

**GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT (GVS&DD)  
BOARD OF DIRECTORS**

**REGULAR BOARD MEETING**

**Friday, April 26, 2019**

**9:00 A.M.**

**28<sup>th</sup> Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia**

[Membership and Votes](#)

**A G E N D A<sup>1</sup>**

**A. ADOPTION OF THE AGENDA**

**1. April 26, 2019 Regular Meeting Agenda**

That the GVS&DD Board adopt the agenda for its regular meeting scheduled for April 26, 2019 as circulated.

**B. ADOPTION OF THE MINUTES**

**1. March 29, 2019 Regular Meeting Minutes**

That the GVS&DD Board adopt the minutes for its regular meeting held March 29, 2019 as circulated.

**C. DELEGATIONS**

**D. INVITED PRESENTATIONS**

**E. CONSENT AGENDA**

*Note: Directors may adopt in one motion all recommendations appearing on the Consent Agenda or, prior to the vote, request an item be removed from the Consent Agenda for debate or discussion, voting in opposition to a recommendation, or declaring a conflict of interest with an item.*

**1. PERFORMANCE AND AUDIT COMMITTEE REPORTS**

**1.1 Audited 2018 Financial Statements**

That the GVS&DD Board approve the Audited 2018 Financial Statements for the Greater Vancouver Sewerage and Drainage District.

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<sup>1</sup> Note: Recommendation is shown under each item, where applicable. All Directors vote unless otherwise noted.

## **2. LIQUID WASTE COMMITTEE REPORTS**

### **2.1 Impact of Wipes on the Wastewater System**

That the GVS&DD Board receive for information the report dated March 28, 2019, titled "Impact of Wipes on the Wastewater System".

### **2.2 Recreational Water Quality Monitoring Program**

That the GVS&DD Board receive for information the report dated March 28, 2019, titled "Recreational Water Quality Monitoring Program".

### **2.3 Award of a Contract Resulting from Tender No. 18-328: Construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Influent Pump Station Expansion Project**

That the GVS&DD Board:

- a) approve the award of a contract in the amount of \$15,946,950 (exclusive of taxes) to Graham Infrastructure LP & AECON Water Infrastructure Inc. – a Joint Venture, resulting from Tender No. 18-328: Construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Influent Pump Station Expansion Project; and
- b) authorize the Commissioner and the Corporate Officer to execute the contract.

### **2.4 Award of a Contract Resulting from Tender No. 18-412: Construction of the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project**

That the GVS&DD Board:

- a) approve the award of a contract in the amount of \$9,731,000 (exclusive of taxes) to Maple Reinders Constructors Ltd., resulting from Tender No. 18-412: Construction of the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project;
- b) increase the budget for the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project by \$1,931,000; and
- c) authorize the Commissioner and the Corporate Officer to execute the contract.

### **2.5 Status of Liquid Waste Services Capital Expenditures to December 31, 2018**

That the GVS&DD Board receive for information the report dated March 25, 2019, titled "Status of Liquid Waste Services Capital Expenditures to December 31, 2018".

## **3. ZERO WASTE COMMITTEE REPORTS**

### **3.1 Recycling Update**

That the GVS&DD Board receive for information the report dated April 4, 2019, titled "Recycling Update".

### **3.2 Acceptance of Health Care Facility Waste at Metro Vancouver Transfer Stations**

That the GVS&DD Board receive for information the report dated February 27, 2019, titled "Acceptance of Health Care Facility Waste at Metro Vancouver Transfer Stations".

**3.3 Reallocation of Capital Funds for Transfer Station Compactor Replacements**

That the GVS&DD Board authorize reallocation of 2019 capital funds originally approved for a Surrey Transfer Station compactor to the purchase of a compactor for the replacement Coquitlam Transfer Station.

**3.4 Waste-to-Energy Facility 2018 Financial Update**

That the GVS&DD Board receive for information the report dated April 4, 2019, titled "Waste-to-Energy Facility 2018 Financial Update".

**3.5 Status of Solid Waste Services Capital Expenditures to December 31, 2018**

That the GVS&DD Board receive for information the report dated April 5, 2019, titled "Status of Solid Waste Services Capital Expenditures to December 31, 2018".

**3.6 Board Appointment and Rescindments of Bylaw Enforcement Officers**

That the GVS&DD Board:

- a) pursuant to *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw*:
  - i. rescind the appointments of the following persons as officers: Lynne Bosquet, Donna Hargreaves, Alex Clifford, and Jeff Gogol; and
  - ii. appoint the following Metro Vancouver employee as an officer: Permitting and Enforcement Officer, Brian Kerin; and
- b) pursuant to the *Offence Act* appoint the following Metro Vancouver employee for the purpose of serving summons under section 28 of the *Offence Act* for alleged violations under the *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw*: Permitting and Enforcement Officer, Brian Kerin.

**4. CHIEF ADMINISTRATIVE OFFICER REPORTS**

**4.1 Delegations Received at Committee April 2019**

That the GVS&DD Board receive for information the report, dated April 12, 2019, titled "Delegations Received at Committee April 2019" containing submissions received from the following delegates:

- a) Helmut Blanken, HBHE Consulting, Duncan

**F. ITEMS REMOVED FROM THE CONSENT AGENDA**

**G. REPORTS NOT INCLUDED IN CONSENT AGENDA**

**1. PERFORMANCE AND AUDIT COMMITTEE REPORTS**

**1.1 Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019**

*[Recommendation a): simple weighted majority vote.] and*

*[Recommendation b): 2/3 weighted majority vote.]*

That the GVS&DD Board:

- a) give first, second and third reading to *Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019*; and
- b) pass and finally adopt *Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019*.

**H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN**

**I. OTHER BUSINESS**

**J. BUSINESS ARISING FROM DELEGATIONS**

**K. RESOLUTION TO CLOSE MEETING**

*Note: The Board 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 GVS&DD Board close its regular meeting scheduled for April 26, 2019 pursuant to the *Community Charter* provisions, Section 90 (1) (g) and (i) 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:

- (g) litigation or potential litigation affecting the regional district; and
- (i) the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose.”

**L. RISE AND REPORT (Items Released from Closed Meeting)**

**M. ADJOURNMENT/CONCLUSION**

That the GVS&DD Board adjourn/conclude its regular meeting of April 26, 2019.

**GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT  
BOARD OF DIRECTORS**

Minutes of the Regular Meeting of the Greater Vancouver Sewerage and Drainage District (GVS&DD) Board of Directors held at 12:11 p.m. on Friday, March 29, 2019 in the 28<sup>th</sup> Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia.

**MEMBERS PRESENT:**

Burnaby, Chair, Director Sav Dhaliwal	Surrey, Alternate Director Linda Annis for
North Vancouver City, Vice Chair Director	Laurie Guerra
Linda Buchanan	Surrey, Director Doug Elford (departed at
Burnaby, Director Pietro Calendino	12:31 p.m.)
Burnaby, Director Mike Hurley	Surrey, Director Jack Singh Hundial
Coquitlam, Director Richard Stewart	Surrey, Director Brenda Locke
Delta, Alternate Director Dan Copeland for	Surrey, Director Steven Pettigrew
George Harvie	Vancouver, Director Adriane Carr
Delta, Director Lois Jackson	Vancouver, Director Melissa De Genova
Electoral Area A, Alternate Director Mike Feely	Vancouver, Director Lisa Dominato
Langley City, Director Val van den Broek	Vancouver, Director Colleen Hardwick
Langley Township, Director Jack Froese	Vancouver, Director Kennedy Stewart
Langley Township, Director Kim Richter	Vancouver, Alternate Director Jean Swanson for
North Vancouver District, Alternate Director	Christine Boyle
Lisa Muri for Mike Little	Vancouver, Director Michael Wiebe
Port Moody, Alternate Director Hunter Madsen	West Vancouver, Director Mary-Ann Booth
for Rob Vagramov	White Rock, Alternate Director Helen Fathers for
Richmond, Director Malcolm Brodie	Darryl Walker
Richmond, Director Harold Steves	Commissioner Carol Mason (Non-voting member)

**MEMBERS ABSENT:**

Coquitlam, Director Craig Hodge	Pitt Meadows, Director Bill Dingwall
Maple Ridge, Director Mike Morden	Port Coquitlam, Director Brad West
New Westminster, Director Jonathan Coté	Surrey, Director Doug McCallum

**STAFF PRESENT:**

Genevieve Lanz, Legislative Services Coordinator, Board and Information Services  
Chris Plagnol, Corporate Officer

**A. ADOPTION OF THE AGENDA**

**1. March 29, 2019 Regular Meeting Agenda**

**It was MOVED and SECONDED**

That the GVS&DD Board:

- a) amend the agenda for its regular meeting scheduled for March 29, 2019 by adding Item C.1 Josh Jansen van Doorn, WMABC; and
- b) adopt the agenda as amended.

**CARRIED**

**B. ADOPTION OF THE MINUTES**

**1. February 22, 2019 Regular Meeting Minutes**

**It was MOVED and SECONDED**

That the GVS&DD Board adopt the minutes for its regular meeting held February 22, 2019 as circulated.

**CARRIED**

**C. DELEGATIONS**

**1. Josh Jansen van Doorn, WMABC**

Josh Jansen van Doorn, WMABC, spoke in opposition to agenda Items E1.1 "Bylaw 181 Update and Commercial Waste Hauler Licensing Bylaw Overview", E1.2 "Generator Levy Overview and E1.3 "Solid Waste Regulatory Framework Correspondence Update". Mr. van Doorn requested that the GVS&DD Board not approve writing a letter to the Minister of Environment and Climate Change Strategy requesting the approval of *Greater Vancouver Sewage & Drainage District Commercial Waste Hauler Licensing Bylaw No. 307, 2017* and *Greater Vancouver Sewerage and Drainage District Solid Waste and Recyclable Material Regulatory Amending Bylaw No. 309, 2017*.

On-table executive summary is retained with the March 29, 2019 GVS&DD Board agenda.

**D. INVITED PRESENTATIONS**

No items presented.

**E. CONSENT AGENDA**

At the request of Directors, the following Items were removed from the Consent Agenda, in the following order, for consideration under Section F. Items Removed from the Consent Agenda:

- 2.5 2019 Regional Unflushables Campaign – Update
- 2.6 North Shore Wastewater Treatment Plant Indicative Design
- 1.1 Bylaw 181 Update and Commercial Waste Hauler Licensing Bylaw Overview

**It was MOVED and SECONDED**

That the GVS&DD Board adopt the recommendations contained in the following items presented in the March 29, 2019 GVS&DD Board Consent Agenda:

- 1.2 Generator Levy Overview
- 1.3 Solid Waste Regulatory Framework Correspondence Update
- 1.4 Mixed Waste Processing Pilot
- 1.5 Waste-to-Energy Facility Second Pass Superheater Replacement Project Contract Award
- 1.6 Staff Appointments for the Purpose of Serving Summons under the *Offence Act*
- 2.1 Support for the Village of Anmore's Membership in the Greater Vancouver Sewerage and Drainage District
- 2.2 Award of Phases 2 and 3, Construction and Post-Construction Management Services: Annacis Island Wastewater Treatment Plant Outfall System Project
- 2.3 Award of Contract Resulting from Tender No. 18-304: Annacis Island Wastewater Treatment Plant Secondary Clarifier Upgrades Construction
- 2.4 Staff Appointments for the Purpose of Serving Summons under the *Offence Act*
- 3.1 Delegations Received at Committee March 2019

**CARRIED**

Director Calendino absent at the vote.

The items and recommendations referred to above are as follows:

**1.2 Generator Levy Overview**

Report dated March 1, 2019 from Paul Henderson, General Manager, Solid Waste Services, providing the GVS&DD Board with additional information related to the Tipping Fee Bylaw and Generator Levy.

*Recommendation:*

That the GVS&DD Board receive for information the report dated March 1, 2019, titled "Generator Levy Overview".

*Adopted on Consent*

**1.3 Solid Waste Regulatory Framework Correspondence Update**

Report dated February 27, 2019 from Paul Henderson, General Manager, Solid Waste Services, providing the GVS&DD Board with stakeholder correspondence received by Metro Vancouver relating to the solid waste regulatory framework updates.

*Recommendation:*

That the GVS&DD Board receive for information the report dated February 27, 2019, titled "Solid Waste Regulatory Framework Correspondence Update".

*Adopted on Consent*

**1.4 Mixed Waste Processing Pilot**

Report dated March 1, 2019 from Paul Henderson, General Manager, Solid Waste Services, seeking GVS&DD Board direction to initiate a pilot project for the purpose of processing municipal solid waste for the recovery of materials and fuel.

*Recommendation:*

That the GVS&DD Board:

- a) authorize engaging a consultant to assist in the design of a pilot project, financial model, and procurement process for the purpose of processing municipal solid waste for the recovery of materials and/or fuel; and
- b) direct staff to report back to the Board with the concept plan and procurement model for the implementation of the pilot project.

*Adopted on Consent*

**1.5 Waste-to-Energy Facility Second Pass Superheater Replacement Project Contract Award**

Report dated March 1, 2019 from Brent Kirkpatrick, Lead Senior Engineer, Solid Waste Services, seeking GVS&DD Board authorization to award the contract, in the amount of \$5,484,000 (including PST, but excluding GST), to Covanta Burnaby Renewable Energy, ULC, for the construction of the second pass superheater replacement project at the Metro Vancouver Waste-to-Energy Facility.

