, approved by the provincial government in 2011, requires an update to:

- Continue protecting human health and the environment
- Integrate Indigenous perspectives
- Incorporate innovative technologies and new scientific developments
- Reflect societal priorities
- Align with other initiatives

The next plan will address evolving challenges like climate change, sewer overflows, and contaminants in our environment – all while keeping costs as affordable as possible.

The plan update began in 2021 and is expected to take three years.

About the engagement program

The first phase of public engagement for the Liquid Waste Management Plan took place between October 25 and November 30, 2021. Due to the COVID-19 pandemic, the engagement was held online. During this time, we held two online open houses and received 60 responses to our online feedback form. We have summarized what we heard in this report and will use the feedback, along with input from member jurisdictions and Indigenous Nations and peoples, to inform the next engagement phase, which includes developing draft goals, strategies and actions for the updated plan.

Phase 1 – 2021	Phase 2 – 2022	Phase 3 – 2023	2023 – 2024
Vision and Guiding Principles	Goals, Strategies and Actions	Draft Plan	Plan Approval



Public Advisory Committee

In September 2021, Metro Vancouver established the Liquid Waste Management Plan Public Advisory Committee to provide expert knowledge and relevant experience to inform the update of the plan. The committee includes nine community members who bring a variety of perspectives to wastewater issues.

Committee members participated in two meetings in fall 2021 and will continue to advise the project team during the plan update. The committee will make recommendations to Metro Vancouver's Liquid Waste Committee after the second engagement phase.

WHAT WE DID

We conducted the following activities as part of the first phase of engagement:

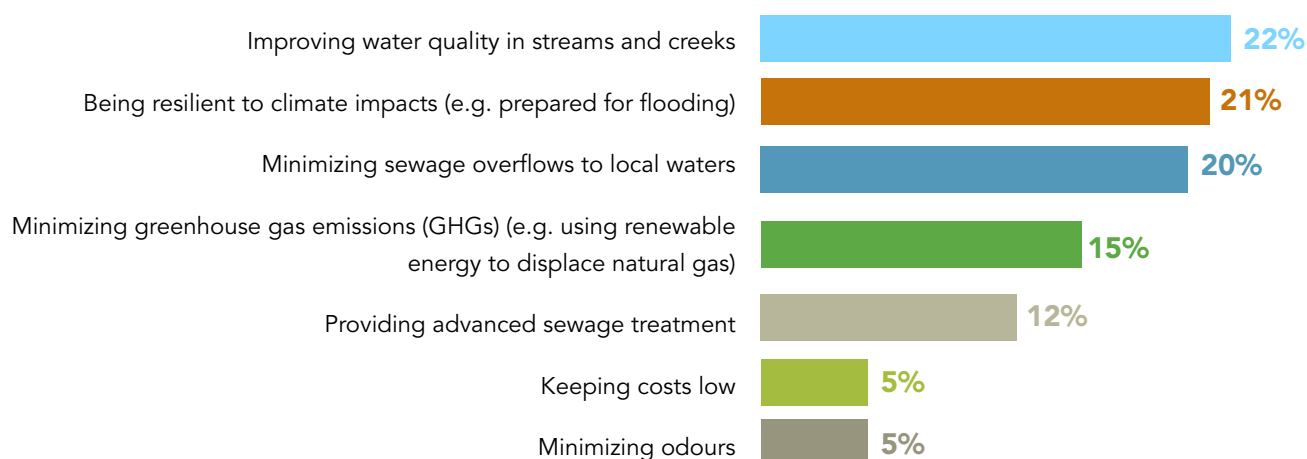
Outreach	
 3,287 visits to project webpage	 2 advertisements in the Vancouver Sun and Province newspapers
 updates sent to 970+ email subscribers	 22 social media posts 152,413 unique views 6,069 comments, reactions, shares and clicks
Engagement	
 1,140+ page visits to project engagement portal	
 360 views of project video	
 9 community members appointed to the Public Advisory Committee	
 2 online open houses	
 60 questionnaire responses	
 1,500 PNE survey responses about wastewater priorities	
 25 workshops and meetings with member jurisdictions, technical advisory committees, First Nations, and the plan's Public Advisory Committee	
 250+ comments and questions received via meetings, questionnaire and emails	

WHAT WE HEARD

Priorities for Wastewater Management in the Region

Questionnaire respondents were asked to share their priorities for wastewater management in the region. Most people indicated improving water quality and minimizing sewage overflows to local waters are most important to them.

What's important to you about wastewater management for the region? (pick a maximum of 3)



Summary of other priorities for wastewater management in the region:

- Including Indigenous Nations and peoples in the planning process
- Recovering energy and reusing water
- Using green infrastructure to absorb and filter stormwater
- Using source control to reduce chemicals, micro plastics and wipes from entering the wastewater system and environment
- Protecting marine and aquatic life as well as ecosystem health
- Providing employment opportunities and enhanced opportunities for apprenticeships and training
- Providing transparent and accessible water quality data
- Restoring lost creeks and streams
- Continuing to educate and engage the public about wastewater topics
- Maintaining beach and swimming access



Healthy Waters: For All. Forever.

Questionnaire respondents were asked to share what the draft vision statement for the updated plan, Healthy Waters: For All. Forever. means to them and provide their ideas to achieve this vision.

What does Healthy Waters. For All. Forever. mean to you?

Summary of responses:

- Waters are protected for recreational and agricultural purposes (e.g. swimmable, fishable, drinkable)
- Waters are protected for Indigenous uses
- Rivers, streams, aquifers, and oceans are clean for future generations
- Wildlife habitat and ecosystem health is maintained (e.g. focus on salmon and whale health)
- Sanitary sewage is treated at wastewater treatment plants and doesn't overflow to local waterways during rain events
- Pollutants are kept out of stormwater
- Water is reused (e.g. greywater, stormwater)
- Everyone has access to clean waterways
- Wastewater systems are resilient to climate change
- Pollution from industry and development is managed

Summary of ideas to achieve Healthy Waters. For All. Forever.:

- Ban toxic chemicals that end up in local waters
- Use green infrastructure to manage stormwater (e.g. use green spaces for stormwater infiltration, incentivize tree retention and planting on private property)
- Prioritize sewer upgrades to eliminate overflows
- Prevent illegal dumping
- Encourage member municipalities to capture, infiltrate, and treat stormwater. Ensure private and public developments have stormwater infiltration
- Collaborate with local First Nations to set objectives
- Encourage residents and businesses to do their part to protect the wastewater system and local waters
- Use public art to promote dialogue about wastewater topics
- Collaborate with industry to reduce contaminants (e.g. fashion industry to reduce microfibres)
- Invest in resilient wastewater infrastructure
- Reuse water wherever possible (e.g. grey water, stormwater)
- Use advanced wastewater treatment technologies
- Prevent industrial runoff
- Prepare for the impacts of climate change
- Encourage responsible development that respects waterways, including aquifers, and maintains tree canopy

Guiding Principles

The next plan will continue to protect the health of the region's people and environment. The following framework for principles is proposed to help guide us towards this. Questionnaire respondents were asked if some early concepts for principles reflect their values and aspirations for the next plan.

Principle 1: Innovate, strive for value and cost effectiveness, be resilient and adaptive to climate change

Summary of ideas:

- Prioritize protecting ecosystem and wildlife health over striving for cost effectiveness (e.g. keeping costs low now may cost the region more in the future)
- Take actions to implement important changes now
- Include full cost accounting rather than just the short term capital cost
- Include the value of ecosystem services gained / lost
- Invest in resilient systems with a long service life to prepare for climate change impacts (e.g. atmospheric rivers and flooding)
- Adapt to new and innovative technology
- Incorporate Indigenous ways of knowing
- Costs should be distributed equitably with some paying more towards costs
- Create off channel habitat so fish have some place to go in storm events
- Use green infrastructure and regulations to achieve climate resilience (e.g. set thresholds for impervious surfaces on a watershed scale, use forested and biodiverse areas for water absorption and filtration)

Collaborate closely with a range of organizations to achieve outcomes that are beneficial for all, share data on how we are doing openly and transparently, and align with other initiatives taking place in the region

Summary of ideas:

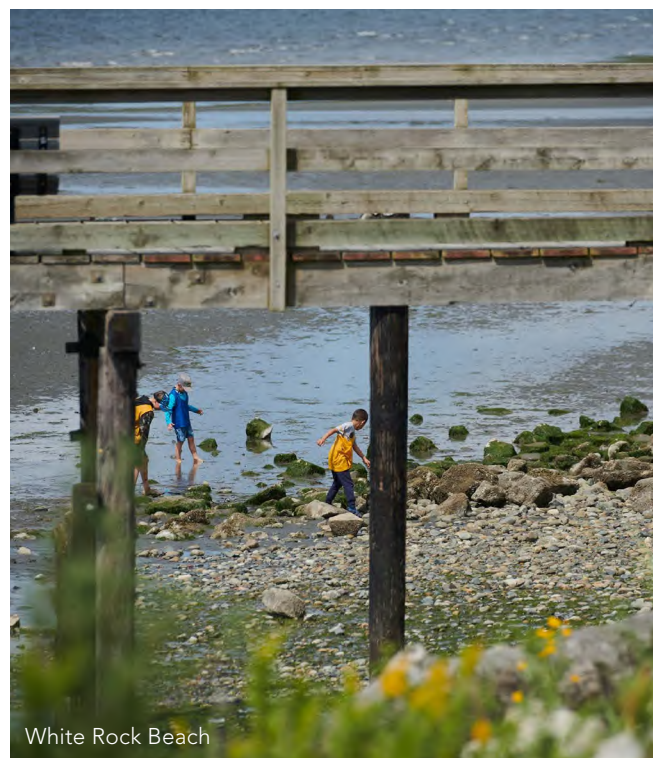
- Hold corporations to a higher standard of responsibility for water use and waste
- Consider habitat conservation and restoration opportunities and gains in biodiversity
- Prioritize public education, which is sometimes more important than “opinion collecting” because there is a lack of understanding about stormwater issues
- Create a legacy of diverse environmental stewardship leaders
- Ensure there is an adequate industrial / commercial land with access to the sewage system to improve and enhance the region’s long term employment options
- Encourage new sustainable industries to locate to the region
- Repair failing infrastructure
- Help stewardship groups connect with Metro Vancouver
- Take accountability for sewer overflows and collaborate with others to eliminate these events
- Provide real-time transparent data to inform decision making. Provide an open source database of information
- Align with Indigenous priorities (e.g. Burrard Inlet water quality objectives and the Shared Waters Initiative in Boundary Bay)

- Prioritize the needs of residents and businesses over developers
- Empower residents to develop solutions to issues in their neighbourhoods
- Provide opportunities for non-staff members to connect with politicians on local issues

Integrate equity throughout, including fairness and justice, to address any barriers that may keep people from accessing wastewater services

Summary of ideas:

- Encourage all member municipalities to retain, enhance, and beautify green infrastructure (e.g. grass swales and ditches), which are sometimes located in lower income neighborhoods
- Include reconciliation with Indigenous Nations and peoples (e.g. include First Nations in objective-setting and co-leadership related to watershed health and protecting traditional shellfish sources)





Minimize greenhouse gas emissions and contributions of pollutants to the environment, including the ocean and our local rivers and streams

Summary of ideas:

- Integrate low-tech stormwater infiltration solutions (e.g. rain gardens) to reduce pollutants
- Increase renewals and reduce natural gas
- Use advanced and proven treatment technologies
- Invest in eliminating pollutants so we can have a healthy and lasting ecosystem.
- Clarify what is meant by "minimize"
- Hold industry accountable for their polluting products
- Maintain and restore riparian areas
- Strive for a net zero impact of effluents once leaving the treatment facility
- Collaborate with international and local researchers (e.g. microplastics)
- Re-arrange sequence to flow downhill: "including streams, rivers, and the ocean"
- Consider the climate impacts of urban sprawl and losses in biodiversity
- Increase water quality standards for stormwater to address pollution (e.g. pharmaceuticals and fecal bacteria).
- Require ongoing monitoring for adaptive management
- Consider the climate impacts of construction
- Make local beaches swimmable
- Make costs equitable (e.g. industry should pay more than residents)
- Address urgent drainage issues (e.g. Little Campbell River)
- Improve transparency around data sharing
- Provide meaningful opportunities for local residents to meet with government representatives during planning processes
- Address impacts of past decisions that were made without Indigenous Nation consultation (e.g. siting of Iona Island Wastewater Treatment Plant, the routing of the Highbury Interceptor, and the impacts of both on Musqueam Indian Band)

Aspirations for the Next Plan

Questionnaire respondents were asked to share their aspirations for the next plan. Here is a summary of the ideas:

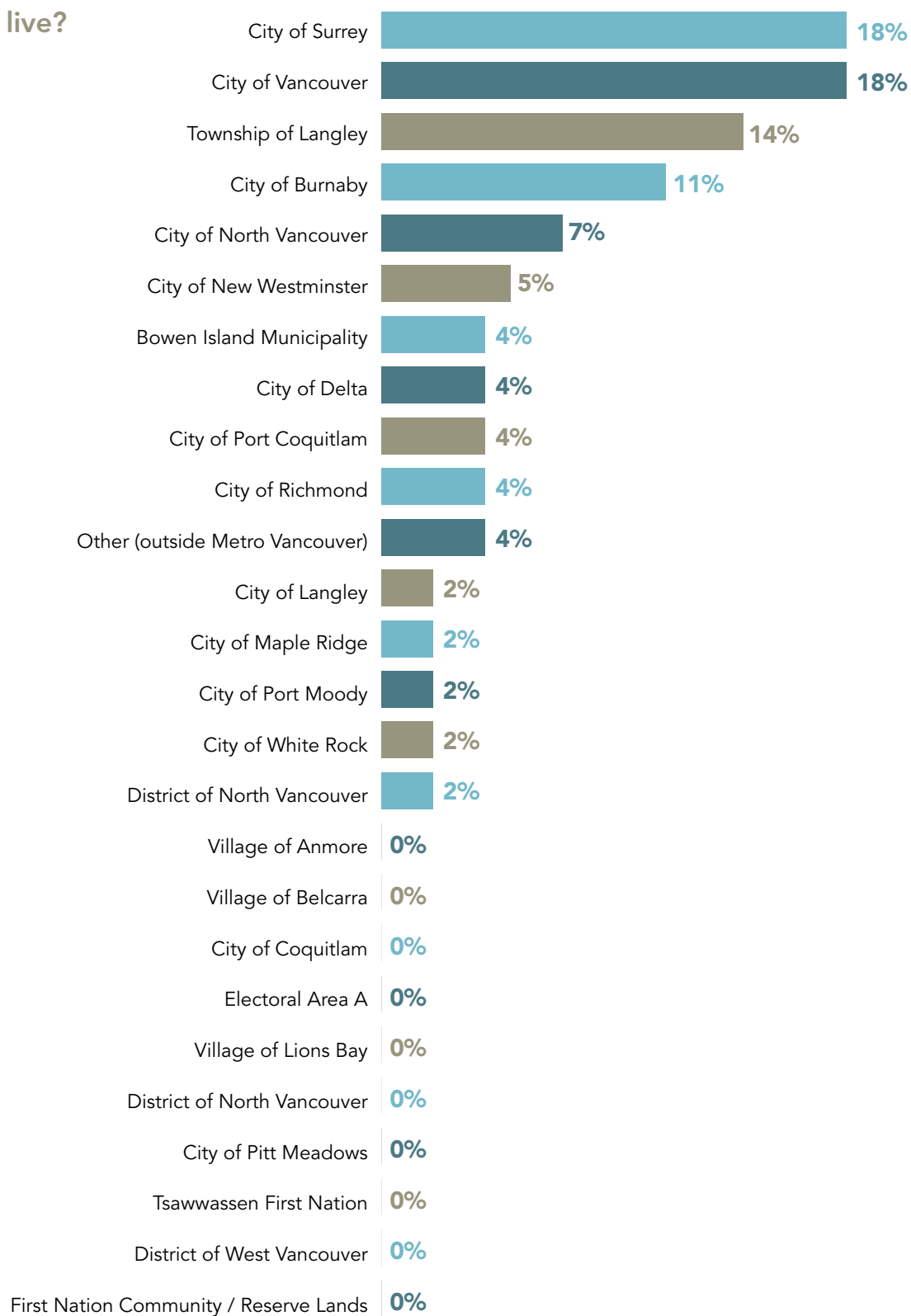
- Clean and healthy streams and creeks (e.g. actions that support salmon returns)
- Better public awareness about how individual actions can impact the wastewater system and environment (e.g. more education about microfibres)
- Community integration of wastewater infrastructure
- Effective and efficient wastewater treatment that is affordable for residents
- Reconciliation with First Nations
- Reflective of community input
- Accelerated repairs and upgrades to the wastewater system to eliminate sewer overflows
- Metro Vancouver becomes a world leader in wastewater management
- Advanced treatment technologies at all wastewater treatment plants
- Action oriented with concrete plans and metrics (address urgent needs first)
- Transparent reporting on plan progress including water quality and sewer overflow data
- Linkages to water conservation plans
- Green infrastructure and natural filtration systems to improve water quality and address flood risks
- Public education on stormwater management
- Resilient to climate change, including flood risks
- Collaboration opportunities, including public-private partnerships
- Linkages to other provincial and federal regulations
- Improved standards and regulations to keep harmful chemicals and pollutants out of the wastewater system and the environment



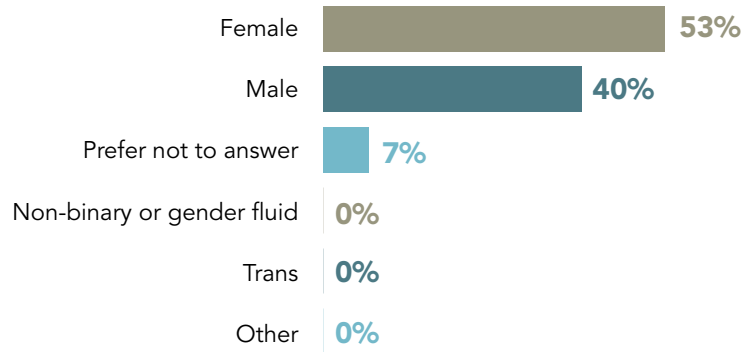
A heron in Burrard Inlet

Who provided feedback

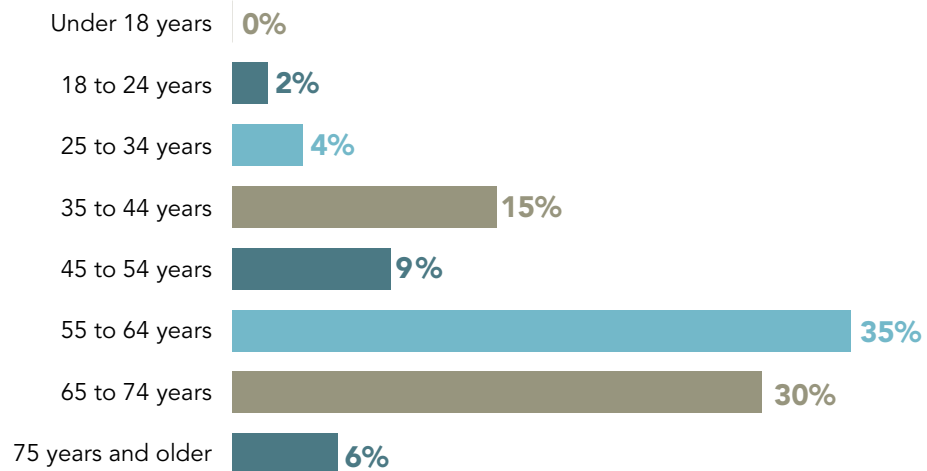
Where do you live?



What is your gender?



What is your age?



What's Next

Metro Vancouver will consider feedback received during the first phase of engagement to inform the next engagement phase, which includes developing draft goals, strategies and actions for the updated plan. Engagement highlights and notable project updates will be posted on the project website. Opportunities will be provided to provide additional input during the second phase of engagement, which is anticipated for fall 2022.

To stay informed of future opportunities to provide your feedback, sign up for project updates at metrovancover.org (Search "Liquid Waste Management Plan")

CONTACT US

Metro Vancouver Information Centre:

604-432-6200

(Monday to Friday from 8:00 am to 4:30 pm)

Email: lwmp@metrovancover.org

Website: metrovancover.org and search "Liquid Waste Management Plan"

Comment Details				Metro Vancouver
ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
Affordability				
1	Healthy Waters Webinar Webinar Participants Nov 9, 2021	Nov 9, 2021	Will you be considering household metering?	MV will soon be initiating its Drinking Water Management Plan review and update. Residential water metering will be considered through that process - however, each municipality can make its decision on whether it will be required.
2	Healthy Waters Webinar Webinar Participants Nov 9, 2021	Nov 9, 2021	How are the district’s efforts financed and how do they relate to me as a homeowner? How is the LWMP paid for and how does that relate to property taxes?	As a regional utility, GVS&DD is required to develop and submit the LWMP to meet regulatory requirements to the Province. The plan is funded under the GVS&DD levy. The services provided by GVS&DD form the bulk of the levy and a number of large infrastructure projects are funded through the levy or other mechanisms such as development cost charges.
3	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	Would the regulations against polluting the environment not be the goal to address challenges, rather than the cost?	We prioritize public health and the environment, and the LWMP must hold that paramount in order for it to be approved by the Province. We also recognize this is an expensive region to live and work in and there are a number of costs coming up, including significant treatment plant upgrades. We also need to be sensitive to the affordability challenges of residents and businesses.
4	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	The Committee should take into consideration what “affordable” means in regard to the elimination of CSOs.	Separation was selected in this region to allow for an affordable pathway towards elimination as these combined sewers reach the end of their useful life. It also aligned with local factors such as high volumes of winter rainfall, rapid site redevelopment on private property allowing for private-side separation, etc.
Climate Change				
5	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	What is the plan for the co-generation projects (using biogas as a resource to provide heat and electricity) to be implemented, in both the short- and long-term?	We are committed to evaluating and beneficially using resources like biogas. MV already uses biogas at its facilities to meet its own heating needs, and has additional capacity most of the year. Excess biogas can be used for co-generation, cleaned up and used as renewable natural gas throughout the region, or used to dry biosolids, creating another clean energy source. Co-generating infrastructure is in place or planned at three of our WWTPs (Iona Island, Annacis Island, and planned for the new North Shore plant). A renewable natural gas facility is in place at the Lulu Island plant. We continue to evaluate opportunities from a financial, environmental, and social perspective, as guided by the LWMP and the Board Strategic Plan, with intent to continue achieving the most beneficial uses of this resource for the region. More information is available on the MV website by searching "Turning wastewater into energy".
6	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	What is the plan to protect existing plants from risk of future environmental changes due to greenhouse gasses, like rising sea levels in the future?	We all have a role in addressing climate change. We need to actively protect our infrastructure. Much of the infrastructure we have is located at low elevation and close to the sea, making it inherently vulnerable to sea level rise. We need to use a combination of actions for new builds (e.g. hard and soft infrastructure), and reduce the energy of the waves. Increasing intensity of rain and atmospheric rivers is also a challenge.
7	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	Is it practical to use waste heat from the sewage plant to heat surrounding buildings?	Examples include the Neighbourhood Energy Utility and work at the North Shore Wastewater Treatment Plant. This is also being explored at the new Iona Island Wastewater Treatment Plant.
8	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	The Intergovernmental Panel on Climate Change (IPCC) Report should be reviewed to consider potential climate-related impacts.	MV strives to keep climate scenarios current as science evolves. As one example, a major consulting report was completed in 2019 which identifies future precipitation intensities for a range of future scenarios.
9	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	How are risk and resilience being considered? How is sea level rise being considered? Are different aspects of risk being considered? Are seismic risks considered? Anything posing a risk to the liquid waste system is something to be incorporated in the plan update.	These risks may be addressed through a scenario-planning approach; a similar approach was used for a regional long-term water strategy available on the MV website.

ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
10	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	Question about atmospheric depositions.	Liquid Waste Services environmental management programs are designed to assess potential impact of discharges from liquid waste infrastructure and do not include characterization of atmospheric depositions.
Engagement and Collaboration				
11	Healthy Waters Webinar Webinar Participants Nov 9, 2021	Nov 9, 2021	Where could MV have been more equitable in past LWMP engagements and how will MV improve going forward?	Historically, a number of MV facilities were built in close proximity to First Nation communities without meaningful engagement. MV is now collaborating with those First Nations as we upgrade these facilities. The actions in the existing Liquid Waste Management Plan are not reflective of the deeper integration of First Nation considerations that we hope to address in the next plan.
12	Healthy Waters Webinar Webinar Participants Nov 9, 2021	Nov 9, 2021	I am trying to be more aware of how my actions affect the wastewater system and the environment by the clothes I buy and chemicals that filter down the drain. How can I do better?	We all have a role to play through source control. There are a number of MV public education campaigns available on our website to help protect public health and the environment.
13	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	Once the new LWMP is complete, what is the timeline to implement the new plan?	The timeline for implementation is partially dependent on the Province. Before we receive the Minister's approval of the plan, we require sign off from member jurisdictions and the GVS&DD Board. Once the plan is approved by the Minister, we will begin implementation. We expect that the approved plan will be in effect for at least eight years.
14	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	Education and engagement with the public on the importance of water and the notion that it is a resource to cherish, value and protect is paramount.	Comment noted.
General				
15	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	Any enforcement plans to stop illegal sewage dumping?	The existing plan outlines a variety of actions to reduce sewage overflows as quickly as possible, and these actions will be strengthened in the new plan submitted to the Province.
16	Survey - MV Booth at the Pacific National Exhibition (PNE) PNE attendees Aug 1, 2021	Aug 1, 2021	The most important issues identified for wastewater management include: minimizing sewage overflows to local waters, improving water quality in streams and creeks, and minimizing greenhouse gas emissions (GHGs).	Priorities noted. Additional opportunities for the public to comment on these topics will be provided during Phase 2 engagement.
Green Infrastructure				
17	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	Are there any plans to integrate green infrastructure recommendations into the plan, (e.g. green roofs, rain gardens, increased permeable surfaces)? If so, will they be recommendations or enforced for the municipalities?	We have a number of green infrastructure initiatives that were included in the last plan, and are expecting more in the next plan. In general, that is managed at the municipal level and MV plays a supportive role. There may be additional actions in the plan around green infrastructure; some of those actions are MV actions and some are municipal actions. We want to make sure the municipalities have flexibility to be able to implement solutions that make sense in their communities.
18	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	How are regular industrial customers motivated by incentives to upgrade their existing water treatment for better results, and extract bio products for sustainability?	Our industrial customers are regulated through various bylaws. We also have programs to work with them to encourage upgrades to existing systems. We are open to hearing their ideas during the plan update.
19	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	Are there any incentives to encourage compost toilets in the Lower Mainland?	There are no ongoing initiatives at the regional level, however, we are supportive of building designs that require less water and put less stress on the sewer system. It is currently driven by the private sector and is something we want to work with the industry and members to encourage wherever it makes sense.

ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
20	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	In terms of affordability, Portland conducted an experiment to infiltrate as much stormwater as it could in order to keep a combined sewer system. It saved money and added green infrastructure to the city. This could be a potential way to handle parts of the MV system. Since implementing its “Rain City Strategy”, the City of Vancouver is considering alternative infiltration options (aka green infrastructure) to address CSOs.	Retaining a combined system will not eliminate CSOs and does risk ongoing CSOs, especially if the capacity of green infrastructure gets overwhelmed during extended periods of wet weather.
21	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	Question about MV's role in green infrastructure and contaminants	In the next LWMP, there may be opportunities to better emphasize the importance of reducing contaminants at the upstream source, such as with producers of consumer products, rather than through publicly-funded works (e.g., tire manufacturers changing the formulation of tires to reduce the use of harmful chemical contaminants that can be washed into stormwater as the tires degrade). MV has hired Deltares from the Netherlands, who are a global leader in green infrastructure and will be guiding MV in 2022 on how best to apply green infrastructure in our region. Properly maintained GI facilities can be used to reduce contaminant discharge in downstream stormwater systems.
Innovation				
22	Healthy Waters Webinar Webinar Participants Nov 9, 2021	Nov 9, 2021	Are there plans for improved/expanded technology in the new plan?	Three wastewater treatment plants currently under review will be upgraded, or are being considered for upgrade, to tertiary treatment, which goes above and beyond regulatory requirements. MV will look for opportunities to incorporate innovative technology wherever it makes sense.
Plan linkages and alignment				
23	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	Will the plan link to Metro 2050 regarding containment boundaries and other liquid waste considerations?	There are general, high-level liquid waste considerations already integrated into the draft Metro 2050 – for example, on infrastructure needs to support regional growth needs. If new information was identified through the LWMP process that was substantive enough, then amendment of Metro 2050 could be considered if appropriate; otherwise they would be addressed in the next version of the plan cycle.
Reconciliation				
24	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	Many Indigenous Nations are more connected to water than the average Canadian, which compels us to consider the added investment to protect the more vulnerable communities that value clean water more than the average Canadian. It may be a meaningful way to contribute to reconciliation.	The actions in the existing LWMP are not reflective of the deeper integration of First Nation considerations that we hope to address in the next plan. During the plan update, we will work to understand priorities and desired outcomes of Indigenous Nations and peoples across the region for wastewater management.
25	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	Affordability and accessibility are linked. Many Indigenous communities do not have the same accessibility to water as others. It is important to keep in mind that there are a broad range of communities that do not have the accessibility and infrastructure that others do.	See above.
Resource recovery				
26	Email Van-Port Sterilizers Ltd Oct 15, 2021	Oct 15, 2021	What is the problem your politicians and engineers have with any discussions regarding reclaiming wastewater for selling into identified markets? What is the problem they have with hydraulically compressing and injecting emissions into reclaim pipelines: What is the problem they have with understanding industrial sterilization technologies and their role in waste-to-energy systems and large scale production of artificial soils from wastes?	Reclaimed water from wastewater facilities is an example of a resource that can be beneficially used in many different ways, such as sewer flushing and watering trees and parks. MV, guided by its Liquid Waste Management Plan and Board Strategic Plan, is exploring how best to beneficially use this resource. Staff are developing a Reclaimed Water Policy that will provide guidelines on evaluating potential reclaimed wastewater projects with public and private partners.
Sewer separation and CSO elimination				

ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
27	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	Will there be opportunities to consider whether Combined Sewer separation can be finalized on an accelerated timeline?	Those long-term dates for CSO elimination were established with asset management in mind, recognizing that some older cities in North America have combined systems and need time to affordably replace those sewers. The current LWMP requires CSO elimination. We are open to all potential solutions and feedback to help ensure combined sewer overflows are eliminated as quickly as possible.
28	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	Question about sewer separation in the region.	There has been no change in direction from the Ministry of Environment and Climate Change Strategy regarding elimination of CSOs by the established deadlines of 2050 and 2075. Municipalities are being encouraged to accelerate their processes. Burnaby is nearing complete separation in significant parts of their municipality.
29	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	Question about MV's real-time sewer overflow map.	MV plans to begin real-time CSO public notification in 2022, which will complement the real-time sanitary sewer overflow (SSO) and treatment plant incident notification started in 2020.
30	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	MV, working with its members, should speed up its updating processes for GIS data on sewer separation.	Comment noted. Metro Vancouver is working with its combined members to encourage developing updated digital information on sewer separation status.
31	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	Single family developments in North Delta are required to have 40% of the property as open space to incorporate green space; however, as more developments are multi-family, there are no required setbacks – this problem goes hand in hand with CSOs.	Although Delta itself is not a combined community, retention of green space in new development is encouraged where it makes sense for improved stormwater management and CSO reduction.
32	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	Combined sewer overflows are a large issue and can be expensive to control. What is the frequency and magnitude of the overflows? What is the proposed approach to handle the overflows?	CSOs currently occur regularly during wet weather and are being addressed primarily through sewer separation (i.e. into separated storm and sanitary systems). This aligns with the approved LWMP and provincial regulation. A sewer separation approach leading to CSO elimination was selected to allow for affordable, phased replacement of combined systems as these facilities reach the end of their useful life. In the Vancouver Sewerage Area, the approved deadline to eliminate CSOs is 2050; in the Fraser Sewerage Area, it is 2075. Burnaby is nearing completion of its sewer separation program in significant parts of its system.
Source control				
33	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	An efficient way to implement source control is by regulating harmful substances on a national scale through the federal Chemicals Management Program (CMP).	Metro Vancouver has been, and continues to participate in the CMP initiatives, as appropriate.
Stormwater management				
34	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	Should storm water remain on the property or be placed down storm drains?	Private property owners can do their part to minimize stormwater from entering the sewer system (e.g. infiltration on site and disconnection of downspouts).
35	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	How does the current enthusiasm for building deep in-ground basements with perimeter pumping impact: a) stormwater volumes and b) the safety and effectiveness of infiltrating roof runoff on site?	We are careful to offer reminders to disconnect roof leaders etc. only where it makes sense to do so and complies with local requirements. We would encourage residents to connect with their local building inspectors as appropriate.
36	Healthy Waters Webinar Webinar Participants Nov 16, 2021	Nov 16, 2021	Is there a formal mechanism in place for GVS&DD and Metro Parks to coordinate with each other for stormwater infiltration into Metro Parks? Is there an opportunity for stormwater to be used as a water source for parks and environmental/public amenities?	We definitely consider opportunities to use stormwater for non-potable water uses in parks where it makes sense. We are also exploring reclaimed water opportunities at the wastewater treatment plants. These measures can help reduce demand on potable water supplies.
37	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	A stormwater fee with a steep graduation based on percentage of tree canopy cover on properties could be proposed to financially incentivize property owners to add tree canopy.	ISMPs are led by member jurisdictions and MV has a regional coordinating high level role. MV hopes to improve financial incentives for improved stormwater management in the updated plan
38	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	The stormwater tax base on tree canopy cover could be developed region wide as some municipalities do not have the financial capabilities to determine the tree canopy coverage for all property owners.	Comment noted.

ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
39	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	With respect to ISMPs, has there been any analysis/investigation into how that has rolled out?	The PAC may consider inviting MV's Environmental Management and Quality Control division to present on ISMPs completed to date and lessons learned.
40	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	Most municipalities with in-ground basements pump water to street level to connect with the storm system.	Comment noted. If not managed properly, this can cause inflow and infiltration challenges.
41	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	Question about impacts of atmospheric river event in November 2021 and stormwater infiltration.	Recent atmospheric rivers mainly affected already separated sewer areas of the region in the south. MV and its members have considered increased stormwater infiltration where it makes sense, which subtracts a portion of the stormwater out of CSOs; however, the nature of the soils in combined areas in the region does not always allow for much absorption.
42	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	MV parks could be locations for storm sewers to be daylighted.	Comment noted.
Treatment levels				
43	PAC Kick-Off Meeting Summary PAC Members Nov 5, 2021	Nov 5, 2021	Are wastewater treatment facilities treating to the tertiary level?	MV is required to move towards secondary treatment for all wastewater treatment plants. Three facilities currently perform secondary treatment, two perform primary treatment, and three plants ready for renewal are planning for moving towards tertiary treatment. MV is considering a standardized approach across the region in future.
Water quality				
44	Email from Stand.earth Stand.earth Sep 27, 2021	Sep 27, 2021	The LWMP does not address liquid waste from vessels directly, nor does it list a relationship with the Vancouver Fraser Port Authority to accept liquid waste. Including liquid waste from vessels would prevent millions of litres of sewage and greywater from being dumped as pollution off the coast of BC, and instead capture the waste as a resource. The LWMP is a well placed policy to capture this liquid waste stream and support a healthier Salish Sea.	MV responded to this comment as part of the 2019-2020 Biennial Report engagement process. In general, most port and vessel activities are federally regulated and are outside of MV's authority and mandate. However, through the review and update of the LWMP, MV will explore opportunities to work with other levels of government, including those responsible for port and vessel activities, to develop new integrated solutions that better protect and enhance the quality of waters throughout the region.
45	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	Question about environmental monitoring in Boundary Bay.	The Ministry of Environment and Climate Change Strategy approved MV to place monitoring in Boundary Bay on hold; however, if a proposed task force for holistic environmental management in the region with the federal and provincial governments and First Nations is established, Boundary Bay will be included.
46	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	Question about water quality trends in the Fraser River.	Regarding water quality trends and impacts of polluted floodwaters upstream in the Fraser River, ambient monitoring programs have not observed large temporal changes.
47	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	Question about sediment quality.	Sediment effect surveys are conducted in the vicinity of the outfalls to assess quantity and potential impact of substances that may have accumulated in sediments over time.
Wet weather flows				
48	PAC Meeting #2 Summary PAC Members Dec 14, 2021	Dec 14, 2021	Question about water sampling near SSOs	When SSOs take place, water samples are collected from the receiving water body as soon as possible.

Integrated Liquid Waste and Resource Management Plan - Review and Update
Indigenous Feedback / Response Table - Phase 1

Comment Details				Metro Vancouver
ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
	Engagement and collaboration			
1	Letter from Tsleil-Waututh Nation Oct 29, 2021	Oct 29, 2021	Tsleil-Waututh Nation has a sacred obligation to steward the water, land, air and resources of our ancestral territory. This stewardship obligation includes the responsibility to maintain and restore conditions that provide the environmental, cultural, spiritual and economic foundation for the Nation to thrive. As such, Tsleil-Waututh Nation is seeking a proactive approach to improving water quality by reaching out to Metro Vancouver to collaborate in developing and updating the ILWRMP.	MV invites Tsleil-Waututh Nation to participate in a variety of engagement activities such as participating in meetings and technical workshops, as outlined in the scope of work dated January 20, 2022.
2	Letter from Tsleil-Waututh Nation Oct 29, 2021	Oct 29, 2021	As Metro Vancouver is aware, technical staff of Tsleil-Waututh Nation is involved in various ongoing initiatives aimed at restoring the health of Burrard Inlet. Tsleil-Waututh Nation is seeking the opportunity to not only review and comment on the draft ILWRMP, but also contribute to technical committees and working groups involved in the ILWRMP update.	MV invites Tsleil-Waututh Nation to participate in a variety of engagement activities such as participating in meetings and technical workshops, as outlined in the scope of work dated January 20, 2022.
3	Letter from Tsleil-Waututh Nation Oct 29, 2021	Oct 29, 2021	Tsleil-Waututh Nation requires capacity funding to be involved and provide meaningful feedback and expertise on the updated ILWRMP.	MV invites Tsleil-Waututh Nation to participate in a variety of engagement activities such as participating in meetings and technical workshops, as outlined in the scope of work dated January 20, 2022.
4	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: Metro Vancouver’s Integrated Liquid Waste and Resource Management Plan (“the Project”), dated October 28th, 2021. Stakeholder Coordination: Page 6 of the plan states that First Nations rights must be taken into account during the planning process. It is no longer sufficient to consider First Nations a stakeholder whose rights should be considered, but rather a governing body with decision-making authority aiming to co-manage resources in partnership with neighbouring municipalities and regional governments. Arguably, this sentence should read: First Nation Governments have constitutional rights and therefore must be considered an equal decision-making authority throughout the planning process. The protection of Indigenous rights as outlined in UNDRIP and DRIPA legislation in Canada depends upon the role of First Nations in resource management, which includes liquid waste management planning.	The existing LWMP is not representative of the deeper integration of First Nations' considerations we hope to include in the updated plan. As we await clarity and guidance from the Province on the implementation of UNDRIP/DRIPA in British Columbia, the regional district is pursuing a number of objectives to strengthen relationships with First Nations, by exploring new pathways to reconciliation, such as increased engagement, dialogue, and collaboration between Metro Vancouver and First Nations in the region.
5	Email from Musqueam Indian Band Nov 17, 2021	Nov 17, 2021	Priority areas for Musqueam would be of course environmental protection, and ensuring resiliency of the system given the ongoing effects of the climate crisis. As for engagement, at this time Musqueam does not feel the need to meet about this plan specifically, however, would be interested in setting up a recurring meeting with Metro Vancouver as a way to discuss all of the referrals sent to our team on an ongoing basis. Please let me know if that sounds like something would be possible and we can work on setting up a standing time.	Comment noted and appreciated. Our Indigenous Relations group will be reaching out to discuss a recurring meeting.

ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
6	Email from Musqueam Indian Band Oct 22, 2021	Oct 22, 2021	A desire for more collaboration with First Nations particularly where opportunities for innovation and revenue generating are concerned	MV responded to this comment as part of the engagement process on the 2019-2020 Biennial Report. The Biennial report provides an update on specific actions identified in the 2011 Integrated Liquid Waste and Resource Management Plan. These actions are not reflective of the deeper integration of First Nation considerations that we hope to address in the next plan. During the plan update, we will work to understand priorities and desired outcomes of Indigenous Nations and peoples across the region for wastewater management.
7	Email from Cowichan Tribes - 2011 LWMP Aug 16, 2020	Aug 16, 2020	Is the Annacis Island Sustainability Academy in operations yet?	The Annacis Research Centre, at the Annacis island WWTP, is operational and includes laboratory facilities and meetings spaces.
8	Email from Cowichan Tribes - 2011 LWMP Aug 12, 2020	Aug 12, 2020	We were under the assumption that FREMP had been disbanded, is this not the case?	MV has developed a Burrard Inlet Environmental Action Program (BIEAP) and Fraser River Estuary Management Program (FREMP) revitalization proposal. If successful, it will encompass numerous existing initiatives in the region. It is meant to ensure coordinated environmental management, information sharing and increased efficiency of regulatory processes, and provide everyone with access to innovation and research. We expect it would result in efficient and cost-effective management of resources and increased public awareness of environmental management issues in the region.
9	Email from Matsqui First Nation Dec 10, 2020	Dec 10, 2020	In the future for the updates Matsqui First Nation would like to know about any potential impacts and records of impacts and actions. Matsqui is not available for day to day participations for the management plan but would like a first nations clause within the plan for contact and impact records, however the referral officer is interested in receiving the draft and final management plan for review and comment/questions.	MV invites Matsqui First Nation to participate in a variety of engagement activities such as reviewing draft documents, as outlined in the scope of work dated January 20, 2022. We will continue to share information with Matsqui for review and comment through all phases of the plan's development.
General				
10	MV-KFN Technical Working Group Meeting Feb 8, 2022	Feb 8, 2022	Strong support for the vision statement, "Healthy Waters: For All. For ever".	Comment noted.
Measuring success				
11	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: 2011 LWMP Performance Measures: The Performance Measures listed on page 32 are thorough; however, we believe that response time should be included for Goal 1: Protect public health and the environment. We often hear of workers arriving to Stoney Creek far too late to mitigate impacts of sewerage overflows, sometimes leaving sanitary materials strewn across roads and walkways for several days before they are cleared.	Comment noted regarding need for rapid operational response when overflows do occur.
12	Email from Tsleil-Waututh Nation re: Metro 2050 Engagement Dec 9, 2021	Dec 9, 2021	TWN is pleased to see "no net loss" in this policy, however, no net loss typically results in a loss. For example, Burrard Inlet and Indian Arm are already at a loss. TWN requests Metro Vancouver necessitate a policy of "net-gain", rather than a policy of "no net loss".	Comment noted.
Plan linkages and alignment				

ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
13	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: 2011 LWMP Sustainability Planning: Goal 3 on page 5 stresses the importance of pursuing opportunities for positive synergies with other management systems. Please ensure that liquid waste management works in synergy with sustainability plans developed for the region, for example, the City of Coquitlam’s Environmental Sustainability Plan (ESP). It is our belief that liquid waste must always be managed in a way that prioritizes environmental impact mitigation, particularly those elements in line with Indigenous values (e.g., fisheries resources). We recommend including the City of Coquitlam’s ESP in linkages presented on Page 11. In fact, it may be beneficial to have a “Linking with Regional Municipalities” section that could be used as a reference for municipal initiatives associated with liquid waste management.	We confirm that protection of the public and environment will be a key overarching goal of the new plan.
	Resource recovery			
14	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: 2011 LWMP Liquid Waste as a Renewable Resource: The Nation is supportive of recycling liquid wastes and believes that there are several opportunities to salvage wastewater from energy operations. For example, the Coquitlam River Dam has resulted in an 80% reduction in flow to the Coquitlam River. Wastewater produced from BC Hydro facilities in the upper watershed could be redirected into the Coquitlam River to help alleviate some of the flow, sedimentation, and flooding issues that the waterway and kwikwəł'əm face.	Comment noted - opportunities to reclaim wastewater will be considered in the new plan. As noted, this can have significant environmental benefits.
	Sewer separation and CSO elimination			
15	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: 2011 LWMP c. Combined Sewer Overflows: On page 14, the report states that efforts are being made to reduce combined sewer overflows. We would be interested in knowing what portion of sewerage infrastructure is combined, versus what has been replaced with separate sanitary and storm sewers since this measure was implemented. Further, Strategy 1.2 on page 17 lists Burnaby, New Westminster, and Vancouver as the only municipalities with goals to separate the remaining combined sewers. The City of Coquitlam and the City of Port Coquitlam are of particular interest to the Nation; please confirm that these municipalities have either been fully upgraded or will be the focus of overflow-related upgrades in future.	Combined members (Burnaby, New Westminster and Vancouver) are primarily responsible for identifying "what portion of sewage infrastructure is combined versus what has been replaced with separate sanitary and storm sewers since the measure was implemented". Information as published in biennial reports is available on MV's website by searching "Liquid Waste Management Plan". Coquitlam and Port Coquitlam are not combined communities.
	Stormwater management			
16	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: 2011 LWMP Cross-jurisdictional Wastewater Management: The Nation is interested in understanding the role of Metro Vancouver in managing municipal Integrated Stormwater Management Plans (ISMPs), particularly for instances in which development in one municipality is impacting the waterways of another. The Stoney Creek Environmental Committee (SCEC) has gone to great lengths to find the party responsible for monitoring water quality in Stoney Creek, Burnaby, in an effort to further understand sewerage spills so that fish kills can be mitigated. Cross-jurisdictional authority may be a limitation of the current management system.	Although MV plays a supportive and coordinating role through the Stormwater Interagency Liaison Group, member jurisdictions are generally responsible for their own ISMPs. MV has a more substantive role only in a few legally-defined cross boundary drainage areas. Maps are available on MV's website by searching "Urban Drainage Management".

ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
17	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: 2011 LWMP Incentivizing Wastewater Management: On page 15 it states that, in order to reduce liquid wastes at their source (Strategy 1.1), Metro Vancouver must focus on inflow, infiltration, and rainwater management. Are there opportunities for Metro Vancouver or municipal governments to provide incentives for businesses or households to implement stormwater controls such as infiltration gardens or retaining ponds? The Nation would be interested in understanding the process by which rooftop gardens can be implemented into building designs so that water can be recycled for non-potable uses such as flushing toilets. This would save potable water, help reduce direct runoff of contaminated stormwater, and reduce the total input into liquid waste infrastructure. Might “complementary initiatives” (page 16) include incentives discussed above?	Opportunities for incentives for improved stormwater management and water reuse will be explored in the new plan. As noted, these actions can improve water quality and reduce demand for potable water. In general, these actions would fall within the purview of the member jurisdictions although MV may play a supportive and coordinating role.
18	Email from Cowichan Tribes - 2011 LWMP Aug 12, 2020	Aug 12, 2020	Cowichan Tribes always advocates for stormwater management plans at a watershed level; managing a watershed holistically along watershed boundaries as opposed to arbitrary jurisdictional boundaries helps ensure the health of watersheds.	Comment noted. Through ISMPs, "whole watershed" thinking is encouraged.
19	Email from Cowichan Tribes - 2011 LWMP Aug 12, 2020	Aug 12, 2020	Where possible Metro Vancouver should also strive to support and facilitate the re-establishment of historical side channels and streams as part of stormwater management	Comment noted "Daylighting" lost streams is encouraged where it make sense.
Treatment levels				
20	Email from Musqueam Indian Band Oct 22, 2021	Oct 22, 2021	Under the existing plan, a biennial progress report must be sent to the Ministry. The following feedback was received on the 2019/2020 Biennial Report: Musqueam Indian Band: Concerns regarding pollution from the Iona Island Wastewater Treatment Plant	MV responded to this comment as part of the engagement process on the 2019-2020 Biennial Report. The Iona Island Wastewater Treatment Plant is the largest plant in the region based on flows to the plant. It is also a primary treatment plant and as such uses technology and approaches that are now considered outdated. The upgraded plant design concept includes tertiary treatment, as do all options currently being evaluated. Together with a suite of ecological restoration projects, the plant upgrade will improve water quality in the Fraser River estuary and in the Salish Sea.
21	Email from Cowichan Tribes - 2011 LWMP Aug 12, 2020	Aug 12, 2020	Is there any way to provide incentives for existing marinas to build such [pleasure craft pump out] facilities?	Comment noted. Opportunities for improved marina servicing will be explored.
Water quality				
22	Letter from Tsleil-Waututh Nation Oct 29, 2021	Oct 29, 2021	The LWMP update is important to achieving Tsleil-Waututh Nation’s recovery objectives in the Burrard Inlet Action Plan and the Burrard Inlet Water Quality Objectives. One e of Tsleil-Waututh’s key goals is to restore and improve water quality within Burrard Inlet and the wider consultation territory. The current water quality conditions in the Burrard Inlet are degraded and at ecological loss as a result of the cumulative impacts of industry and development. The water quality protection mechanisms outlined by the ILWRMP must beenhanced to obtain Tsleil-Waututh Nation’s goal of improving water quality in the consultation territory.	MV's Environmental Management and Quality Control division has been involved in the Tsleil-Waututh Nation and Province’s work on the review of Burrard Inlet Water Quality Objectives for a number of years. We plan to engage closely with a range of partners during the LWMP update to better understand and address the collective impacts of contaminant loading from a range of sources on these waters - including the Tsleil-Waututh Nation and their strong ancestral interest in restoring the health of Burrard Inlet.

ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
23	Email from Tsleil-Waututh Nation re: Metro 2050 Engagement Dec 9, 2021	Dec 9, 2021	Include collaboration with First Nations to incorporate Indigenous science and holistic understanding of our region's water quality conditions and goals. Please consult and include the Burrard Inlet Water Quality Objectives (https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-quality/water-quality-objectives/south-coast-region-water-quality-objectives/burrard-inlet-water-quality-objectives) and the Burrard Inlet Action Plan (https://twnsacredtrust.ca/burrard-inlet-action-plan/).	Opportunities to incorporate Indigenous ways of knowing will be incorporated into the new plan. Water quality objectives, including those noted for Burrard Inlet, will be reviewed through plan development.
24	Email from Tsleil-Waututh Nation re: Metro 2050 Engagement Dec 9, 2021	Dec 9, 2021	TWN is working on the Burrard Inlet Water Quality Objectives and regional water quality thresholds, including mapping sewer outfalls; this work extensively assesses contaminants of concern. TWN would be open to further discussing this shared objective with Metro Vancouver.	We welcome the opportunity to learn from Tsleil-Waututh Nation on shared objectives related to water quality.
25	Email from Cowichan Tribes - 2011 LWMP Aug 12, 2020	Aug 12, 2020	How does this ILWRMP affect land use decisions and provincial initiatives related to the impact of agriculture on local water quality and quantity?	Through the ILWRMP, municipalities have certain commitments to complete Integrated Stormwater Management Plans (ISMPs) that support alignment of land use with water quality.
26	MV-KFN Technical Working Group Meeting Feb 8, 2022	Feb 8, 2022	Request for water quality measurements, specifically what Metro Vancouver monitors, how we track them, and where we measure them from	We have monitoring programs that include measurements in the water column, sediment and biota such as benthic invertebrates and fish in the Fraser River, Burrard Inlet and the Strait of Georgia. The various monitoring programs conducted are to understand the potential for effects and evaluate the long-term trends from MV discharges in the regional water bodies, including from wastewater treatment plants and sewer overflows. Some of these programs occur annually and some less frequently. Summary reports of program reviews of these monitoring programs in each water body are available on the MV website.
Wet weather flows				
27	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: 2011 LWMP Public Health and Environmental Protection: Pages 13 to 20 outline the key management areas which support the protection of public health and the environment. We feel that there are situations in which the current management framework is failing in its ability to meet this goal. For instance: a. Coordination of Infrastructure Capacity and Urban Development: Wastewater infrastructure near Stoney Creek is overcapacity and often leaks sewerage and other toxic materials into local waterways. The most recent fish kill (July 2021) resulted in a minimum of 300 deceased salmonid fry. Despite this being a regular occurrence, multiple housing developments are under construction which with further stress these outdated systems. It is our view that this goal is not being met and that sewerage systems must be updated prior to the construction of new housing to avoid these situations in future.	We confirm that protection of the public and environment will be a key overarching goal of the new plan. There will be new actions in the plan to better manage wet weather sewage overflows.