*Recommendation:*

That the GVS&DD Board authorize:

- a) award to Covanta Burnaby Renewable Energy, ULC, for the construction of the second pass superheater replacement project at the Metro Vancouver Waste-to-Energy Facility at a cost of \$5,484,000 (including PST, but excluding GST), under the terms and conditions of existing Contract 98106; and
- b) the Commissioner and Corporate Officer to execute any necessary documents.

*Adopted on Consent*

**1.6 Staff Appointments for the Purpose of Serving Summons under the Offence Act**

Report dated March 6, 2019 from Ray Robb, Division Manager, Environmental Regulation and Enforcement, Planning and Environment, seeking GVS&DD Board approval to authorize existing GVS&DD officers for the additional purpose of serving summons for alleged offences under GVS&DD solid waste bylaws.

*Recommendation:*

That the GVS&DD Board appoint, for the purpose of serving summons under section 28 of the *Offence Act* for alleged violation of GVS&DD solid waste bylaws, all Metro Vancouver staff currently appointed as officers under the *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw No. 181, 1996*.

*Adopted on Consent*

**2.1 Support for the Village of Anmore's Membership in the Greater Vancouver Sewerage and Drainage District**

Report dated March 4, 2019 from Fred Nenninger, Director, Policy Planning and Analysis, Liquid Waste Services, seeking GVS&DD support for the Village of Anmore's application requesting membership in the Greater Vancouver Sewerage and Drainage District.

*Recommendation:*

That the GVS&DD Board:

- a) support the Village of Anmore's application to the Province of British Columbia for membership in the Greater Vancouver Sewerage and Drainage District (GVS&DD), and
- b) agree to provide sewerage services to the Village of Anmore subject to the following conditions:
  - i. that the Province grants GVS&DD membership to the Village of Anmore;
  - ii. that the Metro Vancouver Regional District Board resolves that the Village of Anmore's request for regional sewerage services meets the provisions of *Metro 2040: Shaping Our Future*;
  - iii. that the existing agreement between the Village of Anmore, the City of Port Moody and the GVS&DD to service Eagle Mountain Middle School be terminated and the Village of Anmore enter into a servicing agreement with the City of Port Moody to convey Anmore wastewater through Port Moody infrastructure; and
  - iv. that an appropriate flow-based billing protocol be developed and implemented to facilitate annual GVS&DD servicing levies.

*Adopted on Consent*

**2.2 Award of Phases 2 and 3, Construction and Post-Construction Management Services: Annacis Island Wastewater Treatment Plant Outfall System Project**

Report dated March 4, 2019 from Roy Moulder, Director, Purchasing and Risk Management, Financial Services, and Jeff Chan, Division Manager, Project Delivery, Liquid Waste Services, seeking GVS&DD Board authorization to award Phase 2 Construction and Phase 3 Post-Construction to Hatch Corporation for construction management services on the Annacis Island Wastewater Treatment Plant Outfall System Project, resulting from Request for Proposal No. 16-168, for an amount up to \$11,614,673.25 (exclusive of taxes).

*Recommendation:*

That the GVS&DD Board:

- a) approve the award of Phase 2 Construction and Phase 3 Post-Construction for an amount of up to \$11,614,673.25 (exclusive of taxes) to the Phase 1 consultant, Hatch Corporation, for Construction Management Services on the Annacis Island Wastewater Treatment Plant Outfall System Project; and
- b) authorize the Commissioner and the Corporate Officer to execute the required documentation.

*Adopted on Consent*

**2.3 Award of Contract Resulting from Tender No. 18-304: Annacis Island Wastewater Treatment Plant Secondary Clarifier Upgrades Construction**

Report dated February 19, 2019 from Roy Moulder, Director, Purchasing and Risk Management, Financial Services, and Jeff Chan, Division Manager, Project Delivery, Liquid Waste Services, advising the GVS&DD Board of the results of Tender No. 18-304: Annacis Island Wastewater Treatment Plant Secondary Clarifier Upgrades Construction, and recommending award of contract to NAC Constructors Ltd. in the amount of \$17,771,000 (exclusive of taxes).

*Recommendation:*

That the GVS&DD Board:

- a) approve the award of a contract in the amount of \$17,771,000 (exclusive of taxes) to NAC Constructors Ltd. resulting from Tender No. 18-304: Annacis Island Wastewater Treatment Plant Secondary Clarifier Upgrades Construction; and
- b) authorize the Commissioner and the Corporate Officer to execute the contract.

*Adopted on Consent*

**2.4 Staff Appointments for the Purpose of Serving Summons under the Offence Act**

Report dated March 1, 2019 from Ray Robb, Division Manager, Environmental Regulation and Enforcement, Planning and Environment, seeking GVS&DD Board approval to authorize existing GVS&DD officers for the additional purpose of serving summons for alleged offences under GVS&DD liquid waste bylaws.

*Recommendation:*

That the GVS&DD Board appoint, for the purpose of serving summons under Section 28 of the *Offence Act* for alleged violation of GVS&DD liquid waste bylaws, all Metro Vancouver and City of Vancouver staff currently appointed as officers under the *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw No. 299, 2007*.

*Adopted on Consent*

**3.1 Delegations Received at Committee March 2019**

Report dated March 14, 2019 from Janis Knaupp, Legislative Services Coordinator, and Genevieve Lanz, Legislative Services Coordinator, Board and Information Services, updating the GVS&DD Board of delegation activities at Committee in March 2019.

*Recommendation:*

That the GVS&DD Board receive for information the report dated March 14, 2019, titled "Delegations Received at Committee March 2019" containing submissions received from the following delegates:

- a) Steve Bryan, Director, Waste Management Association of BC;
- b) Ken Carrusca, Vice President, Environment and Marketing (Western Region), Cement Association of Canada; and
- c) James Peters, ShowerPot

*Adopted on Consent*

**F. ITEMS REMOVED FROM THE CONSENT AGENDA**

The items removed from the Consent Agenda were considered in numerical order.

**1.1 Bylaw 181 Update and Commercial Waste Hauler Licensing Bylaw Overview**

Report dated March 7, 2019 from the Zero Waste Committee, together with report dated March 1, 2019 from Paul Henderson, General Manager, Solid Waste Services, providing the GVS&DD Board with additional information related to Bylaw 181 and *GVS&DD Commercial Waste Hauler Licensing Bylaw No. 307, 2017*.

**It was MOVED and SECONDED**

That the GVS&DD Board:

- a) receive for information the report dated March 1, 2019, titled "Bylaw 181 Update and Commercial Waste Hauler Licensing Bylaw Overview"; and
- b) send a letter to the Minister of Environment and Climate Change Strategy requesting that the Minister approve the *GVS&DD Commercial Waste Hauler Licensing Bylaw No. 307, 2017* and the *GVS&DD Solid Waste and Recyclable Material Regulatory Amending Bylaw No. 309, 2017*.

**CARRIED**

Director Jackson voted in the negative.

Vice Chair Buchanan absent at the vote.

**2.5 2019 Regional Unflushables Campaign – Update**

Report dated February 20, 2019 from Larina Lopez, Division Manager, Corporate Communications, External Relations, providing the GVS&DD Board with an update on the upcoming regional *Unflushables* campaign.

12:31 p.m. Director Elford departed the meeting.

**It was MOVED and SECONDED**

That the GVS&DD Board receive for information the report dated February 20, 2019, titled "2019 Regional Unflushables Campaign – Update."

**CARRIED**

Director Froese absent at the vote.

## 2.6 North Shore Wastewater Treatment Plant Indicative Design

Report dated March 7, 2019 from Fred Nenninger, Director, Policy, Planning and Analysis, Liquid Waste Services, providing the GVS&DD Board with information on the North Shore Wastewater Treatment Plant indicative design.

Members commented on potential upgrades to reach tertiary treatment.

### **It was MOVED and SECONDED**

That the GVS&DD Board:

- a) receive for information the report dated March 7, 2019, titled “North Shore Wastewater Treatment Plant Indicative Design”; and
- b) direct staff to report back with information on tertiary treatment options for North Shore Wastewater Treatment Plant and Iona Island Wastewater Treatment Plant including costs and funding sources.

### **Distinct Propositions**

Director R. Stewart requested division of the question.

Proposition a) was before the Board.

Question was then called on Proposition a) and it was

**CARRIED**

Proposition b) was before the Board.

Question was then called on Proposition b) and it was

**CARRIED**

## **G. REPORTS NOT INCLUDED IN CONSENT AGENDA**

### **1.1 GVS&DD Freedom of Information Bylaw No. 324, 2019**

Report dated March 13, 2019 from the Finance and Intergovernment Committee, together with the report dated February 15, 2019 from Klara Kutakova, Deputy Corporate Officer, seeking GVS&DD Board adoption of *Greater Vancouver Sewerage and Drainage District Freedom of Information Bylaw. No. 324, 2019*.

### **It was MOVED and SECONDED**

That the GVS&DD Board give first, second and third reading to *Greater Vancouver Sewerage and Drainage District Freedom of Information Bylaw. No. 324, 2019*.

**CARRIED**

### **It was MOVED and**

That the GVS&DD Board pass and finally adopt *Greater Vancouver Sewerage and Drainage District Freedom of Information Bylaw. No. 324, 2019*.

**CARRIED**

**H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN**

No items presented.

**I. OTHER BUSINESS**

No items presented.

**J. BUSINESS ARISING FROM DELEGATIONS**

No items presented.

**K. RESOLUTION TO CLOSE MEETING**

**It was MOVED and SECONDED**

That the GVS&DD Board close its regular meeting scheduled for March 29, 2019 pursuant to the *Community Charter* provisions, Section 90 (1) (e) and (g) 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; and
- (g) litigation or potential litigation affecting the regional district.”

**CARRIED**

**L. RISE AND REPORT (Items Released from Closed Meeting)**

No items presented.

**M. ADJOURNMENT/CONCLUSION**

**It was MOVED and SECONDED**

That the GVS&DD Board adjourn its regular meeting of March 29, 2019.

**CARRIED**

(Time: 12:48 p.m.)

CERTIFIED CORRECT

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Chris Plagnol, Corporate Officer

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Sav Dhaliwal, Chair



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To: Performance and Audit Committee

From: Phil Trotzuk, Chief Financial Officer

Date: March 29, 2019

Meeting Date: April 10, 2019

Subject: **Audited 2018 Financial Statements**

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### **RECOMMENDATION**

- a) That the MVRD Board approve the Audited 2018 Consolidated Financial Statements for the Metro Vancouver Regional District;
  - b) That the GVS&DD Board approve the Audited 2018 Financial Statements for the Greater Vancouver Sewerage and Drainage District;
  - c) That the GVWD Board approve the Audited 2018 Financial Statements for the Greater Vancouver Water District;
  - d) That the MVHC Board approve the Audited 2018 Financial Statements for the Metro Vancouver Housing Corporation.
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### **PURPOSE**

To present, for approval, the Audited 2018 Financial Statements for the Metro Vancouver Districts and the Metro Vancouver Housing Corporation.

### **BACKGROUND**

Legislation requires that annual Audited Financial Statements be prepared for the Metro Vancouver Districts and Metro Vancouver Housing Corporation and presented at a public meeting of the Board of Directors. The Audited Financial Statements for 2018 have been prepared by management in accordance with Canadian public sector accounting standards ("PSAS") and have received an unqualified audit opinion by the external auditors, BDO Canada LLP.

### **2018 FINANCIAL STATEMENT HIGHLIGHTS**

Under PSAS regulations, governments are required to present four statements with explanatory notes - Statement of Financial Position (Exhibit A), Statement of Operations (Exhibit B), Statement of Net Debt (Exhibit C) and Statement of Cash Flows (Exhibit D). The District also includes a number of schedules for additional reference. It is important to note that there are differences between the presentation in these financial statements and the annual Metro Vancouver budget, which is prepared to determine the annual revenue requirements to meet expenditure obligations. These differences are outlined in note 17 of the consolidated statements.

The complete set of 2018 Audited Financial Statements is attached. These are presented for the Boards' approval and include:

- Audited 2018 Consolidated Financial Statements for the Metro Vancouver Regional District
- Audited 2018 Financial Statements for the Greater Vancouver Sewerage and Drainage District
- Audited 2018 Financial Statements for the Greater Vancouver Water District
- Audited 2018 Financial Statements for the Metro Vancouver Housing Corporation

The consolidated financial statements combine the accounts of the Metro Vancouver Regional District, Greater Vancouver Sewerage and Drainage District, Greater Vancouver Water District and the Metro Vancouver Housing Corporation.

To highlight the information presented in these financial statements, the following provides relevant explanations pertaining to the Summarized Consolidated Statement of Financial Position (Appendix 1) and the Consolidated Statement of Operations (Appendix 2). These two statements are the foundation of the audited financial statements. They are similar to the Balance Sheet and Income Statement in private organizations.

### **Summarized Consolidated Statement of Financial Position**

The purpose of the Consolidated Statement of Financial Position (Appendix 1) is to present the organization's assets, liabilities, net debt position and accumulated surplus or equity position. The accumulated surplus could also be interpreted as the net worth of the organization.

Relevant explanations pertaining to the Summarized Consolidated Statement of Financial Position are as follows:

<b>Accumulated surplus</b>	<p>The key performance indicator on Statement of Financial Position is the Accumulated Surplus. The accumulated surplus for the District is favourable at \$4.4 billion, which indicates that the organization owns (Financial and Non-Financial Assets) more than it owes (Liabilities). This amount is often referred to in private organizations as "Net Worth", and reflects the member municipalities' net investment in the District's consolidated entity. It comprises reserve balances of \$289.3 million and the investment in tangible capital assets (assets less debt owing) of \$4.1 billion.</p> <p>The accumulated surplus increased by \$238.2 million in 2018 which represents the annual surplus for the year, calculated as the difference between revenues and expenses and detailed in Appendix 2. For PSAS purposes, annual surplus does not include contributions to and from reserves, capital contributions or principal payments on long-term debt.</p>
<b>Financial Assets</b>	
<i>Cash, Cash Equivalents and Investments</i>	<p>Cash, cash equivalents and investments consist of cash and both long and short-term investments. The 2018 balance was significantly higher than 2017 as a result of favourable operating results and unapplied capital funding.</p>
<i>Accounts Receivable</i>	<p>Accounts receivable are amounts due through the normal course of District business and are net of any allowance for doubtful accounts</p>

which is negligible. The balance at December 31, 2018 comprises tipping fees due from commercial solid waste haulers, development cost charge (DCC) income, industrial sewer charges from commercial customers and payments due from our member municipalities for water sales. The amount is marginally higher than 2017, primarily due to the timing of receipts.

*Asset held for sale*

At December 31, 2018, Metro Vancouver's two former head office properties were available for sale. The net book value (historical cost less accumulated depreciation) of the properties is included as a financial asset in the statements. Subsequent to year-end, on March 12, 2019, the properties were sold. The gain from the sale, net of book value, of \$63.15 million will be included in the 2019 financial results.

*Debt Reserve Fund*

The debt reserve fund represents the amount required, under agreement with the Municipal Finance Authority (MFA), as security for debt service obligations related to MFA debentures issued to the Districts and its members. This represents 1% of the debenture issues. These amounts are refundable, with interest, upon debenture maturity. This balance fluctuates upward with new debt issues and downward as issues mature. The total debt reserve fund balance can be segregated into two components:

- 1) Member Municipalities and Translink (\$34.6 million) - This amount is related to debt service obligations for these organizations and is fully refundable to them. Therefore, it has no impact on Metro Vancouver's financial position.
- 2) Metro Vancouver (\$20.2 million) related to debt incurred to fund infrastructure.

**Liabilities**

*Accounts Payable and Other Liabilities*

- Accounts payable and other liabilities consists of amounts owing:
- to suppliers for goods received and services rendered, primarily those relating to capital projects;
  - to employees for future benefits which represent the potential payments to employees of entitled benefits, such as banked vacation;
  - to MFA and mortgage providers for interest accrued on debt; and
  - for the District's share of landfill closure and post closure costs at the Vancouver and Cache Creek landfills.

The increase of \$50.7 million is mostly a result of an increase of \$55.3 million in construction holdbacks, trade and other payables as a result of the increase in capital project spending from \$321.0 million

in 2017 to \$422.0 million in 2018. This increase is offset by a decrease of \$4.7 million in wage accruals from the settlement of Teamsters collective bargaining.

*Deferred  
Revenue and  
Refundable  
Deposits*

Deferred revenue and refundable deposits include:

- \$311.6 million of restricted funds raised through the collection of development cost charges (DCC's) which will be used to fund future liquid waste growth capital projects;
- \$200.4 million for Provincial grant associated with the construction of the new North Shore Wastewater Treatment plant;
- \$13.6 million of restricted funds in MVHC which will be used for the replacement of equipment and specified building components and to offset future operating deficits in specific programs;
- \$2.4 million in security deposits in MVHC and Parks; and
- \$6.6 million from miscellaneous deferred grants and revenues.

The additional deferred revenue for the year is due mainly to increased contributions to MVHC's restricted funds as a result of favourable operating results, in addition to interest earned on both DCC funds and the grant related to the North Shore Wastewater Treatment plant.

*Debt*

Debt, net of sinking funds reflects the amount of long term borrowing outstanding at the end of 2018. Sinking funds consist of principal payments made over the term of the debt issue. These payments are invested which along with the interest earned will offset the debt repayment at maturity.

*TransLink and  
Member  
Municipalities*

The debt owing to MFA for TransLink and member municipalities reflects borrowing on behalf of these entities to fund major capital projects. The amount is completely offset reflecting the fact that these entities are responsible for the debt. Therefore, the impact on Metro Vancouver's financial position is nil.

Overall debt for these entities decreased by \$70.0 million. New long term borrowing during the year totaled \$14.77 million relating to debt borrowed by Port Moody (\$10.5 million), Bowen Island (\$2.0 million) and White Rock (\$2.27 million). This increase is offset by debt and sinking fund payments of \$57.1 million and sinking fund interest earned of \$27.7 million. In addition, there was \$104.13 million in debt maturities with an equal offsetting amount of sinking fund retirements.

*Metro Vancouver* The debt owing on behalf of the Metro Vancouver Districts and Metro Vancouver Housing Corporation reflects borrowing to fund major infrastructure projects. The net amount owing for Metro Vancouver at the end of 2018 is \$1.24 billion. To put this in context, Metro Vancouver has tangible capital assets of \$5.1 billion and an investment in non-financial assets (assets less debt owing) of \$4.1 billion.

The debt increased by \$287.1 million. New long term borrowing was \$395.1 million, \$390.0 borrowed on behalf of GVS&DD and \$5.1 million related to MVHC forgivable loan. This increase is offset by debt and sinking fund payments of \$83.8 million and sinking fund interest earned of \$24.2 million. In addition, there was \$226.8 million in debt maturities with an equal offsetting amount of sinking fund retirements.

#### **Net Debt**

The net debt position indicates the amount by which the organizations' liabilities exceed the financial assets. Although the amount appears as unfavourable, the vast majority of the organization's liabilities are long-term debt which is repayable over several years. The organization's financial assets are more than sufficient to offset the amount of short-term obligations. The current ratio which is current assets divided by current liabilities and is a measure of an organization's liquidity is 5.3 to 1. A ratio of 2 to 1 is considered to be a measure of favourable liquidity.

While the increase in tangible capital assets of \$332 million, the net debt position increased by only \$96.2 million, which indicates that more of the District's investment in capital infrastructure is being funded through operations and reserves rather than debt.

#### **Non-Financial Assets**

Non-financial assets represent the value of tangible capital assets, inventories of supplies held by the organization, the prepaid portion of land leases on housing properties, and prepaid expenses for items such as insurance.

The Tangible Capital Assets balance represents the historical cost of the asset less accumulated amortization. The increase in 2018 is the direct result of the capital expenditures made during the year, the majority of which were for water and sewer infrastructure projects.

## Consolidated Statement of Operations

The Consolidated Statement of Operations (Appendix 2) identifies the results of the organization's financial activities for the year by presenting revenues less expenses, which is the annual surplus. This statement consolidates the revenues and expenses of the Districts' and MVHC.

The annual surplus of \$238.2 million serves as the 2018 addition to the organization's overall accumulated surplus position or net worth of \$4.4 billion. The accumulated surplus in this statement is also articulated in the Summarized Consolidated Statement of Financial Position and Equity (Appendix 1).

As noted above, the annual surplus as presented under PSAS is different from the annual surplus as determined in the context of the annual budget. The primary difference is that PSAS excludes contributions to and from reserves as well as capital contributions and principal payments on long term debt. These excluded items form a significant part of the annual approved budget. To put this difference in context, the 2018 surplus consistent with the budget is \$41.0 million.

Relevant explanations pertaining to the Consolidated Statement of Operations are as follows:

### Revenues

<i>Metered Sale of Water</i>	Metered water sales for 2018 was \$4.8 million higher than budget due to slightly higher increase in consumption and \$10.2 million higher than prior year as a result of the higher consumption and an increase in rates of 3.9%.
<i>Tipping fees</i>	Tipping fee revenues in Solid Waste were \$9.0 million higher than expected, due primarily to higher than expected waste flows in the system during 2018.
<i>Development cost charges</i>	Development cost charges applied against growth capital debt costs are lower than budget due to growth capital expenditures and related debt financing being less than budget. However, the amount is \$5.6 million higher than prior year, due to the number of growth capital project previously undertaken and debt financing greater in 2018 than 2017.
<i>Property Rentals</i>	Property rentals in the Housing Corporation were slightly lower than budget due to higher vacancies than anticipated.
<i>Grants and other contributions</i>	Grants and other contributions of \$1.5 include grants in-lieu of taxes (\$0.6 million), grants related GVS&DD capital projects (\$5.9 million), and subsidies and contributions received by MVHC (\$2.0 million). These grants are offset by a \$7.0 million contribution to MVHC's restricted reserves (deferred revenue). Under MVHC's operating

	contracts and PSAS requirements, surpluses related to restricted programs are recorded as contributions to deferred revenue and lower the amount of revenue recorded. The amount is slightly lower than budget mainly due to additional funds contributed to MVHC's restricted reserves than anticipated. The amount is lower than prior year because in 2017, \$5 million of MVHC's Section 27 properties were no longer restricted and were recorded as revenue.
<i>User fees, recoveries and other revenue</i>	User fees, recoveries and other revenue were \$19.5 million higher than budget mainly due to \$14.8 million in GVWD received for cost sharing recoveries related to capital projects and commercial leases and rentals that were not anticipated during budget preparation.
<i>Sinking fund Income and interest income</i>	Sinking fund income and interest income pertains to Metro Vancouver sinking funds and investments balances. The income is \$8.3 million higher than anticipated and \$2.1 million higher than 2017, mainly due to higher reserve balances from favourable operational results and from the \$193 million grant received from the Province in 2017 for the construction of the new North Shore Wastewater Treatment plant, which has resulted in higher than anticipated cash and investment balances during the year.
<i>Sinking fund income, member and TransLink</i>	Sinking fund income, member and TransLink relates to income earned on sinking funds for debt incurred on behalf of these organizations. This income, although recognized in the Financial Statements, is income attributed to the other organizations. There is an offsetting item under expenses, so the net impact to Metro Vancouver is nil.
<b>Expenses</b>	Details relating to the various expenses can be reviewed in a separate report titled "2018 Financial Results Year-End".

## ALTERNATIVES

These financial statements are a statutory requirement prepared in accordance to specific accounting principles. No alternatives are presented.

## FINANCIAL IMPLICATIONS

There are no financial implications relative to the approval of the Audited 2018 Financial Statements.

## SUMMARY / CONCLUSION

The financial statements are part of the legislated reporting requirements for 2018 and staff recommends their approval. As noted in the Auditors' Report, it is the Auditors' opinion that these Financial Statements present fairly the financial position of the Metro Vancouver Districts and the Metro Vancouver Housing Corporation as of December 31, 2018, and the results of their financial

activities and changes in their financial position for the year then ended in accordance with Canadian public sector accounting standards.

**Attachments:**

Appendix 1 - Summarized Consolidated Statement of Financial Position

Appendix 2 - Consolidated Statement of Operations

Attachment 1 - ~~Metro Vancouver Districts, and Metro Vancouver Housing Corporation Financial Statements for the year ended December 31, 2018~~  
Greater Vancouver Sewerage and Drainage District Financial Statements for the year ended December 31, 2018

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# METRO VANCOUVER REGIONAL DISTRICT

## Summarized Consolidated Statement of Financial Position

Year ended December 31, 2018

	2018	2017
<b>Financial Assets</b>		
Cash, cash equivalents and investments	\$ 1,103,257,458	\$ 830,609,114
Accounts receivable	111,762,125	107,159,964
Asset held for sale	22,850,898	22,850,898
Debt reserve fund		
Total debt reserve fund	54,808,505	56,874,264
Less Debt reserve fund, member municipalities and Trans	(34,608,994)	(37,220,722)
Debt reserve fund, Metro Vancouver Districts	20,199,511	19,653,542
	1,258,069,992	980,273,518
<b>Liabilities</b>		
Accounts payable and other liabilities	234,489,303	182,481,663
Less accrued interest on debt (included in debt below)	(21,995,126)	(20,725,606)
Accounts payable and other liabilities	212,494,177	161,756,057
Deferred revenue and refundable deposits	534,590,870	498,448,498
Debt, Translink and member municipalities		
Total debt, Translink and member municipalities	1,586,583,435	1,680,758,864
Accrued interest on debt	10,657,445	10,925,277
Less sinking funds	(616,026,657)	(640,441,917)
	981,214,223	1,051,242,224
Due from Translink and member municipalities	(981,214,223)	(1,051,242,224)
	-	-
Debt, Metro Vancouver		
Total debt, Metro Vancouver	1,739,305,403	1,576,561,985
Accrued interest on debt	11,337,681	9,800,329
Less sinking funds	(508,531,358)	(631,327,999)
	1,242,111,726	955,034,315
	1,989,196,773	1,615,238,870
<b>Net Debt</b>	<b>(731,126,781)</b>	<b>(634,965,352)</b>
<b>Non-Financial Assets</b>		
Tangible capital assets	5,097,823,719	4,765,487,071
Prepays and inventories	19,441,000	17,433,295
	5,117,264,719	4,782,920,366
<b>Accumulated Surplus (Equity)</b>	<b>\$ 4,386,137,938</b>	<b>\$ 4,147,955,014</b>
<b>Accumulated Surplus (Equity), beginning of year</b>	<b>\$ 4,147,955,014</b>	<b>\$ 3,917,788,323</b>
Revenue	849,992,558	798,819,258
Expenses	611,809,634	568,652,567
Annual surplus	238,182,924	230,166,691
<b>Accumulated Surplus (Equity), end of year</b>	<b>\$ 4,386,137,938</b>	<b>\$ 4,147,955,014</b>
<b>Accumulated Surplus (Equity) consists of</b>		
Reserves	289,348,698	349,179,450
Non-financial assets (net of debt and capital funds)	4,096,789,240	3,798,775,564
	<b>\$ 4,386,137,938</b>	<b>\$ 4,147,955,014</b>