ID	Source	Date	Comments/Information Requests	Metro Vancouver Response
28	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: 2011 LWMP b. Sanitary Sewer Overflows: There are elimination strategies in place for infiltration management; however, the plan does not mention the potential for exfiltration caused by development and water table fluctuations in the summer. The E-Coli levels in Stoney Creek exceed recommended values during the drier months, likely due to internal vs external pressure differences in the sewerage infrastructure. Evidence suggests that sewerage enters the creek both directly from culverts and through groundwater reserves.	As above. In addition, we confirm that protection of the public and environment will be a key overarching goal of the new plan. There will be new actions in the plan to better management wet weather sewage overflows.
29	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: 2011 LWMP Wastewater Monitoring Programs: Strategy 1.3 on page 18 mentions the potential use of ongoing monitoring and assessment programs to identify and reduce environmental impacts associated with liquid waste management. The most recent fish kill at Stoney Creek highlights the need for a monitoring program in the Stoney Creek Watershed, a concern that has been raised previously by the SCEC to all levels of government. Given the distribution of the Stoney Creek Watershed across multiple jurisdictions, we argue that it is the responsibility of Metro Vancouver to coordinate monitoring through the SCEC so that problem areas can be identified, and sewerage systems can be upgraded accordingly to account for future housing developments.	Illicit discharges to the municipal stormwater system have been identified as the cause of the recent unfortunate fish mortalities in Stoney Creek. The focus of actions to manage this source of contaminants must be on the stormwater system and related management plans. Under the LWMP, municipalities develop and implement Integrated Stormwater Management Plans which include education and monitoring programs for local waterways. MV supports these actions through coordinating the development of frameworks (Adaptive Management Framework for Stormwater) and templates that municipalities can use to develop stormwater management plans; occasional studies to help municipalities with the management of these plans; and a process for municipalities to report on performance of the stormwater management plans through the LWMP Biennial reports. Metro Vancouver also coordinates the Stormwater Interagency Liaison Group to promote shared learning amongst the GVS&DD member jurisdictions, including improved coordination of monitoring.
30	Letter from Kwikwetlem First Nation Nov 22, 2021	Nov 22, 2021	RE: 2011 LWMP Contingency Planning: Page 20 states that municipalities will work with Metro Vancouver to develop and implement contingency plans to minimize impacts of unavoidable sanitary sewer overflows resulting from extreme weather. Though we agree that contingency planning is necessary, it is preferred that governments prepare for extreme weather events well in advance by integrating climate change implications (e.g., increased frequency and severity of fires and flooding) into infrastructure planning.	Comment noted. Resiliency to a changing climate will be emphasized throughout the plan.

Liquid Waste Management Plan Update – Phase 2

Engagement Plan – Summary

March 17, 2022

Overview

Metro Vancouver is reviewing and updating its Liquid Waste Management Plan. The current Integrated Liquid Waste and Resource Management Plan, approved by the provincial government in 2011, established the coordinated approach for wastewater management in the Metro Vancouver region. It sets out goals, strategies, and actions for Metro Vancouver and member jurisdictions that help ensure the protection of public health and the environment, while using wastewater as a resource and minimizing treatment costs. The existing plan requires an update for reasons including to:

- Continue protecting human health and the environment
- Integrate Indigenous perspectives
- Incorporate innovative technologies and new scientific developments
- Reflect societal priorities
- Align with other initiatives

The plan update began in 2021 and is expected to take three years. It is being supported by an engagement program that was approved by the Ministry of Environment and Climate Change Strategy on March 26, 2021 following approval by the GVS&DD Board at its meeting of October 2, 2020. The engagement program is divided into four phases. Phase 1 is concluding and Phase 2 is anticipated to begin in spring 2022 following authorization from the Liquid Waste Committee and GVS&DD Board:

Develop Vision and Guiding Principles	Develop Goals, Strategies, and Actions	Draft Plan	Obtain Approvals
2021	2022	2023	2024

Each phase of engagement will involve tailored engagement with member jurisdictions, Indigenous Nations, and stakeholders, as well as a public engagement period open to people and organizations interested in the plan update. While Indigenous peoples will be invited to participate in all public engagement activities, Metro Vancouver has developed a separate engagement strategy that outlines a government-to-government engagement approach with Indigenous Nations and peoples whose territories include all or part of the Metro Vancouver region.

An engagement summary report issued at the end of this phase will reflect how input received has informed the goals, strategies, and actions of the updated plan.

Engagement Objectives

1. Facilitate a process of reciprocal learning where engagement participants can share their knowledge and experiences and learn about the benefits and challenges of the wastewater system
2. Strengthen and build collaborative relationships with members, Indigenous Nations, and other organizations
3. Understand perspectives, priorities and desired outcomes of engagement participants across the region for wastewater management, and foster an environment where a wide range of voices and perspectives are shared
4. Support informed engagement and share engagement outcomes

5. Raise awareness about Metro Vancouver’s role in wastewater management in the region

Engagement Approach

During the second phase of engagement, Metro Vancouver is looking for input on:

- A broad range of specific goals, strategies, and actions for the updated plan. Discussion topics will include:
 - Wet weather flows and sanitary sewers
 - Sewer separation and combined sewer overflow elimination
 - Holistic stormwater management
 - Treatment levels and resource recovery
 - Affordability
 - Measuring success
- Direction of preferred scenario reflecting future pathways for the next plan (scenarios will range from meeting minimum regulatory requirements in the most cost-effective manner to international leadership on environmental action)

Audiences

Metro Vancouver is committed to engaging individuals and organizations who may be impacted by or have an interest in the plan update. The provincially approved Liquid Waste Management Plan Review and Update Strategy includes a list of the organizations that will be contacted during engagement. During Phase 1, Metro Vancouver invited the following people and organizations to share their ideas about the plan update:

- Government and regulatory agencies, including Indigenous Nations and peoples, provincial and federal governments, member jurisdictions, adjacent regional districts, crown corporations and health authorities
- Commercial, institutional and industrial wastewater generators, and owners/operators of private liquid waste collection, processing and treatment businesses
- Industry and business associations, professional associations and academic institutions
- Community, environmental and non-profit groups, NGOs, youth and students, and urban Indigenous peoples
- Metro Vancouver residents

Metro Vancouver will continue to keep these groups informed about progress on the plan update and engagement opportunities during all project phases. There are currently 970+ email subscribers in the project database who will continue to receive regular updates.

Engagement Activities

An overview of Metro Vancouver’s communications and engagement activities for the second phase of engagement on the plan update are provided below. Since the project will be delivered in phases, engagement activities will be made available for each of the subsequent project phases.

Tactic	Timing
Inform audiences that draft discussion papers are published to inform the development of goals strategies and actions. Outline the purpose and options for providing comments.	Members and Indigenous Nations, May
• Invite members and Indigenous Nations to participate in technical workshops on each discussion paper topic	Public, September

• Publish an engaging web resource to house: ○ Discussion papers on key topics for the plan update ○ Highlight major actions ○ Engaging introductory video on each topic ○ Options for providing comment • Correspondence to stakeholder audience to include: ○ Link to web resource ○ Link to introductory videos ○ Invitation to join the public comment period ○ Invitation for a meeting with staff ○ Request and options for providing feedback • Promote information to broader audience via: ○ Social media ○ Email updates ○ Paid advertising (radio, online community papers)	
Seek input on discussion paper topics through a technical workshop series with member jurisdiction staff, Indigenous Nations and staff technical advisory committee members • Technical workshop 1: Wet weather management • Technical workshop 2: Holistic stormwater management • Technical workshop 3: Wastewater treatment levels and resource recovery • REAC and RAAC workshops to discuss all topic areas	Technical workshops, May – July REAC workshop, July RAAC workshop, November
Seek advice on plan direction, including the draft goals, strategies and actions from the Public Advisory Committee	Meetings scheduled in April, May, June and November
Seek input and clarify information • Host a public comment period to seek input on the draft <i>goals, strategies and actions</i> ○ Online open house (in-person engagement opportunities will be considered based on developments regarding COVID-19) ○ Online questionnaire • Offer to meet with: ○ other governments, including First Nations ○ specific sectors and organizations ○ other relevant audiences • Respond to email queries to project email and moderate social media	Online public comment period, October Virtual meetings, schedule as requested Respond to queries and moderate social media, ongoing
Compile feedback • Collect and review feedback	November
Analyze/ incorporate feedback into draft goals, strategies and actions	December – Early 2023
Seek Liquid Waste Committee and GVS&DD Board direction on path to adopt for new plan • Include summary of engagement and input, and how feedback was considered • Public Advisory Committee recommendations presented to Liquid Waste Committee	Early 2023

Communication Tools

The basic project communication tools are listed below and will be updated as the project progresses. Each phase of public engagement is supported by a comprehensive communications plan outlined in a separate document, with the objective of ensuring the general public is invited to provide input.

Type	Tactic	Date
Overall Materials	Video series	May – July
	Webpage	Updated, as required
	Project discussion papers	May – July
Outreach	Social posts	September – October
	Email updates / invitations	May – November

Regulatory Process

Liquid waste management plans are enabled under the *Environmental Management Act*. Liquid waste management plans must include comprehensive public and First Nation review and consultation for all aspects of the development, amendment, and final content of a waste management plan. The liquid waste management plan is approved by the GVS&DD Board and its member councils for submission to the Minister of Environment and Climate Change Strategy for approval. Although the existing plan was originally intended to be reviewed after eight years, Metro Vancouver requested and was granted an extension of the plan's comprehensive review cycle, subject to the completion of seven conditions by October 30, 2020. On March 26, 2021, the Ministry of Environment and Climate Change Strategy approved the engagement-focused plan review and update strategy following approval by the GVS&DD Board at its meeting of October 2, 2020. Following receipt of this approval, staff initiated the first phase of the formal engagement process.

Before approving an updated plan, the Minister must be satisfied that there has been adequate public and First Nations engagement. Following municipal and Board endorsement, Metro Vancouver will submit an engagement summary report and draft updated plan to the Minister for review.

To: Liquid Waste Committee

From: Mark Wellman, Senior Engineer, Policy, Planning and Analysis, Liquid Waste Services

Date: March 23, 2022 Meeting Date: April 13, 2022

Subject: ***Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 351, 2022 – Vancouver Sewerage Area and Fraser Sewerage Area Map Administrative Correction***

RECOMMENDATION

That the GVS&DD Board:

- a) give first, second and third reading to the *Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 351, 2022*; and,
 - b) pass, and finally adopt the *Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 351, 2022*.
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EXECUTIVE SUMMARY

Properties receiving sewerage services within the GVS&DD must be located in one of four regional sewerage areas. Staff recently identified 179 properties along the Vancouver Sewerage Area (VSA) and Fraser Sewerage Area (FSA) border that were shown in the incorrect sewerage area on the GVS&DD sewerage area maps. Some properties shown on the VSA map were contributing sewage to the FSA whereas some properties shown on the FSA map were contributing sewage to the VSA. Working with staff from the Cities of Burnaby and Vancouver, GVS&DD staff have proposed an amendment to the *Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 310, 2018* to correct the sewerage area maps and show these properties in the appropriate sewerage area. There will not be any change to the annual sewer charges for the property owners.

PURPOSE

To seek GVS&DD Board approval to amend the *Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Bylaw No. 310, 2018* to reallocate a number of subject properties to either the Vancouver Sewerage Area (VSA) or the Fraser Sewerage Area (FSA) as appropriate.

BACKGROUND

Metro Vancouver provides sewer services to its member jurisdictions. Properties requesting regional sewer services must be located in one of the GVS&DD's designated sewerage areas. Sewerage area boundaries are fixed by the *Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Bylaw, No. 310, 2018* (Bylaw).

A recent review of properties along the boundary of the VSA and the FSA identified 179 properties (as listed in Attachment 1) shown incorrectly on the GVS&DD sewerage area maps. Some properties

shown on the VSA map were connected to the FSA while some properties shown on the FSA map were connected to the VSA.

Many of the identified properties appear to have been included in the incorrect sewerage areas for decades or more, likely as a result of historic mapping inaccuracies and sewer connection errors. The advent of more accurate geospatial and modelling techniques has allowed these mapping errors to be identified and corrected. Metro Vancouver will continue to work with member jurisdictions to ensure properties are shown in the correct sewerage areas.

ADMINISTRATIVE CORRECTION OF THE FSA AND VSA MAPS

Sewerage area boundaries are occasionally amended through an amending bylaw and in accordance with Sections 31 and 32 of the *GVS&DD Act*, typically at the request of a GVS&DD member. As this bylaw amendment is being sought to correct a historical mapping error, the process is being initiated by the GVS&DD with the support of the Cities of Burnaby and Vancouver.

No infrastructure changes are required on the identified properties. This is purely an administrative correction to ensure VSA and FSA properties are correctly identified on the bylaw maps.

Municipal Support

The Cities of Vancouver and Burnaby support the proposed map corrections (Attachments 2 & 3). Should the proposed changes to the bylaw be approved, updated maps will be provided to all VSA and FSA jurisdictions.

ALTERNATIVES

No alternatives are provided as this is a required administrative correction.

FINANCIAL IMPLICATIONS

The financial impacts of these changes to the VSA and FSA maps will be negligible for the Sewer function's annual budget levies. There will not be any change to the annual sewer charges for the property owners.

CONCLUSION

A recent review of properties along the boundary between the Vancouver Sewerage Area (VSA) and the Fraser Sewerage Area (FSA) identified a number of properties shown incorrectly on the GVS&DD sewerage area maps. Some properties shown on the VSA map were contributing sewage to the FSA while some properties shown on the FSA map were contributing sewage to the VSA. Working with staff from Burnaby and Vancouver, GVS&DD staff have proposed an amendment to the VSA and FSA maps to reflect the correct situation.