## APPENDIX 2

### METRO VANCOUVER REGIONAL DISTRICT

#### Consolidated Statement of Operations

Year ended December 31, 2018

	2018 Budget	2018 Actual	2017 Actual
<b>Revenue</b>			
MVRD property tax requisitions	\$ 59,174,609	\$ 59,174,609	\$ 52,242,244
Metered sale of water	269,801,874	274,631,383	264,484,281
Sewerage and drainage levy	232,134,617	232,134,617	213,889,658
Tipping fees	93,451,819	102,036,530	98,635,607
BODTSS industrial charges	10,144,566	11,265,803	9,838,338
Steam and electricity sales	5,777,099	5,584,341	5,642,942
Development cost charges	12,926,848	10,759,806	5,201,933
Trucked liquid waste fees	1,081,546	1,157,301	1,042,436
Source control fees	1,456,000	1,357,501	1,458,531
Housing property rentals	38,839,322	38,729,796	38,566,301
Grants and other contributions	1,745,012	1,509,186	9,235,091
User fees, recoveries and other revenue	29,789,364	49,113,557	35,353,379
Sinking fund and interest income	26,327,533	34,765,584	32,459,266
Sinking fund income, members and TransLink	29,744,768	27,772,544	30,769,251
	812,394,977	849,992,558	798,819,258
<b>Expenses</b>			
Sewer operations	180,441,293	164,887,262	149,853,456
Waste disposal, recycling and regulatory services	98,292,713	108,329,525	97,562,427
Water operations	156,825,905	141,103,474	134,984,262
Building operations	17,655,796	17,635,821	16,759,703
Housing rental operations	35,401,125	28,415,532	26,325,365
General government services	5,660,183	4,778,069	4,424,441
Regional parks	32,529,071	37,379,381	28,376,649
Air quality	9,265,198	9,739,334	8,655,317
Regional employers services	2,421,663	2,115,074	2,128,059
911 emergency telephone system	4,220,179	4,300,157	4,102,857
Regional planning	2,886,848	1,853,378	2,586,165
Affordable housing	1,969,271	1,388,179	-
Electoral areas	496,330	443,065	274,917
Regional global positioning system	314,463	235,206	195,237
Sasamat volunteer fire department	358,788	328,743	245,651
Integrated Partnership for Regional Emergency Management	192,214	121,889	323,344
Corporate costs	49,622,467	49,642,480	50,013,047
Sinking fund income attributed to members and TransLink	29,744,768	27,772,544	30,769,251
	638,525,561	611,809,634	568,652,567
<b>Annual surplus</b>	173,869,416	238,182,924	230,166,691
<b>Accumulated surplus, beginning of year</b>	4,147,955,014	4,147,955,014	3,917,788,323
<b>Accumulated surplus, end of year</b>	\$ 4,321,824,430	\$ 4,386,137,938	\$ 4,147,955,014

**METRO VANCOUVER DISTRICTS'  
AND METRO VANCOUVER HOUSING CORPORATION  
(OPERATING AS METRO VANCOUVER)**

**Financial Statements**

**Year ended December 31, 2018**

**DRAFT - April 4, 2019**

Financial Statements of

**GREATER VANCOUVER SEWERAGE  
AND DRAINAGE DISTRICT**

Year ended December 31, 2018

**DRAFT - April 4, 2019**

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

## Index to Financial Statements

December 31, 2018

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Independent Auditor's Report

Management Report

Statement of Financial Position	A
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Statement of Operations	B
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Statement of Change in Net Financial Assets (Net Debt)	C
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Notes to Financial Statements

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Unaudited Schedules of:

Operating Fund	1
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## Independent Auditor's Report

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To the Members of the Board of Directors of the Greater Vancouver Sewerage and Drainage District

### Opinion

We have audited the financial statements of the Greater Vancouver Sewerage and Drainage District (the "District"), which comprise the Statement of Financial Position as at December 31, 2018, and the Statements of Operations, Change in Net Debt and Cash Flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the District as at December 31, 2018, and the results of its operations, change in net debt and cash flows for the year then ended in accordance with Canadian public sector accounting standards.

### Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the District in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the District's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the District or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the District's financial reporting process.

### Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the District's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the District's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the District to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

#### **Other Matter – Supplementary Information**

We draw attention to the fact that the supplementary information included in Schedules 1 and 2 does not form part of the financial statements. We have not audited or reviewed this supplementary information and, accordingly, we do not express an opinion, a review conclusion or any other form of assurance on this supplementary information.

Chartered Professional Accountants

Vancouver, British Columbia  
Date of Board Approval

## METRO VANCOUVER SEWERAGE & DRAINAGE DISTRICT

### MANAGEMENT REPORT

The Financial Statements contained in this report have been prepared by management in accordance with Canadian public sector accounting standards. The integrity and objectivity of these statements are management's responsibility. Management is responsible for all the statements and schedules, and for ensuring that this information is consistent, where appropriate, with the information contained in the financial statements.

Management is also responsible for implementing and maintaining a system of internal controls to provide reasonable assurance that reliable financial information is produced.

The Greater Vancouver Sewerage & Drainage District's Board of Directors is responsible for approving the financial statements and for ensuring that management fulfills its responsibilities for financial reporting and internal control and exercises this responsibility through the Performance and Audit Committee of the Board.

The external auditors, BDO Canada LLP, conduct an independent examination, in accordance with Canadian Auditing Standards, and express their opinion on the financial statements. Their examination does not relate to the other schedules and statements required by the *Financial Information Act*. The Independent Auditor's Report outlines the scope of the audit for the year ended December 31, 2018.

On behalf of Greater Vancouver Sewerage & Drainage District.

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Phil Trotsuk, Chief Financial Officer

Date: April 26, 2019

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

## Exhibit A

### Statement of Financial Position

Year ended December 31, 2018

	2018	2017
<b>Financial Assets</b>		
Cash	\$ 126,585	\$ 44,321,035
Accounts receivable	46,180,865	44,443,366
Due from Metro Vancouver Regional District	938,579,870	656,829,441
Debt reserve fund (note 2)	6,817,838	3,051,130
	991,705,158	748,644,972
<b>Liabilities</b>		
Accounts payable and accrued liabilities (note 3)	128,270,329	68,242,972
Landfill closure and post-closure liability (note 4)	31,709,200	31,683,458
Deferred revenue and refundable deposits (note 5)	513,256,423	484,863,174
Debt (net of sinking funds) (note 6)	576,901,055	203,082,440
	1,250,137,007	787,872,044
<b>Net Debt</b>	(258,431,849)	(39,227,072)
<b>Non-Financial Assets</b>		
Tangible capital assets (note 7)	1,765,631,822	1,472,483,497
Inventories of supplies	4,661,611	4,341,637
Prepaid expenses	2,970,300	1,728,411
	1,773,263,733	1,478,553,545
<b>Accumulated surplus (note 8)</b>	<b>\$ 1,514,831,884</b>	<b>\$ 1,439,326,473</b>

Contractual obligations and rights (note 9)

Contingencies (note 10)

The accompanying notes are an integral part of these financial statements.

\_\_\_\_\_  
Chief Financial Officer

\_\_\_\_\_  
Board Chair

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

## Exhibit B

### Statement of Operations

Year ended December 31, 2018

	2018 Budget (note 11)	2018 Actual	2017 Actual
<b>Revenue (note 12)</b>			
Sewerage and drainage levy	\$ 232,134,617	\$ 232,134,617	\$ 213,889,658
Tipping fees	93,451,819	102,036,530	98,635,607
BODTSS Industrial Charges	10,144,566	11,265,803	9,838,338
Development cost charges (note 5)	12,926,848	10,759,806	5,201,933
Electricity sales	5,777,099	5,584,341	5,642,942
Trucked liquid waste fees	1,081,546	1,157,301	1,042,436
Source control fees	1,456,000	1,357,501	1,458,531
User fees, recoveries and other revenue	2,472,753	4,111,874	7,175,699
Sinking and debt retirement fund income	2,238,257	2,490,357	2,751,567
Interest income	2,863,420	4,771,701	3,527,108
Grants and other contributions	-	5,878,448	-
	364,546,925	381,548,279	349,163,819
<b>Expenses (note 12)</b>			
Liquid waste services	202,535,416	192,853,711	172,242,960
Solid waste services	102,641,665	113,189,157	102,203,362
	305,177,081	306,042,868	274,446,322
<b>Annual surplus</b>	59,369,844	75,505,411	74,717,497
<b>Accumulated surplus, beginning of year</b>	1,439,326,473	1,439,326,473	1,364,608,976
<b>Accumulated surplus, end of year</b>	<b>\$ 1,498,696,317</b>	<b>\$ 1,514,831,884</b>	<b>\$ 1,439,326,473</b>

The accompanying notes are an integral part of these financial statements.

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

## Exhibit C

### Statement of Change in Net Financial Assets (Net Debt)

Year ended December 31, 2018

	2018 Budget (note 11)	2018 Actual	2017 Actual
<b>Annual surplus</b>	\$ 59,369,844	\$ 75,505,411	\$ 74,717,497
<b>Change in tangible capital assets:</b>			
Acquisition of tangible capital assets	(385,955,000)	(323,048,856)	(177,131,293)
Amortization of tangible capital assets	29,962,031	29,623,721	29,495,914
Disposal of tangible capital assets	-	276,810	3,542,810
	(355,992,969)	(293,148,325)	(144,092,569)
<b>Change in other non-financial assets:</b>			
Acquisition of prepaid expenses	-	(2,970,300)	(1,728,411)
Use of prepaid expenses	-	1,728,411	1,783,347
Acquisition of inventories of supplies	-	(4,661,611)	(4,341,637)
Consumption of inventories of supplies	-	4,341,637	3,678,141
	-	(1,561,863)	(608,560)
<b>Changes in net debt</b>	(296,623,125)	(219,204,777)	(69,983,632)
<b>Net financial assets (net debt), beginning of year</b>	(39,227,072)	(39,227,072)	30,756,560
<b>Net debt, end of year</b>	<b>\$ (335,850,197)</b>	<b>\$ (258,431,849)</b>	<b>\$ (39,227,072)</b>

The accompanying notes are an integral part of these financial statements.

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

## Exhibit D

### Statement of Cash Flows

Year ended December 31, 2018

	2018	2017
<b>Cash provided by (used in):</b>		
<b>Operating transactions:</b>		
Annual surplus	\$ 75,505,411	\$ 74,717,497
Items not involving cash:		
Amortization	29,623,721	29,495,914
Sinking fund income	(2,490,357)	(2,751,567)
Debt reserve fund income	(104,071)	(71,237)
Loss on disposal of tangible capital assets	91,240	2,379,368
Change in landfill closure and post-closure liability	25,742	975,562
Change in non-cash assets and liabilities:		
Accounts receivable	(1,737,499)	(6,459,967)
Prepaid expenses	(1,241,889)	1,296,825
Accounts payable and accrued liabilities	60,027,357	15,209,113
Deferred revenue	28,393,249	222,728,151
Inventories of supplies	(319,974)	(663,496)
<b>Net change in cash from operating transactions</b>	<b>187,772,930</b>	<b>336,856,163</b>
<b>Capital transactions:</b>		
Proceeds on sale of tangible capital assets	185,570	1,163,442
Acquisition of tangible capital assets	(323,048,856)	(177,131,293)
<b>Net change in cash from capital transactions</b>	<b>(322,863,286)</b>	<b>(175,967,851)</b>
<b>Financing transactions:</b>		
Due from Metro Vancouver Regional District	(281,750,429)	(207,049,201)
Debenture debt issued	390,000,000	100,000,000
Debt reserve fund issuance	(3,900,000)	(1,000,000)
Debt reserve fund maturity	237,363	193,895
Sinking fund payments	(13,691,028)	(8,777,793)
<b>Net change in cash from financing transactions</b>	<b>90,895,906</b>	<b>(116,633,099)</b>
<b>Net change in cash and cash equivalents</b>	<b>(44,194,450)</b>	<b>44,255,213</b>
<b>Cash and cash equivalents, beginning of year</b>	<b>44,321,035</b>	<b>65,822</b>
<b>Cash and cash equivalents, end of year</b>	<b>\$ 126,585</b>	<b>\$ 44,321,035</b>

The accompanying notes are an integral part of these financial statements.