Attachments

1. *Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 351, 2022*
2. Letter of Support – City of Vancouver – *Vancouver and Fraser Sewerage Area Boundary Changes*, dated, September 14, 2021

3. Letter of Support – City of Burnaby – *Adjustment to VSA/FSA Boundary*, dated, September 16, 2021

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**GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
BYLAW NO. 351, 2022**

A Bylaw to Amend the "Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Bylaw No. 310, 2018"

WHEREAS:

- A. the Board of Directors of the Greater Vancouver Sewerage and Drainage District has adopted "Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Bylaw No. 310, 2018", to fix the boundaries of GVS&DD Sewerage and Drainage Areas; and
- B. the Board of the Greater Vancouver Sewerage and Drainage District wishes to amend "Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Bylaw No. 310, 2018";

NOW THEREFORE the Board of the Greater Vancouver Sewerage and Drainage District enacts as follows:

- 1. This bylaw may be cited as "Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 351, 2022".
- 2. "Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Bylaw No. 310, 2018" is amended as follows:
 - a. by removing from the Vancouver Sewerage Area, and by adding to the Fraser Sewerage Area, the following 110 properties:

	Address	Municipality	PID or Strata Plan Number
1.	5509 HASTINGS ST	Burnaby	002-427-419
2.	120 ELLESMERE AV N	Burnaby	004-194-977
3.	116 ELLESMERE AV N	Burnaby	007-062-451
4.	130 ELLESMERE AV N	Burnaby	001-666-495
5.	4782 GEORGIA ST	Burnaby	002-529-441
6.	4751 UNION ST	Burnaby	012-118-893
7.	4757 UNION ST	Burnaby	003-009-637
8.	4873 WESTLAWN DR	Burnaby	010-150-625
9.	4889 WESTLAWN DR	Burnaby	002-661-683
10.	4881 WESTLAWN DR	Burnaby	001-381-202
11.	4876 WESTLAWN DR	Burnaby	002-428-237
12.	4871 FAIRLAWN DR	Burnaby	010-473-955
13.	4822 RIDGELAWN DR	Burnaby	010-063-366
14.	4872 RIDGELAWN DR	Burnaby	003-206-602

15.	4832 RIDGELAWN DR	Burnaby	010-036-261
16.	4802 RIDGELAWN DR	Burnaby	010-063-358
17.	4882 RIDGELAWN DR	Burnaby	002-764-644
18.	4852 RIDGELAWN DR	Burnaby	010-063-391
19.	4862 RIDGELAWN DR	Burnaby	002-939-479
20.	4842 RIDGELAWN DR	Burnaby	010-063-382
21.	4701 RIDGELAWN DR	Burnaby	002-580-527
22.	4711 RIDGELAWN DR	Burnaby	010-063-081
23.	4721 RIDGELAWN DR	Burnaby	000-659-100
24.	4731 RIDGELAWN DR	Burnaby	003-323-871
25.	4741 RIDGELAWN DR	Burnaby	002-532-743
26.	4751 RIDGELAWN DR	Burnaby	003-237-087
27.	4761 RIDGELAWN DR	Burnaby	002-874-504
28.	4771 RIDGELAWN DR	Burnaby	010-063-102
29.	4781 RIDGELAWN DR	Burnaby	002-580-683
30.	4791 RIDGELAWN DR	Burnaby	010-063-137
31.	4797 RIDGELAWN DR	Burnaby	002-622-742
32.	4801 RIDGELAWN DR	Burnaby	003-142-418
33.	4821 RIDGELAWN DR	Burnaby	000-790-231
34.	4831 RIDGELAWN DR	Burnaby	003-077-381
35.	4841 RIDGELAWN DR	Burnaby	002-581-248
36.	4851 RIDGELAWN DR	Burnaby	010-063-170
37.	4861 RIDGELAWN DR	Burnaby	010-063-188
38.	4871 RIDGELAWN DR	Burnaby	002-766-183
39.	4881 RIDGELAWN DR	Burnaby	010-063-218
40.	4891 RIDGELAWN DR	Burnaby	002-544-580
41.	4748 BRENTLAWN DR	Burnaby	003-393-224
42.	4708 BRENTLAWN DR	Burnaby	003-087-166
43.	4724 BRENTLAWN DR	Burnaby	009-855-998
44.	4716 BRENTLAWN DR	Burnaby	003-285-294
45.	2127 ALPHA AV	Burnaby	002-753-944
46.	2127 ALPHA AV	Burnaby	002-753-944
47.	2150 ALPHA AV	Burnaby	003-166-341
48.	2421 ALPHA AV	Burnaby	002-599-341
49.	2460 ALPHA AV	Burnaby	002-839-431
50.	4612 DAWSON ST	Burnaby	010-995-498
51.	2223 ALPHA AV	Burnaby	003-379-884
52.	2375 ALPHA AV	Burnaby	010-995-528
53.	4554 DAWSON ST	Burnaby	001-491-083
54.	2040 ALPHA AV	Burnaby	003-408-094
55.	2140 ALPHA AV	Burnaby	010-995-447
56.	2242 ALPHA AV	Burnaby	010-995-510
57.	4612 LOUGHEED HY	Burnaby	028-582-365
58.	2318 ALPHA AV	Burnaby	002-981-840

59.	3867 SPRUCE ST	Burnaby	002-622-556
60.	3861 SPRUCE ST	Burnaby	002-642-841
61.	4868 SMITH AV	Burnaby	002-465-752
62.	4855 SMITH AV	Burnaby	004-627-652
63.	4856 SMITH AV	Burnaby	003-395-537
64.	3793 PRICE ST	Burnaby	003-120-660
65.	5004 CHESHAM AV	Burnaby	003-790-169
66.	5010 CHESHAM AV	Burnaby	003-790-193
67.	4025 BRANDON ST	Burnaby	002-663-066
68.	4035 BURKE ST	Burnaby	005-698-758
69.	4063 BURKE ST	Burnaby	012-134-392
70.	4041 BURKE ST	Burnaby	005-698-774
71.	4053 BURKE ST	Burnaby	024-609-153
72.	4059 BURKE ST	Burnaby	024-609-161
73.	5191 PATTERSON AV	Burnaby	025-504-096
74.	5177 PATTERSON AV	Burnaby	024-210-706
75.	5328 BARKER AV	Burnaby	023-114-690
76.	5310 CARLETON CT	Burnaby	003-223-868
77.	5312 PATTERSON AV	Burnaby	025-773-381
78.	5364 PATTERSON AV	Burnaby	002-571-471
79.	5312 CARLETON CT	Burnaby	009-984-585
80.	5346 BARKER AV	Burnaby	004-835-093
81.	5308 CARLETON CT	Burnaby	003-361-250
82.	5356 BARKER AV	Burnaby	004-835-085
83.	5338 PATTERSON AV	Burnaby	023-962-496
84.	5315 BARKER AV	Burnaby	002-483-521
85.	5318 BARKER AV	Burnaby	023-114-703
86.	5366 BARKER AV	Burnaby	007-266-421
87.	5325 HALLEY AV	Burnaby	001-649-370
88.	5383 HALLEY AV	Burnaby	011-390-212
89.	5695 CHAFFEY AV	Burnaby	013-481-762
90.	4389 GRANGE ST	Burnaby	010-868-119
91.	4625 GRANGE ST	Burnaby	001-326-155
92.	4769 HAZEL ST	Burnaby	007-349-149
93.	4758 GRANGE ST	Burnaby	017-228-603
94.	6838 JUBILEE AV	Burnaby	002-897-717
95.	6830 FREDERICK AV	Burnaby	005-476-658
96.	6870 FREDERICK AV	Burnaby	002-627-183
97.	6859 DOW AV	Burnaby	002-740-206
98.	4379 IMPERIAL ST	Burnaby	003-014-215
99.	4134 MAYWOOD ST	Burnaby	001-881-485
100.	4850 PARKER ST	Burnaby	002-742-454
101.	4870 PARKER ST	Burnaby	003-234-827
102.	1001 DELTA AV	Burnaby	011-078-286

103.	4860 PARKER ST	Burnaby	010-482-199
104.	4880 PARKER ST	Burnaby	003-082-334
105.	4830 PARKER ST	Burnaby	010-482-253
106.	4840 PARKER ST	Burnaby	010-482-202
107.	4362 MAYWOOD ST	Burnaby	006-658-750
108.	6716 SILVER AV	Burnaby	003-191-940
109.	3095 ROSEMONT DR	Vancouver	009-124-331
110.	6501 CHAMBORD PL	Vancouver	VAS 2576

- b. by removing from the Fraser Sewerage Area, and by adding to the Vancouver Sewerage Area, the following 69 properties:

	Address	Municipality	PID or Strata Plan Number
1.	366 HOWARD AV	Burnaby	002-804-069
2.	4896 FAIRLAWN DR	Burnaby	001-732-641
3.	4881 SOUTHLAWN DR	Burnaby	001-831-500
4.	4450 STILL CREEK DR	Burnaby	026-817-063
5.	3700 GILMORE WY	Burnaby	024-289-281
6.	3680 GILMORE WY	Burnaby	019-179-740
7.	3755 WILLINGDON AV	Burnaby	002-542-242
8.	4078 SPRUCE ST	Burnaby	028-200-080
9.	4064 SPRUCE ST	Burnaby	004-519-922
10.	4090 SPRUCE ST	Burnaby	002-639-386
11.	4096 SPRUCE ST	Burnaby	004-519-931
12.	4212 MACDONALD AV	Burnaby	003-377-172
13.	4054 SPRUCE ST	Burnaby	004-519-914
14.	4086 SPRUCE ST	Burnaby	000-838-705
15.	3905 FOREST ST	Burnaby	009-466-487
16.	3855 SPRUCE ST	Burnaby	011-947-659
17.	3839 SPRUCE ST	Burnaby	018-716-989
18.	3845 SPRUCE ST	Burnaby	018-716-997
19.	5005 CHESHAM AV	Burnaby	001-816-233
20.	5050 INMAN AV	Burnaby	002-647-761
21.	4643 GRANGE ST	Burnaby	002-882-833
22.	4566 IMPERIAL ST	Burnaby	002-926-989
23.	4560 IMPERIAL ST	Burnaby	003-416-887
24.	6828 DOW AV	Burnaby	018-250-548
25.	4520 IMPERIAL ST	Burnaby	015-177-963
26.	4522 IMPERIAL ST	Burnaby	015-177-971
27.	4518 IMPERIAL ST	Burnaby	018-250-581
28.	4382 IMPERIAL ST	Burnaby	003-228-380
29.	4386 IMPERIAL ST	Burnaby	003-245-543
30.	4394 IMPERIAL ST	Burnaby	002-792-486

31.	6875 DUNBLANE AV	Burnaby	029-769-043
32.	4830 BOUNDARY RD	Burnaby	002-051-257
33.	4567 LOUGHEED HY	Burnaby	029-182-549
34.	2350 WILLINGDON AV	Burnaby	002-305-712
35.	2533 E KENT AVE N	Vancouver	007-763-859
36.	2428 SE MARINE DR	Vancouver	017-856-523
37.	2408 SE MARINE DR	Vancouver	017-900-107
38.	8428 ELLIOTT ST	Vancouver	018-235-221
39.	8488 ELLIOTT ST	Vancouver	016-681-274
40.	2455 E KENT AVE N	Vancouver	017-051-207
41.	2450 SE MARINE DR	Vancouver	009-066-217
42.	2508 SE MARINE DR	Vancouver	007-197-306
43.	2516 SE MARINE DR	Vancouver	007-185-979
44.	2526 SE MARINE DR	Vancouver	028-151-445
45.	2538 SE MARINE DR	Vancouver	017-990-092
46.	2546 SE MARINE DR	Vancouver	017-509-211
47.	2550 SE MARINE DR	Vancouver	017-330-831
48.	2560 SE MARINE DR	Vancouver	017-335-094
49.	2570 SE MARINE DR	Vancouver	017-378-893
50.	2597 E KENT AVE N	Vancouver	017-153-166
51.	2593 E KENT AVE N	Vancouver	017-127-939
52.	2573 E KENT AVE N	Vancouver	007-743-637
53.	2563 E KENT AVE N	Vancouver	027-523-756
54.	2557 E KENT AVE N	Vancouver	007-743-611
55.	2545 E KENT AVE N	Vancouver	007-763-875
56.	2541 E KENT AVE N	Vancouver	007-763-867
57.	2491 E KENT AVE N	Vancouver	018-157-360
58.	2495 E KENT AVE N	Vancouver	018-157-343
59.	2471 E KENT AVE N	Vancouver	018-988-083
60.	2477 E KENT AVE N	Vancouver	018-988-024
61.	2480 SE MARINE DR	Vancouver	029-584-469
62.	2580 SE MARINE DR	Vancouver	018-490-204
63.	2515 E KENT AVE N	Vancouver	018-558-526
64.	2505 E KENT AVE N	Vancouver	018-559-191
65.	3598 E KENT AVE N	Vancouver	025-094-505
66.	2582 E KENT AVE S	Vancouver	014-496-577
67.	2550 E KENT AVE S	Vancouver	014-496-917
68.	3090 EAST 54TH AVE	Vancouver	009-127-666
69.	3110 EAST 54TH AVE	Vancouver	006-675-026

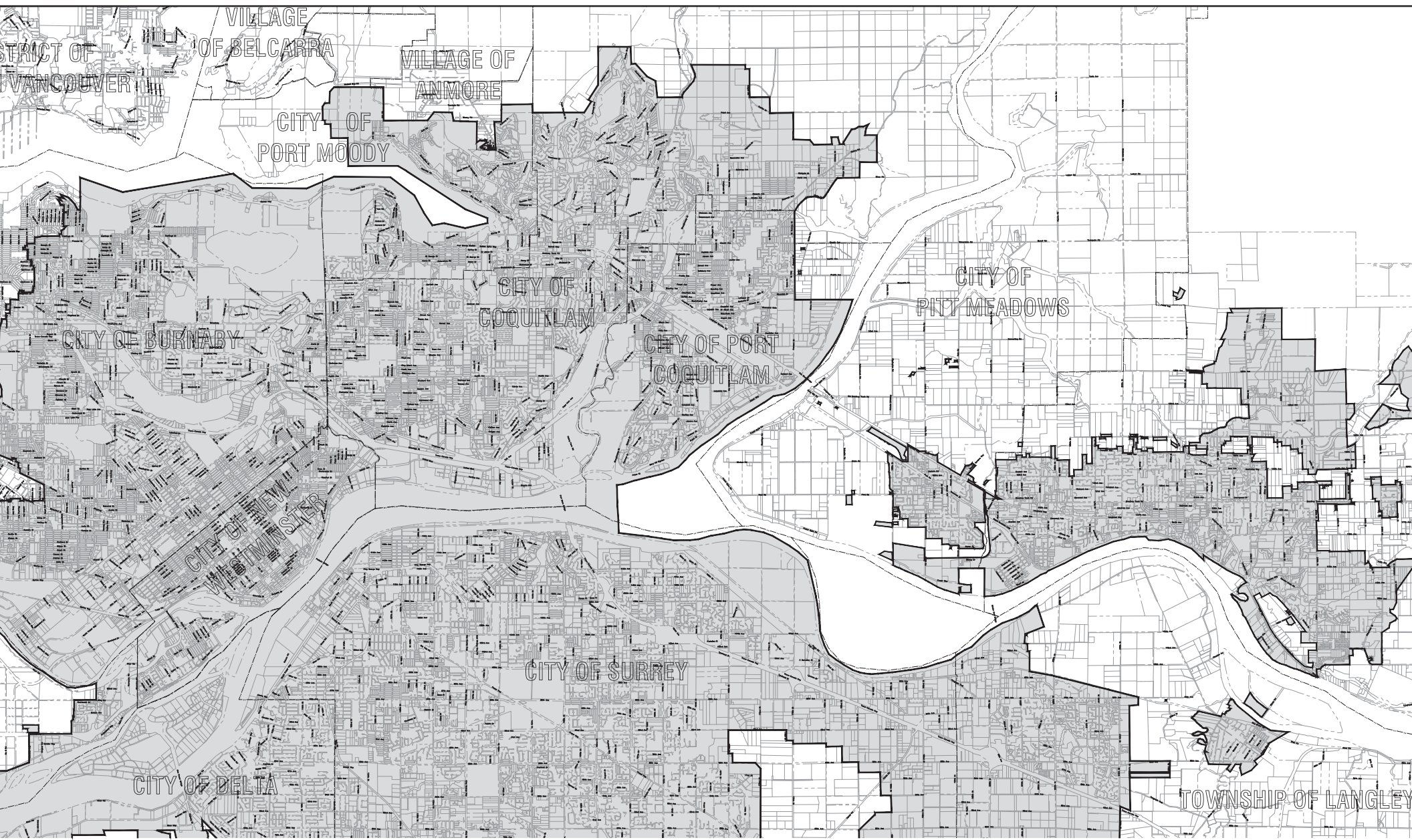
- c. by replacing Schedule "A" of Bylaw 310, 2018, as amended, with the attached Schedule "A", forming part of this bylaw, containing Drawing Number S-3200 Sheet 1 titled "Greater Vancouver Sewerage and Drainage District Plan of Fraser Sewerage Area North Portion" dated Feb 1, 2022 to show the boundaries of the Fraser Sewerage Area, as amended, and
- d. by replacing Schedule "C" of Bylaw 310, 2018, as amended, with the attached Schedule "C", forming part of this bylaw, containing Drawing Number S-3200 Sheet 3 titled "Greater Vancouver Sewerage and Drainage District Plan of Vancouver Sewerage Area" dated Feb 1, 2022 to show the boundaries of the Vancouver Sewerage Area, as amended.

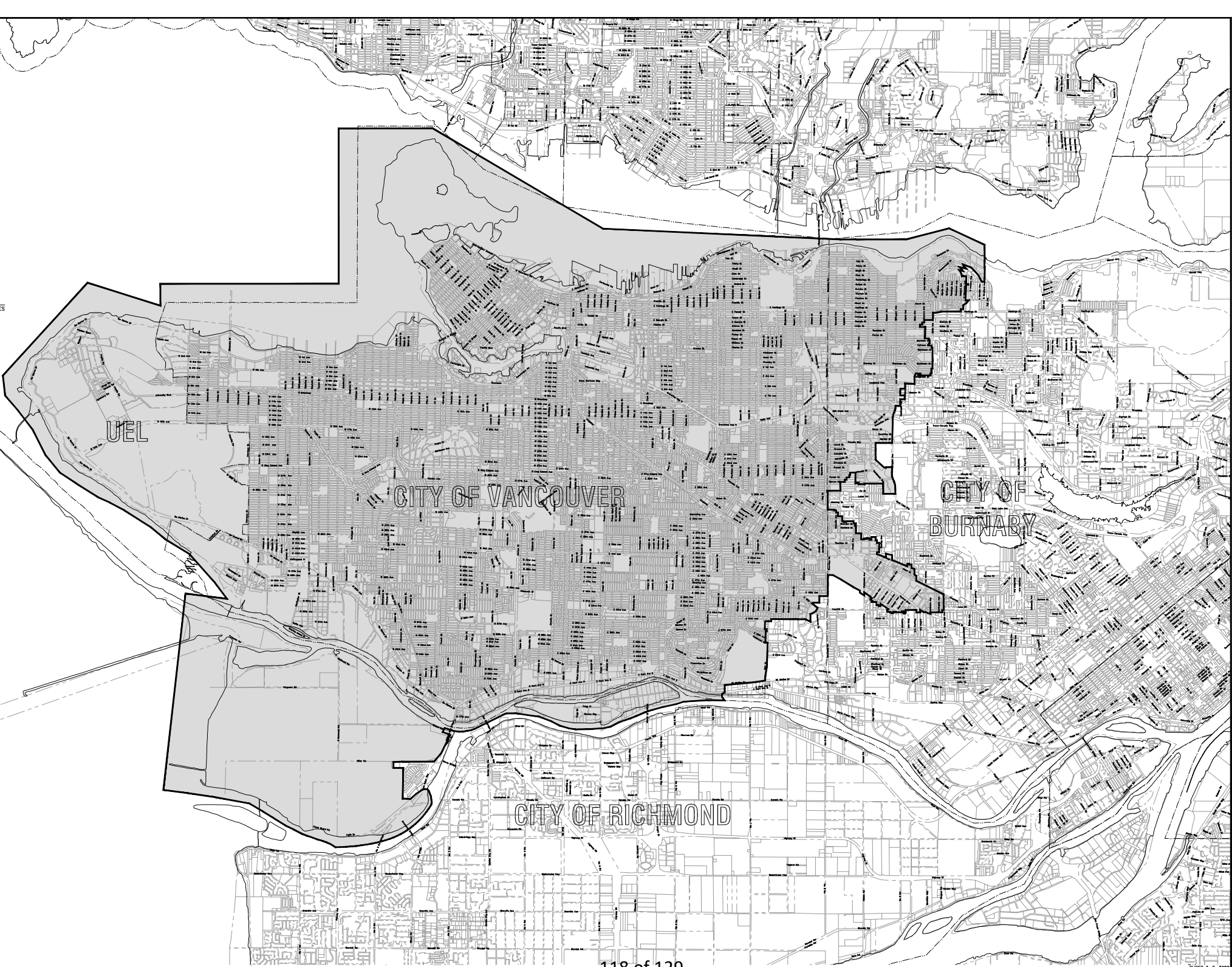
Read a first, second and third time this _____ day of _____, _____.

Passed and finally adopted this _____ day of _____, _____.

Sav Dhaliwal, Chair

Chris Plagnol, Corporate Officer







September 14, 2021

Paul Kadota
Director Policy Planning and Analysis
Liquid Waste Services
Metro Vancouver
Via email to paul.kadota@metrovancover.org

Dear Mr. Kadota,

RE: Vancouver and Fraser Sewerage Area Boundary Changes

Metro Vancouver, working with City of Vancouver and City of Burnaby staff, recently conducted a review of the VSA/FSA boundary alignment to ensure that properties shown on the Metro Vancouver GIS mapping system were contributing sewage to the appropriate sewerage area. The review identified a number of properties that were historically identified in one sewerage area, but in fact were contributing sewage to the other sewerage area.

To correct the mis-identified properties, we understand that Metro Vancouver is required to complete an administrative correction of the FSA and VSA maps to show these properties in the correct sewerage area. To complete the process, the GVS&DD Board will be asked to amend the Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Bylaw No. 318 to reflect the correct alignment.

City of Vancouver staff support the proposed changes and confirm that the proposed realignment of the FSA and VSA boundary accurately reflects the current boundary alignment within Vancouver.

Yours truly,

A handwritten signature in black ink, appearing to read "Jimmy".

Jimmy Zammar, M.A.Sc., M.Sc., PMP
Director, Urban Watersheds, Sewers & Drainage
Engineering Services, City of Vancouver
604-871-6880
jimmy.zammar@vancouver.ca

cc: Mark Wellman, Metro Vancouver



Engineering Department

2021 September 16

Paul Kadota
 Director of Policy, Planning & Analysis (PPA), Liquid Waste Services
 Metro Vancouver
 Metrotown III, 4730 Kingsway
 Burnaby BC V5H 0C6

Mr. Kadota:

RE: ADJUSTMENT TO FSA/VSA BOUNDARY

City of Burnaby staff, working with City of Vancouver and Metro Vancouver staff, recently conducted a review of the VSA/FSA boundary alignment to ensure that properties shown on the Metro Vancouver GIS mapping system were contributing sewage to the appropriate sewerage area. The review identified a number of properties that were historically identified in one sewerage area, but in fact were contributing sewage to the other sewerage area.

To correct the misidentified properties, we understand that Metro Vancouver is required to complete an administrative correction of the FSA and VSA maps to show these properties in the correct sewerage area. To complete the process, the GVS & DD Board will be asked to amend the Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Bylaw No. 318 to reflect the correct alignment.

City of Burnaby staff support the proposed changes and confirm that the proposed realignment of the FSA and VSA boundary accurately reflects the current contributions to the sewerage areas.

Sincerely,

Simone Rousseau, P.Eng., M.Eng.
 Manager, Infrastructure

RLP/jv

Copied to: Brent Burton, Division Manager, PPA, Liquid Waste, Metro Vancouver
 Mark Wellman, Senior Engineer, PPA, Liquid Waste, Metro Vancouver
 May Phang, Asst Director, Engineering Infrastructure & Development, City of Burnaby

To: Liquid Waste Committee

From: Cheryl Nelms, General Manager, Project Delivery
Roy Moulder, Director, Procurement, Procurement and Real Estate Services

Date: April 1, 2022 Meeting Date: April 13, 2022

Subject: **Award of Contract Resulting from RFP No. 21-283: Program Management Consulting Services for the Iona Island Wastewater Treatment Plant Projects**

RECOMMENDATION

That the GVS&DD Board:

- a) approve the award of contract resulting from Request for Proposal No. 21-283: Program Management Consulting Services for the Iona Island Wastewater Treatment Plant Projects to Stantec Consulting Ltd., in an amount of up to \$99,500,000 (exclusive of taxes) over five years, subject to final review by the Commissioner; and
- b) authorize the Commissioner and Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

EXECUTIVE SUMMARY

The Iona Island Wastewater Treatment Plant (IIWWTP) Program is the largest capital project ever undertaken by Metro Vancouver and will be managed by a team of consultants and Metro Vancouver staff from the Project Delivery department. Metro Vancouver will be retaining the services of a Program Management Consultant that has the experience and depth of resources to successfully deliver a program of the scale and complexity of the IIWWTP Program.

As a result of Request for Qualifications (RFQ) No. 21-282, three (3) qualified consulting firms were shortlisted and invited to respond to RFP No. 21-283 for the provision of program management consulting services over five (5) years. Stantec Consulting Ltd. (Stantec) was identified as offering the strongest technical proposal meeting the program requirements with the second lowest fee. Based on the evaluation of proposals, it is recommended to award a contract to Stantec in the amount of up to \$99,500,000 (exclusive of taxes) for the initial five years of the project. The approved 2022 Capital Budget included a total of \$1.044 Billion for the five years from 2022 to 2026, which provides sufficient funds for the forecast expenditures for this period, including the services of the Program Management Consultant.

PURPOSE

This report is to advise the GVS&DD Board of the results of the Request for Proposal (RFP) No. 21-283: Program Management Consulting services for the IIWWTP Program, and to recommend award of contract to Stantec Consulting Ltd. (Stantec) in an amount of up to \$99,500,000 (exclusive of taxes) for five years.

BACKGROUND

Pursuant to the *GVS&DD Officers and Delegation Bylaw No. 284, 2014* (Bylaw) and the *Procurement and Real Property Contracting Authority Policy* (Policy), procurement contracts which exceed a value of \$5 million require the approval of the GVS&DD Board of Directors.