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 1

Year ended December 31, 2018

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## 1. Significant Accounting Policies

The Greater Vancouver Sewerage and Drainage District (the "District") was established by an Act of the same name in 1956. Its two primary responsibilities are the collection, treatment and discharge of liquid waste for the municipalities of the Metro Vancouver Regional District ("MVRD"), and the disposal of solid waste both for the municipalities of the MVRD and the public.

The District owns and operates a number of wastewater treatment plants and a related collection network connected to the municipal collection systems, and several solid waste facilities including a waste to energy facility. Its Board of Directors comprises the same councilors and mayors as appointed to the MVRD Board by the participating municipalities. The member municipalities under the Act are jointly and severally liable for its debts.

The District's financial statements are prepared by management in accordance with Canadian public sector accounting standards. Significant accounting policies adopted by the District are as follows:

<b>Basis of Accounting</b>	The District follows the accrual method of accounting for revenues and expenses. Revenues are recognized in the year in which they are earned and measurable. Expenses are recognized as they are incurred and measurable as a result of receipt of goods or services and/or the legal obligation to pay.
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<b>Government Transfers</b>	Government transfers are recognized as revenue in the financial statements when the transfer is authorized and any eligibility criteria are met, except to the extent that transfer stipulations give rise to an obligation that meets the definition of a liability. The transfer of revenue is initially deferred and then recognized in the statement of operations as the stipulation liabilities are settled.
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When the District is deemed the transferor, the transfer expense is recognized when the recipient is authorized and has met the eligibility criteria.

<b>Deferred Revenue</b>	Deferred revenue represents development cost charges and a Provincial grant which have been collected, but for which the related services or obligations have yet to be performed. These amounts will be recognized as revenue in the fiscal year the services are performed or obligations and stipulations have been met.
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<b>Sinking Fund, Debt Retirement and Interest Income</b>	Interest income is reported as revenue in the period earned. When required, based on external restrictions, interest income earned on deferred revenue is added to and forms part of the deferred revenue balance and is recognized into income when related stipulations are met. Any surpluses received from upon debt retirement are recorded in the year received.
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# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 2

Year ended December 31, 2018

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## 1. Significant Accounting Policies (continued)

### **Cash and Investments**

In order to improve cash management, the general practice of the Metro Vancouver Districts is to accumulate cash and investment transactions in pooled accounts held by the MVRD. Investments held by the MVRD consist of bonds issued by governments and Canadian chartered banks, money market instruments and term deposits. Interest earned on GVS&DD's fund balances is included in the amount owing from MVRD and is recorded as interest income in the Statement of Operations.

### **Employee Future Benefits**

Employees who provide services for the District are employees of the MVRD. Employee related costs are allocated by the MVRD to the District based on services rendered. These costs are shown as expenses in the financial statements and are included in amounts owing from MVRD.

Post-employment benefits of the MVRD, including accumulated banked sick and vacation pay, retirement severance and Worker's Compensation top-up benefits for employees pursuant to certain policies and union agreements, are actuarially determined based on service and best estimates of retirement ages and expected future salary and wage increases. The obligation under these benefit plans is allocated to the District based on projected benefits as the employees render services necessary to earn the future benefits and included in amounts owing to MVRD.

### **Landfill Closure and Post-Closure Liability**

The estimated present value of landfill closure and post-closure costs is recognized as a liability. This liability is recognized based on estimated future expenses, including estimated inflation discounted to the current date and accrued based on the proportion of the total capacity of the landfill used as of the date of the statement of financial position. The change in this estimated liability during the year is recorded as an expense in operations. These estimates are reviewed and adjusted annually and any changes are recorded on a prospective basis.

### **Non-Financial Assets**

Non-financial assets are not available to discharge existing liabilities and are held for use in the provision of services. They generally have useful lives extending beyond the current year and are not intended for sale in the ordinary course of operations.

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 3

Year ended December 31, 2018

## 1. Significant Accounting Policies (continued)

### Non-Financial Assets (continued)

**Tangible Capital Assets** Tangible capital assets are recorded at cost which includes amounts that are directly attributable to acquisition, construction, development or betterment of the asset. The cost, less residual value, of the tangible capital assets, except land, is amortized over their estimated useful lives. All assets are amortized on a straight line basis as follows:

Asset	Useful Life – Years
Infrastructure	
Interceptors and trunk sewers, drainage	100
Wastewater treatment, pumping stations	50
Solid Waste – incinerators, transfer stations	30
Solid Waste – landfills	25 - 30
Information technology systems and networks	5
Machinery, Equipment, Furniture and Fixtures	5 - 20

a. Annual amortization:

Annual amortization begins when the asset is put into service and is expensed over its useful life. Assets under construction are transferred to the appropriate asset class and are amortized from the date the asset is put into productive use.

b. Contributions of tangible capital assets:

Contributions of tangible capital assets are recorded at their fair value at the date of receipt and as contribution revenue.

c. Interest capitalization:

The District does not capitalize interest costs associated with the acquisition or construction of a tangible capital asset.

**Inventories of Supplies** Inventories of supplies held for consumption are recorded on a first-in-first-out basis.

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 4

Year ended December 31, 2018

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## 1. Significant Accounting Policies (continued)

<b>Revenue Recognition</b>	Tipping fees, levies, electricity sales, permits, user fees and other revenue are recognized as revenue on an accrual basis according to the usage and rates approved and set by the Board in various fees and charges bylaws.
<b>Segmented Information</b>	A segment is defined as a distinguishable activity or group of activities of a government for which it is appropriate to separately report financial information to achieve the objectives of the standard. Definitions of the District's segments and their related financial information are presented in note 12.
<b>Liability for Contaminated Sites</b>	A liability for remediation of a contaminated site is recognized when the site is no longer in productive use and the following criteria are satisfied: an environmental standard exists; contamination exceeds the standard; the District is either directly responsible or has accepted responsibility for remediation; it is expected that future economic benefits will be given up and a reasonable estimate of the liability can be made.
<b>Use of Estimates</b>	<p>The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts in the financial statements and the disclosure of contingent liabilities. These estimates and assumptions are based on management's best information and judgment and may differ from actual results. Adjustments, if any, will be reflected in the financial statements in the period that the change in estimate is made, as well as in the period of settlement if the amount is different.</p> <p>Significant areas requiring the use of management's judgment relate to the determination of landfill closure and post closure liability, contaminated sites liabilities and accrued liabilities, the useful lives of tangible capital assets and the assessment of all contingencies.</p>

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 5

Year ended December 31, 2018

## 2. Debt Reserve Fund

The Municipal Finance Authority ("MFA") provides financing for regional districts and member municipalities. The MFA is required to establish a Debt Reserve Fund for each debenture issue equal to one-half the average annual installment of principal and interest. The debt reserve fund is comprised of cash deposits equal to 1% of the principal amount borrowed and a non-interest bearing demand note for the remaining requirement. Cash deposits held by the MFA are payable with interest to the ultimate borrower when the final obligations under the respective loan agreements have been made.

If, at any time, the District has insufficient funds to meet payments due on its obligations to MFA, the payments will be made from the debt reserve fund. The demand notes are callable only if there are additional requirements to be met to maintain the level of the debt reserve fund. At December 31, 2018, \$20,903,563 (2017 - \$8,666,384) in callable demand notes were outstanding and have not been recorded in the statement of financial position.

## 3. Accounts Payable and Accrued Liabilities

	2018	2017
Trade accounts	\$ 101,354,352	\$ 59,497,470
Construction holdbacks	21,956,480	6,975,404
Accrued interest on debt	4,816,065	1,721,620
Other	143,432	48,478
	<b>\$ 128,270,329</b>	<b>\$ 68,242,972</b>

## 4. Landfill Closure and Post-Closure Liability

The District is responsible for its share of closure and post-closure costs at four landfill sites: Vancouver, Cache Creek, Coquitlam and Port Mann. The closure and post-closure liability associated with these landfills is as follows:

	2018	2017
Vancouver (a)	\$ 31,709,200	\$ 31,071,458
Cache Creek (b)	-	612,000
Total closure and post-closure liability	<b>\$ 31,709,200</b>	<b>\$ 31,683,458</b>

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 6

Year ended December 31, 2018

## 4. Landfill Closure and Post-Closure Liability (continued)

- a) The Vancouver landfill is located in Delta, BC. In accordance with an agreement with the City of Vancouver, the District is responsible for its proportionate share of the closure and post-closure liability based on usage. The present value of the District's estimated future liability for these expenses is recognized as the landfill site's capacity is used follows:

	2018	2017
Opening Balance	\$ 31,071,458	\$ 30,107,896
Impact due to changes in:		
Utilization	2,857,585	1,822,750
Assumptions	(2,612,058)	(2,854,153)
Discount rate	392,215	1,994,965
Closing balance	\$ 31,709,200	\$ 31,071,458

The closure and post-closure liability and annual expense is calculated based on the ratio of actual utilization to total expected utilization of the site's capacity at the date of closure. It is based on estimates and assumptions with respect to events extending over the remaining life of the Vancouver landfill, including provisions contained in Metro Vancouver's Integrated Solid Waste and Resource Management Plan. The significant estimates and assumptions adopted in measuring the District's share of the closure and post-closure liability are as follows:

	2018	2017
Current actual utilization (in tonnes)	20,479,845	19,847,920
Expected utilization at closure (in tonnes)	25,676,692	26,012,639
Expected remaining capacity (in tonnes)	5,196,847	6,164,719
Permitted capacity (in tonnes)	33,039,183	33,039,183
Proportionate share of liability	31.5%	30.2%
Discount rate	3.03%	3.12%
Expected post-closure period	30 years	30 years
Expected closure date	December 31, 2037	December 31, 2037

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 7

Year ended December 31, 2018

## 4. Landfill Closure and Post-Closure Liability (continued)

- b) The Cache Creek landfill is located in the Village of Cache Creek, BC. The landfill permit obligates the Village of Cache Creek and a third party service provider to undertake closure and post-closure activities. The District, in accordance with an agreement with the Village, was required to contribute quarterly to a trust fund, held with the Province of British Columbia, to a Post Closure Maintenance and Repair Fund at rates consistent with the operational certificate for the landfill. The agreement indemnifies the Village for any post closure liabilities which are not covered by this fund. At December 31, 2018, the trust had \$15,768,931 (2017 - \$15,422,726). The Cache Creek landfill was closed December 2016. The present value of the District's estimated future liability for closure and post-closure is as follows:

	2018	2017
Opening balance	\$ 16,034,726	\$ 15,433,227
Impact due to change in:		
Closure costs paid	(612,000)	-
Assumptions	346,205	601,499
Closing balance	15,768,931	16,034,726
Less post-closure fund	(15,768,931)	(15,422,726)
Closure liability	\$ -	\$ 612,000

The liability is based on significant estimates and assumptions adopted in measuring the closure and post-closure liability and are as follows:

	2018	2017
Current actual utilization (in tonnes)	10,318,780	10,318,780
Expected utilization at closure (in tonnes)	10,318,780	10,318,780
Expected remaining capacity (in tonnes)	-	-
Permitted capacity (in tonnes)	10,371,594	10,371,594
Discount rate	3.03%	3.12%
Expected post-closure period	30 years	30 years
Closure date	December 2016	December 2016

- c) The Coquitlam landfill and Port Mann landfill were closed in 1983 and 1997, respectively and there is no further closure and post-closure liabilities.

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 8

Year ended December 31, 2018

## 5. Deferred Revenue and Refundable Deposits

The deferred revenue reported on the statement of financial position consists of the following:

	2018	2017
Development cost charges (a)	\$ 311,593,932	\$ 287,702,326
Provincial grant to fund capital expenditures (b)	200,367,548	195,933,312
Refundable deposits	1,294,943	1,227,536
<b>Total</b>	<b>\$ 513,256,423</b>	<b>\$ 484,863,174</b>

- The GVS&DD Act restricts the District to applying money raised from development cost charges to funding sewer capital projects, including the repayment of debt raised to fund such projects. The balance of these amounts is included in deferred revenue until spent on approved purposes.
- In 2017, the District received a grant from the Province of British Columbia in the amount of \$193,000,000 for future costs associated with the construction of the new Lions Gate Wastewater Treatment Plant Facility. Included in deferred revenue is the full amount of the grant funding plus interest earned.

Continuity of deferred revenue is as follows:

	2018	2017
Balance, beginning of year	\$ 484,863,174	\$ 260,907,487
Deferred grant received in the year	-	193,000,000
Development cost charges received	28,117,415	26,836,133
Interest earned	10,968,234	8,093,951
Change in refundable deposits	67,407	1,227,536
Amounts spent and recognized as revenue	(10,759,807)	(5,201,933)
<b>Total change in deferred revenue</b>	<b>28,393,249</b>	<b>223,955,687</b>
<b>Balance, end of year</b>	<b>\$ 513,256,423</b>	<b>\$ 484,863,174</b>

## 6. Debt

- All borrowings for the District are obtained from MFA by the MVRD on the District's behalf, although the District maintains the right to finance debt without MFA involvement.

Debt, debentures or other security issued by the District is a direct, joint and several obligation and liability of the District and each and every member municipality.

Debt servicing requirements comprising sinking fund contributions, serial repayments and interest are funded as incurred by revenue earned during the year.

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 9

Year ended December 31, 2018

## Debt (continued)

- b) Debt (net of sinking funds) reported on the statement of financial position comprises the following and includes varying maturities up to 2033 with interest rates ranging from 1.75% to 5.15%.

Issue number	Interest rate - %	Maturity Date	Debentures authorized to be issued	Debenture debt outstanding	
				2018	2017
Sinking fund					
79	2.10	June 3, 2018	\$ 10,000,000	\$ -	\$ 10,000,000
80	2.40	October 3, 2018	4,000,000	-	4,000,000
81	2.40	April 22, 2019	10,000,000	10,000,000	10,000,000
99	1.75	October 19, 2021	10,000,000	10,000,000	10,000,000
104	5.15	November 20, 2023	15,000,000	15,000,000	15,000,000
106	4.13	October 13, 2024	20,000,000	20,000,000	20,000,000
116	4.20	April 4, 2026	20,000,000	20,000,000	20,000,000
118	3.40	April 11, 2027	20,000,000	20,000,000	20,000,000
139	2.10	October 5, 2031	55,000,000	55,000,000	55,000,000
141	2.80	April 7, 2032	50,000,000	50,000,000	50,000,000
142	3.15	October 4, 2032	50,000,000	50,000,000	50,000,000
145	3.15	April 23, 2033	120,000,000	120,000,000	-
146	3.20	September 19, 2033	270,000,000	270,000,000	-
Total debt			\$ 654,000,000	\$ 640,000,000	\$ 264,000,000
Less sinking funds				(63,098,945)	(60,917,560)
Total net debt				\$ 576,901,055	\$ 203,082,440

- c) Principal payments and sinking fund installments due within the next five years and thereafter are as follows:

2019	\$ 13,691,028
2020	34,011,203
2021	33,547,780
2022	33,048,369
2023	33,048,369
Thereafter	289,727,458
Sub-total	437,074,207
Estimated sinking fund income	139,826,848
<b>Total</b>	<b>\$ 576,901,055</b>

- d) Sinking fund installments are invested by the MFA and earn income which, together with principal payments, are expected to be sufficient to retire the sinking fund debt at maturity. For sinking fund agreements, the MFA has established either a normal sinking fund or a capital repayment equalization fund.

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 10

Year ended December 31, 2018

## 7. Tangible Capital Assets

Year ended December 31, 2018	Cost					Accumulated amortization			Net book value December 31, 2018
	Balance at December 31, 2017	Additions (Net of Transfers)	Disposals	Balance at December 31, 2018	Balance at December 31, 2017	Disposals	Amortization Expense	Balance at December 31, 2018	
Land	\$ 79,499,774	\$ 10,290,000	\$ -	\$ 89,789,774	\$ -	\$ -	\$ -	\$ -	\$ 89,789,774
Infrastructure									
Utilities	1,501,117,846	15,213,015	-	1,516,330,861	585,392,263	-	28,946,353	614,338,616	901,992,245
Information technology	6,256,159	-	-	6,256,159	6,256,159	-	-	6,256,159	-
Machinery, equipment, furniture & fixtures	11,344,310	172,730	(3,427,764)	8,089,276	9,012,956	(3,319,716)	677,368	6,370,608	1,718,668
Assets under construction	474,926,786	297,373,111	(168,762)	772,131,135	-	-	-	-	772,131,135
	\$ 2,073,144,875	\$ 323,048,856	\$ (3,596,526)	\$ 2,392,597,205	\$ 600,661,378	\$ (3,319,716)	\$ 29,623,721	\$ 626,965,383	\$ 1,765,631,822
Write-offs in 2018 were \$168,762 related to discontinued projects (2017 - \$655,549).									
Year ended December 31, 2017	Cost					Accumulated amortization			Net book value December 31, 2017
	Balance at December 31, 2016	Additions	Disposals	Balance at December 31, 2017	Balance at December 31, 2016	Disposals	Amortization Expense	Balance at December 31, 2017	
Land	\$ 65,803,774	\$ 13,696,000	\$ -	\$ 79,499,774	\$ -	\$ -	\$ -	\$ -	\$ 79,499,774
Infrastructure									
Utilities	1,477,372,191	23,745,655	-	1,501,117,846	556,945,607	-	28,446,656	585,392,263	915,725,583
Information technology	6,256,159	-	-	6,256,159	6,256,159	-	-	6,256,159	-
Vehicles	153,854	-	(153,854)	-	153,854	(153,854)	-	-	-
Machinery, equipment, furniture & fixtures	26,864,939	296,893	(15,817,522)	11,344,310	20,893,959	(12,930,261)	1,049,258	9,012,956	2,331,354
Assets under construction	336,189,590	139,392,745	(655,549)	474,926,786	-	-	-	-	474,926,786
	\$ 1,912,640,507	\$ 177,131,293	\$ (16,626,925)	\$ 2,073,144,875	\$ 584,249,579	\$ (13,084,115)	\$ 29,495,914	\$ 600,661,378	\$ 1,472,483,497

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 11

Year ended December 31, 2018

## 8. Accumulated Surplus

Accumulated surplus consists of individual fund surplus and reserves as follows:

	2018	2017
Reserves	\$ 120,833,867	\$ 182,297,213
Capital fund balance	205,267,250	(12,371,797)
Investment in tangible capital assets	1,188,730,767	1,269,401,057
<b>Total</b>	<b>\$ 1,514,831,884</b>	<b>\$ 1,439,326,473</b>

Continuity of reserves is as follows:

	December 31, 2017	Interest	Annual Operating Surplus	Transfers (to)/from Reserves	Contributions from/ (to) operations	Contributions to Capital	December 31, 2018
<b>Operating Reserves</b>							
Liquid Waste Services	\$ 28,715,091	\$ 624,732	\$ 5,765,830	\$ (5,432,954)	\$ (77,104)	\$ (8,277,600)	\$ 21,317,995
Solid Waste Services	19,783,052	426,724	2,709,779	-	-	(6,916,860)	16,002,695
	<b>\$ 48,498,143</b>	<b>\$ 1,051,456</b>	<b>\$ 8,475,609</b>	<b>\$ (5,432,954)</b>	<b>\$ (77,104)</b>	<b>\$ (15,194,460)</b>	<b>\$ 37,320,690</b>
<b>Discretionary Reserves</b>							
Biosolids Inventory	16,288,678	368,635	-	-	(2,385,512)	-	14,271,801
Liquid Waste General Debt Reserve Fund	57,227,817	1,131,506	-	-	(2,400,000)	(53,950,095)	2,009,228
Lions Gate Contingency	1,378,874	31,206	-	-	-	-	1,410,080
Drainage General	-	-	-	5,432,954	-	-	5,432,954
Solid Waste General	31,771,747	526,331	-	-	-	-	32,298,078
Landfill Post-Closure	10,430,077	269,472	-	-	-	-	10,699,549
	<b>\$ 117,097,193</b>	<b>\$ 2,327,150</b>	<b>\$ -</b>	<b>\$ 5,432,954</b>	<b>\$ (4,785,512)</b>	<b>\$ (53,950,095)</b>	<b>\$ 66,121,690</b>
<b>Statutory Reserves</b>							
Liquid Waste Laboratory Equipment	465,739	11,651	-	-	95,788	-	573,178
Liquid Waste Services Sustainability Innovation Fund	16,236,138	377,445	-	-	204,726	-	16,818,309
	<b>\$ 16,701,877</b>	<b>\$ 389,096</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 300,514</b>	<b>\$ -</b>	<b>\$ 17,391,487</b>
<b>Total Reserves</b>	<b>\$ 182,297,213</b>	<b>\$ 3,767,702</b>	<b>\$ 8,475,609</b>	<b>\$ -</b>	<b>\$ (4,562,102)</b>	<b>\$ (69,144,555)</b>	<b>\$ 120,833,867</b>

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 12

Year ended December 31, 2018

## 8. Accumulated Surplus (continued)

Investment in tangible capital assets is calculated as follows:

	2018	2017
Tangible capital assets	\$ 1,765,631,822	\$ 1,472,483,497
Amounts financed by:		
Long-term debt	(576,901,055)	(203,082,440)
	<u>\$ 1,188,730,767</u>	<u>\$ 1,269,401,057</u>
<b>Change in the investment in tangible capital assets</b>		
Acquisition of tangible capital assets	\$ 323,048,856	\$ 177,131,293
Disposal of tangible capital assets	(276,810)	(3,542,810)
Amortization of tangible capital assets	(29,623,721)	(29,495,914)
	<u>293,148,325</u>	<u>144,092,569</u>
<b>Less funding of tangible capital assets</b>		
Sinking fund debt maturity	14,000,000	-
Sinking fund and debt retirement	(13,691,028)	(8,777,793)
Sinking fund and debt retirement income	(2,490,357)	(2,751,567)
Debenture debt issued	390,000,000	100,000,000
Debenture debt maturity	(14,000,000)	-
	<u>373,818,615</u>	<u>88,470,640</u>
<b>Change in investment in tangible capital assets</b>	<u>(80,670,290)</u>	<u>55,621,929</u>
<b>Investment in tangible capital assets, beginning of year</b>	<u>1,269,401,057</u>	<u>1,213,779,128</u>
<b>Investment in tangible capital assets, end of year</b>	<u>\$ 1,188,730,767</u>	<u>\$ 1,269,401,057</u>

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 13

Year ended December 31, 2018

## 9. Contractual Obligations and Rights

### a) Contractual Obligations

- i) As at December 31, 2018 the District had the following commitments outstanding related to capital projects in progress:

	2018	2017
Authorized for outstanding projects	\$ 2,630,136,377	\$ 2,063,966,377
Expended at December 31	(852,058,128)	(589,911,391)
Commitment remaining	\$ 1,778,078,249	\$ 1,474,054,986

- ii) The District is committed under a number of lease agreements to make minimum annual payments. These agreements have varying terms, including two agreements, with annual payments of currently of \$440,000 to perpetuity, with adjustments annually for CPI.

	Amount
2019	\$ 2,456,721
2020	2,486,374
2021	1,866,619
2022	1,897,470
2023	1,928,938
2024 - 2028	10,139,181
Total	\$ 20,775,304

### b) Contractual Rights

The District is party to several lease agreements that are anticipated to provide it with future revenues. These agreements are with third parties with varying terms to 2021. Amounts anticipated to be received over the future years are as follows:

	Amount
2019	\$ 777,594
2020	777,594
2021	194,168
Total	\$ 1,749,356

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 14

Year ended December 31, 2018

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## 10. Contingencies

### **Lawsuits**

As at December 31, 2018, there were various lawsuits pending against the District arising in the ordinary course of business. The District has retained legal counsel to defend against these lawsuits for which the outcomes are not possible to reasonably determine at this time and therefore no accrual has been recognized. Management is of the opinion that the losses, if any, in connection with these lawsuits can be sufficiently funded by reserve funds or covered by insurance. Any ultimate losses are recorded as expenses at the time the amounts are reasonably determinable.

### **Self Insurance Reserve**

A self insurance reserve has been established within the MVRD to cover losses resulting from uninsured liability exposures of the District, other Metro Vancouver Districts and the MVHC.

Each year a review is undertaken to determine if it would be beneficial to purchase additional liability insurance. The District, other Metro Vancouver Districts and the MVHC transfer amounts to the reserve depending on the reserve's adequacy to cover retained liability risk.

An estimate is made for all costs of investigating and settlement of claims annually and an adjustment is made to the fund to maintain an adequate balance to cover potential losses in excess of recorded liabilities. These estimates are changed as additional information becomes known during the course of claims settlement. Any likely losses would be expensed at the time the losses are known and the amounts are reasonably determinable.

### **Debt Reserve Fund**

The MFA is required to establish a Debt Reserve Fund for each debenture which is comprised of cash deposits and a non-interest bearing demand note (refer to note 2).

### **First Nations Negotiations**

The District is currently involved in negotiations with First Nations regarding compensation for the use of their land on which District assets reside. The compensation associated with these negotiations cannot be reasonably determined at this time and therefore no liabilities have been recorded at December 31, 2018.

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 15

Year ended December 31, 2018

## 11. Budget Information

The annual budget presented in these financial statements is based upon the 2018 operating and capital budgets approved by the District's Board in October 2017, with additional approval in May 2018 for adjustments to the budget as a result of the 2017 fiscal year end results. The budget is based on operational and capital expenditure requirements and their associated funding. Amortization is a non-cash item that is not funded for budget purposes. Also, contributions to or from reserves and debt principal repayments are removed from the approved budget for financial statement presentation. The schedule below reconciles the approved budget to the budget figures reported in these financial statements. Capital expenditures of \$385,955,000 were included in the capital budget approved by the Board.

	2018 Budget	2017 Budget
<b>Budgeted annual surplus per Exhibit B - Statement of Operations</b>	\$ 59,369,844	\$ 51,890,805
Additional transfers from reserves, approved by Board	(1,518,679)	-
<b>Adjusted annual surplus, based on October approved budget</b>	57,851,165	51,890,805
Items not included in the operating budget		
Amortization of tangible capital assets	29,962,031	29,646,787
Sinking and debt retirement fund income	(2,238,257)	(2,515,334)
Reserve interest	(2,863,420)	(3,043,150)
Items included in the budget but not in financial statements		
Debt principal payments	(13,691,028)	(8,777,793)
Transfers to capital	(74,702,292)	(64,788,365)
Transfers from reserves	5,681,801	(2,412,950)
<b>Annual surplus per approved budget</b>	\$ -	\$ -

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Notes to Financial Statements, page 16

Year ended December 31, 2018

## 12. Segmented Information and Expenses by Object

The District's primary responsibilities are the collection, treatment and discharge of liquid waste for the municipalities of the MVRD and the disposal of solid waste both for the municipalities of the MVRD and the public. For management reporting purposes, the District's operations and activities are organized and reported by these two primary areas of service.