This report is being brought forward to the Liquid Waste Committee to consider a recommendation to the GVS&DD Board to authorize the award of a contract Program Management Consulting Services for the IIWWTP Program to Stantec Consulting Ltd.

PROJECT DESCRIPTION

The IIWWTP Upgrades is the largest capital program ever undertaken by Metro Vancouver, with a capital cost estimate of \$9.9 billion and completion currently scheduled for 2038 with secondary treatment commissioning in 2035, that will be delivered under the overall direction of the Project Delivery department. In the recognition of the scale and complexity, the Program will be managed by a dedicated Iona project team with support of the Program Management Consultant.

As the selected Program Management Consultant (PMC), Stantec will provide a team of resources with a variety of experience and expertise delivering a broad range of program management and technical services. The PMC will be integrated with Metro Vancouver staff working together to oversee the development and implementation of the Program.

Program Management Consulting (PMC) Services

The PMC will be working with Metro Vancouver in dedicated teams undertaking a variety of management and technical functions, including:

- Program mobilization and initiation
- Program leadership
- Project management
- Communications and engagement
- Permitting, approvals, and land tenure
- Technical integration and design management
- Program controls
- Commercial and contract management
- Construction administration
- Environmental management and assurance
- Commissioning and operations integration
- Resource planning and mobilization
- As requested enabling and technical support services.

The IIWWTP Program completion is estimated at 2038. However, given the scale and duration of the program, the contract for PMC services will be awarded for an initial five-year period beginning in May 2022 and ending in April 2027. Metro Vancouver may also enter into negotiations with the same team to extend these services for subsequent two-year periods as defined in RFP No. 21-283. Given the scale of the IIWWTP Program, the option to extend the Program Management Consultant services would require GVS&DD Board approval prior to proceeding with this approach.

Procurement and Evaluation Process

An extensive procurement and evaluation process was undertaken to select a PMC with the breadth and depth of experience and expertise to provide the broad range of services anticipated to support the successful achievement of the program goals. Activities undertaken as part of the procurement process included:

- The preliminary IWWTP delivery strategy recommendations prepared as part of the Project Definition Report (PDR) by Mott MacDonald and Ernst & Young in Q4 2020, which included a formal market engagement process.
- Interviews and virtual meetings with current large water and wastewater program leaders in Canada, USA, and Singapore in Q1 2021; several of whom are using the support of a PMC to assist the Owner in managing complex multi-year programs.
- A further market engagement process specifically for PMC services on Iona Island WWTP was undertaken in Q2 2021.
- A request for qualifications (RFQ) process undertaken in Q3 2021 for which 5 submissions were received. Metro Vancouver short-listed three respondents. The three short-listed respondents were:
 - AECOM Canada Ltd.
 - CH2M Hill Canada Limited
 - Stantec Consulting Ltd
- A request for proposal (RFP) process for the three short-listed firms was undertaken in Q4 2021 and Q1 2022.

To support the rigor of the process and evaluation, Metro Vancouver engaged an independent fairness monitor who was involved in the market engagement, as well as the RFQ, and RFP processes, including the evaluation of all submissions.

Proposals were evaluated based on 65% technical and 35% Financial. Considerations in the evaluation included:

- Qualifications and experience of the firm
- Qualifications and experience of the proposed team members for key roles
- Demonstrated approach to select areas of PMC services and proposed approach and work plan for mobilization/initiation
- First Nations economic opportunities
- Hourly rates and total estimated price (RFP only)

The RFP closed on January 26, 2022 and the three short-listed consulting firms submitting proposals. See table 1 for their fee summary.

Table 1: Fee Summary

Proponent	Proposed Fee (exclusive of taxes)
AECOM Canada Ltd.	\$97,517,203
CH2M Hill Canada Limited	\$112,949,170
Stantec Consulting Ltd.	\$99,507,012

The submission from Stantec was identified as the highest ranked, offering the technically strongest and second lowest fee proposal. Stantec’s proposal demonstrated a substantial amount of experience with projects of similar scale including the successful program management of the Capital Region District wastewater program. Several members of the proposed leadership team are based locally and have worked together on other large-scale wastewater treatment plant projects. Stantec demonstrated a strong understanding of the key program considerations, including the development of a thorough work plan for the program mobilization and initiation phases. 75-80% of the anticipated resources are proposed to be provided locally, with no sub-consultants proposed which will offer the project team with a single-point of accountability for all program related requirements.

ALTERNATIVES

1. That the GVS&DD Board:
 - a) approve the award of contract resulting from Request for Proposal No. 21-283: Program Management Consulting Services for the Iona Island Wastewater Treatment Plant Projects to Stantec Consulting Ltd., in an amount of up to \$99,500,000 (exclusive of taxes) over five years, subject to final review by the Commissioner; and
 - b) authorize the Commissioner and Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.
2. That the GVS&DD Board receive for information the report dated April 1, 2022, titled “Award of Contract Resulting from RFP No. 21-283: Program Management Consulting Services for the Iona Island Wastewater Treatment Plant Program”, and direct staff to respond back to the Board with an alternate course of action.

FINANCIAL IMPLICATIONS

If the GVS&DD Board approves Alternative 1, a contract will be awarded to Stantec Consulting Ltd., in the amount of up to \$99,500,000 (exclusive of taxes).

As outlined in the March 25, 2022 report to the GVS&DD Board the total capital cost estimate for the Iona Island WWTP Program is \$9.9B, including escalation and risk reserve. The costs for Program Management Consulting services are included in this estimate as part of the *Owner’s Costs* in accordance with Metro Vancouver’s Best Practice Project Cost Estimating Framework. Table 2 below shows the forecast cash flow from the March 25, 2022 report together with the estimated expenditures for Program Management Consulting services during this period.

Table 2: Estimated Capital Cost Cash Flow Forecast (\$millions excluding financing costs)

	2022	2023	2024	2025	2026	2027	TOTAL
Total IWWTP Forecast Capital Expenditures	29	59	125	300	296	362	\$1,171
Forecast PMC Expenditures for RFP 21-283	9.5	17.8	20.8	22.0	22.7	6.7	\$99.5
	33%	30%	17%	7%	8%	2%	8%

As indicated, the Program Management Consulting services are initially a relatively large component of the total annual expenditure during the next few years but the percentage of total costs decrease once design and construction cash flows ramp up (noting that major construction costs for the WWTP components only start in 2028).

The approved 2022 Capital Plan included a total of \$1.044 Billion for the five years from 2022 to 2026, which provides sufficient funds for the forecast expenditures for this period, including the services of the Program Management Consultant.

CONCLUSION

The IIWWTP Program will be managed by a dedicated project team that is part of the Project Delivery department. Metro Vancouver will be retaining the services of a Program Management Consultant that has the experience and depth of resources to successfully deliver a program of the scale and complexity of the IIWWTP Program.

An extensive procurement and evaluation process was undertaken to select a PMC with the breadth and depth of experience and expertise to provide the broad range of services anticipated. This process included a market sounding, followed by a request for qualifications and request for proposals all of which was overseen by an independent fairness monitor.

It is recommended that the GVS&DD Board authorize the Commissioner and Corporate Officer to award the contract resulting from RFP No. 21-283 Program Management Consulting Services for the Iona Island Wastewater Treatment Plant Projects to Stantec Consulting Ltd. in an amount of up to \$99,500,000 (exclusive of taxes).

49359044

To: Liquid Waste Committee

From: Peter Navratil, General Manager, Liquid Waste Services

Date: March 25, 2022 Meeting Date: April 13, 2022

Subject: **Manager's Report**

RECOMMENDATION

That the Liquid Waste Committee receive for information the report dated March 25, 2022 titled "Manager's Report".

1. 2022 Regional Unflushables Campaign Update

The 2022 regional "Unflushables" campaign will launch on April 4, 2022. The campaign supports Metro Vancouver's source control initiatives to reduce unwanted items in our wastewater. The campaign will run until the end of May, followed by an additional two-week flight in the fall. Now in its sixth year, the campaign focuses on seven priority items that should not be flushed: wipes, paper towels, floss, tampons and applicators, condoms, hair, and medications. It asks residents to return medications to the pharmacy and dispose of other unflushable items in the garbage. The campaign addresses all seven items, but continues to have extra emphasis on wipes and medications. The target audience remains Metro Vancouver residents age 24–54, skewing slightly towards women (the main buyers of many of these items). The campaign will use existing creative materials and direct residents to the "Unflushables" webpage (Reference 1). Tactics include digital (YouTube, Facebook, Instagram, Twitter, TikTok, and search ads), radio, television, and out-of-home advertising (buses, elevators and restobars). New tactics for 2022 include advertising on TikTok and full bus sides, and six-second YouTube videos. The Pee and Poo campaign mascots will make regular appearances at Metro Vancouver's PNE installation this summer.

2. Upcoming Collaboration with Health Products Stewardship Association on Safe Disposal of Medications

The Health Products Stewardship Association (HPSA) is responsible for the management of post-consumer pharmaceuticals and operates return programs for safe disposal of medications across British Columbia. HPSA will begin work with Metro Vancouver on aligning communications to further reduce the inappropriate disposal of post-consumer pharmaceuticals, as a condition of acceptance of HPSA's post-consumer materials at the Waste-to-Energy Facility. Further information is available in the Zero Waste Committee Manager's Report dated February 4, 2022 (Reference 2). HPSA's participation will support the increased emphasis on medications as part of the Unflushables campaign.

3. Tour of Iona Island Wastewater Treatment Plant and Iona Beach Regional Park

At the Climate Action Committee meeting on May 26, 2020, staff were asked to arrange a joint tour of the Iona Island Wastewater Treatment Plant and the Iona Beach Regional Park for members of the Liquid Waste, Climate Action, and Regional Parks Committees. Due to the ongoing pandemic and changes to Public Health Orders, it was not possible to schedule the tour until now. We have targeted the morning of Wednesday, May 4, and July 27, 2022 for the tours and meeting invitations have been sent to the Committee members. A Covid safety plan and additional details will be provided closer to the tour date.

4. Liquid Waste Committee 2022 Work Plan

The updated 2022 Work Plan (Attachment) shows the status of the Committee's key priorities for the year.

Attachment

Liquid Waste Committee 2022 Work Plan

References

1. "Unflushables" webpage: <http://www.metrovancouver.org/services/liquid-waste/preventing-problems-pipes/unflushables/Pages/default.aspx>
2. [Zero Waste Committee Manager's Report dated February 4, 2022](#)

Liquid Waste Committee 2022 Work Plan

Report Date: April 13, 2022

Priorities	
1st Quarter	Status
2021 Microfibres “The Ocean Thanks You” Campaign Results	Complete
2021 Fats, Oil and Grease Campaign Results	Complete
Northwest Langley Wastewater Treatment Plant Project Update	Complete
North Shore Wastewater Treatment Plant Project Update	Complete
Development Cost Charge Review Process and Rate Amending Bylaw	Complete
Iona Island Wastewater Treatment Plant Projects - Project Definition Engagement Results	Complete
Iona Island Wastewater Treatment Plant Projects - Project Definition and Conceptual Design	Complete
GVS&DD Trucked Liquid Waste Bylaw Amendment	Complete
2022 Liquid Waste - Sustainability Innovation Fund Applications	Complete
Municipal Requests for Sewerage Area Boundary Amendments (as applicable)	Complete
Utility Policies (as applicable)	Complete
Contract Approvals – Contracts > \$5M (as applicable)	Complete
Project Delivery Capital Portfolio Update	In Progress
Proposed Capital Investment and Carbon Accounting Processes For Sewer Heat Recovery Projects	In Progress
Sewer and Effluent Heat Recovery Bylaw	In Progress
Iona Island Land Tenure and License Agreements	In Progress
Liquid Waste State of Assets Report	In Progress
2nd Quarter	
Liquid Waste Services Capital Program Expenditures Update as at Dec 31, 2021	In Progress
Northwest Langley Wastewater Treatment Plant Project Design Update	In Progress
Integrated Liquid Waste and Resource Management Plan: Report on Phase 1	In Progress
Sewage Catchment Area (Rawn) Amendments	Pending
2021 GVS&DD Environmental Management and Quality Control Annual Report	Pending
LWS Environmental Management System Policy	Pending
Liquid Waste Services Environmental Risk Management Report	Pending
Liquid Waste Heat Recovery Policy	Pending
2022 Update on Liquid Waste Sustainability Innovation Fund Projects	Pending
Municipal Requests for Sewerage Area Boundary Amendments (as applicable)	In Progress
Utility Policies (as applicable)	In Progress
Contract Approvals – Contracts > \$5M (as applicable)	In Progress
3rd Quarter	
Liquid Waste Services Capital Program Expenditures Update as at April 30, 2022	Pending
2022 Unflushables Campaign Results	Pending
Food Sector Bylaw Review	Pending
Sustainability Innovation Fund Project Update	Pending
Municipal Requests for Sewerage Area Boundary Amendments (as applicable)	Pending
Utility Policies (as applicable)	Pending
Contract Approvals – Contracts > \$5M (as applicable)	Pending

4th Quarter	Status
Liquid Waste Services Capital Program Expenditures Update as at August 31, 2022	Pending
Annual Budget & 5 Year Financial Plan - Liquid Waste	Pending
Annacis Outfall Construction Update	Pending
Drainage Areas Facility Policy	Pending
Estuary Management Program Update	Pending
Municipal Requests for Sewerage Area Boundary Amendments (as applicable)	Pending
Utility Policies (as applicable)	Pending
Contract Approvals – Contracts > \$5M (as applicable)	Pending