The information reported in the segmented information does not include \$12,237,383 (2017 - \$6,647,569) of salaries and benefits directly attributable to the construction of tangible capital assets which have been included in the cost of tangible capital assets in the Statement of Financial Position.

The services disclosed in the Segmented Information are as follows:

### **Liquid Waste Services**

The Liquid Waste Services is responsible for the collection, treatment and discharge of liquid waste for member municipalities. It operates a number of wastewater treatment plants and a related collection network connected to the member municipalities' systems.

### **Solid Waste Services**

The Solid Waste Services is responsible for the disposal of solid waste both for the member municipalities and the public. It owns and operates several solid waste facilities including a waste to energy facility.

	2018 Total Budget	Liquid Waste Services	Solid Waste Services	2018 Total Actual	2017 Total Actual
<b>Revenue</b>					
Sewerage and drainage levy	\$ 232,134,617	\$ 232,134,617	\$ -	\$ 232,134,617	\$ 213,889,658
Tipping fees	93,451,819	-	102,036,530	102,036,530	98,635,607
BODTSS Industrial Charges	10,144,566	11,265,803	-	11,265,803	9,838,338
Development cost charges	12,926,848	10,759,806	-	10,759,806	5,201,933
Electricity sales	5,777,099	-	5,584,341	5,584,341	5,642,942
Trucked liquid waste fees	1,081,546	1,157,301	-	1,157,301	1,042,436
Source control fees	1,456,000	1,357,501	-	1,357,501	1,458,531
User fees, recoveries and other income	2,472,753	1,352,109	2,759,765	4,111,874	7,172,307
Sinking fund and debt retirement income	2,238,257	2,161,398	328,959	2,490,357	2,751,567
Interest income	2,863,420	2,644,813	2,126,888	4,771,701	3,530,500
Grants and contributions	-	5,878,448	-	5,878,448	-
	364,546,925	268,711,796	112,836,483	381,548,279	349,163,819
<b>Expenses</b>					
Salaries and benefits	63,680,349	57,768,191	5,980,958	63,749,149	60,335,105
Consulting, contracted and professional services	116,685,436	28,746,535	75,953,939	104,700,474	96,966,509
Asset repairs and maintenance	11,817,742	12,206,338	602,016	12,808,354	12,645,413
Materials and supplies	15,241,267	14,852,419	329,886	15,182,305	12,556,054
Utilities, permits and taxes	13,047,820	12,920,446	424,161	13,344,607	11,945,903
Corporate costs	26,570,953	22,094,125	4,416,201	26,510,326	24,796,294
Other	15,208,725	9,058,834	20,214,924	29,273,758	16,815,824
Amortization of tangible capital assets	29,962,031	24,279,127	5,344,594	29,623,721	29,495,914
Loss (gain) on disposal of tangible capital assets	-	168,762	(77,522)	91,240	2,379,368
Interest on long-term debt	12,962,758	10,758,934	-	10,758,934	6,509,938
	305,177,081	192,853,711	113,189,157	306,042,868	274,446,322
<b>Annual surplus (deficit)</b>	<b>\$ 59,369,844</b>	<b>\$ 75,858,085</b>	<b>\$ (352,674)</b>	<b>\$ 75,505,411</b>	<b>\$ 74,717,497</b>

Greater Vancouver Sewerage and Drainage District

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

## Schedule 1

### Schedule of Operating Fund (unaudited)

Year ended December 31, 2018

	2018 Budget	2018 Actual	2017 Actual
<b>Revenue</b>			
Sewerage and drainage levy to members	\$ 232,134,617	\$ 232,134,617	\$ 213,889,658
Tipping fees	93,451,819	102,036,530	98,635,607
BODTSS Industrial Charges	10,144,566	10,759,806	9,838,338
Development cost charges	12,926,848	11,265,803	5,201,933
Electricity sales	5,777,099	5,584,341	5,642,942
Trucked liquid waste fees	1,081,546	1,157,301	1,042,436
Source control fees	1,456,000	1,357,501	1,458,531
User fees, recoveries and other revenue	2,472,753	4,511,565	6,901,698
	359,445,248	368,807,464	342,611,143
<b>Expenses</b>			
Liquid waste	143,278,820	135,552,763	121,611,500
Solid waste	92,530,397	103,505,884	89,653,309
Corporate costs	26,443,075	26,510,326	24,796,294
Interest on long-term debt	12,962,758	10,758,934	6,509,937
	275,215,050	276,327,907	242,571,040
<b>Annual surplus, operating fund</b>	84,230,198	92,479,557	100,040,103
<b>Application of surplus and transfers</b>			
Transfers from (to):			
Capital	(74,702,292)	(74,875,022)	(65,085,258)
Sinking and debt retirement funds	(13,691,028)	(13,691,028)	(8,777,793)
Reserve funds for:			
Reserves - Operating results	(2,951,329)	(8,475,609)	(19,566,549)
Reserves	7,114,451	4,562,102	(6,610,503)
<b>Change in operating fund</b>	-	-	-
<b>Operating fund, beginning of year</b>	-	-	-
<b>Operating fund, end of year</b>	\$ -	\$ -	\$ -

# GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

## Schedule 2

### Schedule of Capital Fund (unaudited)

Year ended December 31, 2018

	2018 Budget	2018 Actual	2017 Actual
<b>Revenue</b>			
Interest on debt reserve fund	\$ -	\$ 103,979	\$ 71,237
Other income	-	500,329	805,019
Grants and contributions	-	5,878,448	-
	-	6,482,756	876,256
<b>Expenses</b>			
Amortization of tangible capital assets	29,962,031	29,623,721	29,495,914
Loss on disposal of tangible capital asset	-	91,240	2,379,368
	29,962,031	29,714,961	31,875,282
<b>Annual deficit, capital fund</b>	(29,962,031)	(23,232,205)	(30,999,026)
<b>Tangible capital assets transactions</b>			
Acquisition of tangible capital assets	385,955,000	323,048,856	177,131,293
Amortization of tangible capital assets	(29,962,031)	(29,623,721)	(29,495,914)
Disposal of tangible capital assets	-	(276,810)	(3,542,810)
	355,992,969	293,148,325	144,092,569
<b>Financing</b>			
Debenture debt issued	230,485,014	390,000,000	100,000,000
Transfers from:			
Operating fund	74,702,292	74,875,022	65,085,258
Reserve funds	72,051,661	69,144,555	11,085,803
	377,238,967	534,019,577	176,171,061
	21,245,998	240,871,252	32,078,492
<b>Change in capital fund</b>	(8,716,033)	217,639,047	1,079,466
<b>Capital fund balance, beginning of year</b>	(12,371,797)	(12,371,797)	(13,451,263)
<b>Capital fund balance, end of year</b>	\$ (21,087,830)	\$ 205,267,250	\$ (12,371,797)

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To: Liquid Waste Committee

From: Linda Parkinson, Program Manager, Source Control, Liquid Waste Services

Date: March 28, 2019 Meeting Date: April 11, 2019

Subject: **Impact of Wipes on the Wastewater System**

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**RECOMMENDATION**

That the GVS&DD Board receive for information the report dated March 28, 2019, titled "Impact of Wipes on the Wastewater System".

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**PURPOSE**

The purpose of this report is to inform the Committee and GVS&DD Board on the issues caused by wipes in the wastewater system and efforts underway by the wastewater industry and Metro Vancouver to address these issues.

**BACKGROUND**

At its March 14, 2019 meeting, the Liquid Waste Committee received for information the report dated February 20, 2019, titled "*2019 Regional Unflushables Campaign – Update.*" At the meeting, Committee members raised a number of questions related to the impact that wipes have on the liquid waste system and actions underway to mitigate their impact. This report is being brought forward to address questions raised in the March 14, 2019 meeting.

**PRODUCTS LABELLED AS 'FLUSHABLE'**

The growth in the number of consumer products labelled as 'flushable', including wipes, has caused major issues for the wastewater industry. In Canada, it is estimated that the removal of such materials from wastewater systems costs taxpayers over \$250 million per year. This figure was developed by the Ontario Municipal Enforcement Sewer Users Group and was endorsed by the Canadian Water and Wastewater Association (CWWA). Costs at Metro Vancouver are estimated to be at least \$100,000 annually to de-clog regional pump stations, with hundreds of thousands of dollars on top of that to replace damaged equipment. Additional costs are also borne by member municipalities. Wipes can contain synthetic (man-made) fibers, including plastics, which contribute to microplastic pollution. In addition, damages at residential properties due to flooding caused by wipes can cost homeowners directly to deal with the aftermath.

The GVS&DD and member jurisdictions have no regulatory instruments readily able to control the introduction of wipes into the regional sewer system. As a consumer product, wipes are used primarily at residences and enforcement of any regulation on residential discharges is not practical.

Metro Vancouver's efforts to address this issue have been focused on public education and supporting the development of standards for wipes and regulatory instruments to enforce these.

- Metro Vancouver has been educating the public on the disposal of wipes since 2015. The “Adult Toilet Training” campaign began as a pilot in 2015 and was expanded to a regional campaign in 2016. The Unflushables campaign, which includes wipes and six other products, has been running since 2017 and will launch in 2019 on April 1.
- The GVS&DD Board endorsed the *International Water Industry Position Statement on Non-flushable and ‘Flushable’ Labelled Products* in early 2017 (Attachment 1). Metro Vancouver’s logo appears on the statement (Attachment 2).
- In 2017, the GVS&DD contributed \$10,000 to the development of a Canadian standard for ‘flushability’.

### **The Issue**

Consumers assume that ‘flushable’ products have been tested for their compatibility with household plumbing and wastewater systems, however, there is no standard definition of what is ‘flushable’ and no standard method to assess ‘flushability’. There have been efforts in recent years by both the wastewater industry and the wipes industry to better define the term ‘flushable’.

### **What are ‘flushable’ wipes?**

Wipes are manufactured as nonwoven sheets of natural and manmade fibers such as cellulose, cotton, regenerated cellulose (rayon, lyocell), polyester, and high-density polyethylene (HDPE). The wipes industry is represented by the Association of Nonwoven Fabrics Industry (INDA) and the European Disposables and Nonwovens Association (EDANA). The INDA defines a nonwoven fabric broadly as “sheet or web structures bonded together by entangling fiber or filaments (and by perforating films) mechanically, thermally, or chemically. They are flat, porous sheets that are made directly from separate fibers or from molten plastic or plastic film. They are not made by weaving or knitting and do not require converting the fibers to yarn.” The nonwoven fabrics market was valued at \$42.3 billion globally in 2017 and is projected to grow to \$57.3 billion by 2022.

Wipes can be marketed as either ‘flushable’ or ‘non-flushable’. Wipes are available for multiple consumer applications including household cleaning, facial cleaning, personal hygiene, and baby cleaning. The INDA claims that only 7% of wipes are marketed as ‘flushable’.

### **Development of a standard**

In North America the wastewater industry has been represented by the CWWA, American Public Works Association (APWA), the Water Environment Federation (WEF) and National Association of Clean Water Agencies (NACWA).

The wipes industry and the wastewater industry, first formally met in 2013 to discuss problems caused by wipes in the wastewater system and potential solutions, which led to the formation of a Technical Workgroup, focused on the ‘flushability’ of wipes. The Workgroup came to a consensus to move forward with two separate but parallel initiatives:

1. the development of a 4<sup>th</sup> Edition Guidelines Document for Assessing the Flushability of Nonwoven Disposable Products (“Flushability Guidelines”) to ensure that wipes labeled ‘flushable’ are safe for sewer systems; and

2. a Product Stewardship Initiative to ensure that wipes manufacturers take more responsibility over the disposal of their products.

The first task was to update the wipes industry Code of Practice, which was completed. The Code of Practice focuses on the labelling of wipes and is voluntary. Agreement could not be reached on the “Flushability Guidelines” and the wastewater industry formally withdrew from the process in February 2017.

Also in 2017, the International Water Services Flushability Group (IWSFG) put together a position statement on ‘non-flushable’ and ‘flushable’ products, which is now supported by wastewater utilities in 25 countries and by over 300 stakeholders, including Metro Vancouver (Attachment 2).

In May 2018, the wipes industry released its “Flushability Guidelines” and test methods to assess the flushability of wipes. However, the wastewater industry does not agree that the criteria accurately represents the conditions that exist in a typical wastewater system, and that the pass/fail criteria does not protect wastewater infrastructure, public funds, public health and consumers’ interests.

In June 2018, the IWSFG released their specifications to assess a product’s ‘flushability’. This Publically Available Specification consists of three documents which together describe the criteria that a product should meet to be considered ‘flushable’. The specification requires a fiber analysis, testing to ensure toilet bowl and drain line clearance, and a disintegration test. If the product can pass these tests, it can be considered ‘flushable’ in the opinion of the wastewater industry.

The Ontario Municipal Enforcement Sewer Users Group, in partnership with the CWWA, are working to incorporate the IWSFG specifications into a Canadian standard via the Canadian Standards Association. In 2017, CWWA made an appeal for funding to support the development of a Canadian standard for ‘flushability’. Metro Vancouver contributed \$10,000 to this effort. Funding is currently at \$48,000 of the \$150,000 required to develop this standard. Metro Vancouver staff continue to work with the IWSFG, the CWWA and the Municipal Enforcement Sewer Users Group in the development of a Canadian standard for ‘flushability’.

## **ALTERNATIVES**

This is an information report. No alternatives are presented.

## **FINANCIAL IMPLICATIONS**

There are no financial implications for this report.

## **SUMMARY / CONCLUSION**

Wipes cause major issues for the wastewater industry both in Canada and the Metro Vancouver region. Many of these wipes are labelled ‘flushable’ which causes confusion for consumers. Metro Vancouver has sought to address this issue through public education, by endorsing the *International Water Industry Position Statement on Non-flushable and ‘Flushable’ Labelled Products* and by contributing funds and staff time to efforts by the wastewater industry to develop a standard for ‘flushability’. A specification developed and approved by the wastewater industry exists, but has not yet been made into an enforceable Canadian standard.

**Attachments**

1. "Support for an International Water Industry Position Statement on Flushable Products", letter to the Canadian Water and Wastewater Association dated March 10, 2017 (20906701)
2. "International water industry position statement on non-flushable and 'flushable' labeled products"

29071993

Policy, Planning and Analysis Division  
Tel. 604 436-6731

**MAR 10 2017**

File: CR-12-01  
Ref: SD 2017 Feb 24

Robert Haller, Executive Director  
Canadian Water and Wastewater Association  
1010 Polytek Street,  
Unit 11  
Ottawa, ON K1J 9H9

**Via email: rhaller@cwwa.ca**

Dear Mr. Haller:

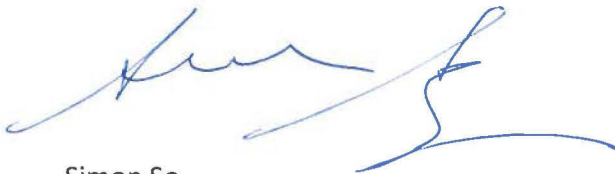
**Re: Support for an International Water Industry Position Statement on Flushable Products**

At its February 24, 2017 regular meeting, the Board of Directors of the Greater Vancouver Sewerage and Drainage District ('Metro Vancouver') adopted the following resolution:

*That the GVS&DD Board endorse the International Water Industry Position Statement on Non-flushable and 'Flushable' Labelled Products.*

As requested, we are forwarding the Metro Vancouver logo directly to Clare Pillinger at Anglian Water.

Yours truly,



Simon So  
General Manager, Liquid Waste Services

SS/FN/jg

cc: Duncan Ellison, Canadian Water & Wastewater Association  
Clare Pillinger, Anglian Water, UK

20906701

# International water industry position statement on non-flushable and 'flushable' labelled products

To prevent problems with sewers, pipe and toilet blockages plus the human and environmental cost of sewer flooding and pollution, the organisations signing this statement below agree that:

- Only the 3Ps – Pee, Poo and toilet Paper – should be flushed.
- Currently, all wipes and personal hygiene products should be clearly marked as **“Do Not Flush”** and be disposed of in the bin or trashcan.
- Wipes labelled “Flushable” based on passing a manufacturers’ trade association guidance document should be labelled **“Do Not Flush”** until there is a standard agreed by the water and wastewater industry.
- Manufacturers of wipes and personal hygiene products should give consumers clear and unambiguous information about appropriate disposal methods.
- Looking to the future, new innovations in materials might make it possible for certain products to be flushed, if they pass a technical standard which has been developed and agreed by the water and wastewater industry\*. Preferably this standard would be developed under the banner of the International Standards Organisation (ISO).
- Key requirements for any standard include that the product:
  - a) breaks into small pieces quickly;
  - b) must not be buoyant;
  - c) does not contain plastic or regenerated cellulose and only contains materials which will readily degrade in a range of natural environments.

*\*and in compliance with local legislative requirements*

## GLOBAL SUPPORTERS:



## ORGANISATION NAMES:

### Australia



### Belgium



## Canada



## Caribbean



## Czech Republic



## Denmark



## Estonia



## France



Germany

**bdew**

German Association of Energy  
and Water Industries

Greece



Ireland



Israel



Italy



Japan



Latvia



Lithuania



Luxembourg



Greater Vancouver Sewerage and Drainage District

## Malta



## Netherlands



## New Zealand



## Poland



## Portugal



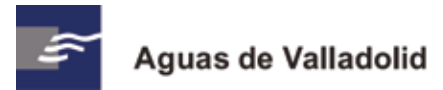
## Slovenia



## Spain



Greater Vancouver Sewerage and Drainage District





UK



USA



Greater Vancouver Sewerage and Drainage District

## PARTNER ORGANISATIONS





**SUSTAINABLEJOES™**



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To: Liquid Waste Committee

From: Andjela Knezevic-Stevanovic, Director, Environmental Management and Quality Control, Liquid Waste Services

Date: March 28, 2019 Meeting Date: April 11, 2019

Subject: **Recreational Water Quality Monitoring Program**

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**RECOMMENDATION**

That the GVS&DD Board receive for information the report dated March 28, 2019, titled “Recreational Water Quality Monitoring Program”.

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**PURPOSE**

To provide the Committee and GVS&DD Board with an overview of the Recreational Water Quality Monitoring Program in the region prior to the 2019 monitoring season and to offer additional information about the program arising from the March 14, 2019 Liquid Waste Committee meeting.

**BACKGROUND**

The Recreational Water Quality Monitoring Program (the Program) has been in place for more than 50 years, and is required under Metro Vancouver’s *Integrated Liquid Waste and Resource Management Plan*. The Program evolved over the years and the 2018 season included monitoring of 113 sites at 41 locations across the region. Bathing beaches are the main focus of the program, though False Creek is also monitored and reported as it is a heavily used recreation area.

**MONITORING AND REPORTING**

Metro Vancouver monitors the bacteriological quality of local recreational waters on a daily basis from May to September, and less frequently outside this period. A minimum of five samples are collected from each site within 30 days, and the samples are analyzed for *E. coli* at Metro Vancouver’s Microbiology Laboratory. Daily test results are reported to the local health authorities, Vancouver Coastal and Fraser Health Authorities, and the beach operators, member municipalities and Metro Vancouver Parks. Metro Vancouver also calculates and reports the 30-day geometric mean (a type of average) concentration of *E. coli* for each beach location on a weekly basis, so compliance with applicable guidelines can be determined.

**SAFETY OF RECREATIONAL WATERS FOR PUBLIC USE**

Guidelines for recreational waters are set by Health Canada and the BC Ministry of Environment and Climate Change Strategy with the common goal to protect public health.

Health Canada defines primary contact as a recreational activity in which there is the immersion of the whole body or the face and trunk, and where it is likely some water will be swallowed. Primary contact activities include swimming, windsurfing and waterskiing. Secondary (incidental) contact activities, such as boating and fishing, are those in which substantial contact with water is rare.

The local health authorities set the monitoring requirements, and have the overall responsibility to determine whether recreational water is safe for public use. The health authorities may require the beach operator to post a warning sign indicating that the water is unsafe for swimming or wading. These swimming advisory signs are removed once the health authority determines that the health hazard no longer exists. The status of a given beach is available at the Vancouver Coastal and Fraser Health Authorities' websites during the recreational season.

## **RECENT RESULTS**

In 2018, the bacteriological water quality for primary-contact recreation was met for most bathing beaches. The exceptions were English Bay, Kitsilano Beach, Sunset Beach, Whytecliff Park, Sandy Cove, Ambleside, Kitsilano Point, and Jericho Beach, where swimming advisories were posted for 2 to 7 days, and Barnet Marine Park where swimming advisory was posted for 21 days.

For non-bathing beach areas, in 2018, the bacteriological water quality in West False Creek was exceptionally good; followed by Central False Creek (applicable guideline met at all times), and East False Creek (guideline met about half the time).

The results from the past ten years of the recreational water monitoring program were excellent for primary-contact recreational areas throughout Greater Vancouver, particularly in 2012 and 2017 when guidelines were not exceeded and no swimming advisories were posted. However, the 2014 season had much longer periods of guideline exceedances and swimming advisories. In total, there were about 240 days of advisories, compared with about 50 days in 2018.

## **SOLVING THE 2014 PUZZLE**

Since 2014, Metro Vancouver has been working collaboratively with stakeholders to identify the sources that may have contributed to the deterioration and prolonged periods of bacteriologically compromised water quality in 2014 and 2018.

*E. coli* are found in the intestinal tract of warm-blooded animals such as mammals and birds, and their presence in recreational waters can increase the risk of gastrointestinal illnesses for water users. Common sources of fecal contamination in recreational waters may include: raw, untreated feces from humans, pets and birds; agricultural and stormwater runoff; combined and sanitary sewer overflows; malfunctions in wastewater collection or treatment systems; improperly maintained septic tanks; release of raw sewage from boat holding tanks; etc.

The Lions Gate Wastewater Treatment Plant effluent is disinfected from May 1 to September 30. The disinfection operations have been effective and there has been no indication that the plant effluent contributed to the elevated *E. coli* counts that led to swimming advisories in the past. In addition, as a standard operating procedure, staff from Metro Vancouver and member municipalities verify operations of their respective collection systems when high bacterial counts are observed at the beaches to determine if there were any indications of possible contributions from their facilities. No sanitary sewer overflows occurred in the vicinity of swimming beaches where advisories had been issued in 2014 or 2018. Although it was relatively dry in the summers of 2014 and 2018, a few heavy rain events did occur, which resulted in combined sewer overflows. These rainfall-induced overflows,

combined with the non-point source discharge from the False Creek area, may have influenced the high counts only at Sunset Beach in Vancouver. No other potential sources related to Metro Vancouver infrastructure have been identified.

After the 2014 season, the City of Vancouver was particularly concerned about water quality in False Creek, and initiated the formation of the False Creek Water Quality Working Group. The members of the Working Group include representatives from Metro Vancouver, City of Vancouver, Vancouver Coastal Health Authority, Transport Canada, Vancouver Fraser Port Authority, and the BC Ministry of Environment and Climate Change Strategy. Several members of this group recently initiated a pilot bacterial source tracking study in collaboration with the BC Centre for Disease Control, University of British Columbia and McMaster University. It is hoped that the information gained from this study will be helpful to better understand the factors affecting recreational water quality in the region and the sources that may have contributed to the elevated bacterial counts in 2014 and 2018.

### **ALTERNATIVES**

This is an information report. No alternatives are presented.

### **FINANCIAL IMPLICATIONS**

Recreational Water Quality Monitoring Program is included in the GVS&DD annual operating budget in the amount of \$360,000 per year.

### **SUMMARY / CONCLUSION**

Metro Vancouver's Recreational Water Quality Monitoring Program currently includes sample collection at 113 sites and 41 beach locations across the region. The samples are analyzed at Metro Vancouver's Microbiology Laboratory, and results are reported to the health authorities and beach operators. The Vancouver Coastal Health and Fraser Health Authority use the information reported to assess the risk to public health and issue swimming advisories, as they deem appropriate.

Water quality is generally excellent at bathing beaches in the region; however, swimming advisories were issued at a relatively high number of beaches for significant duration of time in 2014 and 2018. The disinfection operation at the Lions Gate Wastewater Treatment Plant has been effective. Plant effluent did not contribute to the elevated *E. coli* counts that led to swimming advisories in the past.

Metro Vancouver participates on the City of Vancouver led False Creek Water Quality Working Group, and plans to continue participating in a collaborative initiative with the BC Centre for Disease Control, in conjunction with University of British Columbia and McMaster University, on a bacterial source tracking project which is investigating the sources of the fecal contamination. It is hoped that the information gained from this study will be helpful to better understand the factors affecting recreational water quality in the region and the sources that may have contributed to the elevated bacterial counts in 2014 and 2018.

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To: Liquid Waste Committee

From: Roy Moulder, Director, Purchasing and Risk Management, Financial Services  
Jeff Chan, Division Manager, Project Delivery, Liquid Waste Services

Date: March 25, 2019 Meeting Date: April 11, 2019

Subject: **Award of a Contract Resulting from Tender No. 18-328: Construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Influent Pump Station Expansion Project**

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### **RECOMMENDATION**

That the GVS&DD Board:

- a) approve the award of a contract in the amount of \$15,946,950 (exclusive of taxes) to Graham Infrastructure LP & AECON Water Infrastructure Inc. – a Joint Venture, resulting from Tender No. 18-328: Construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Influent Pump Station Expansion Project; and
  - b) authorize the Commissioner and the Corporate Officer to execute the contract.
- 

### **PURPOSE**

This report is to advise the GVS&DD Board of the results of Tender No. 18-328: Construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Influent Pump Station Expansion Project, and to recommend award of the contract in the amount of \$15,946,950 (exclusive of taxes) to Graham Infrastructure LP & AECON Water Infrastructure Inc. – a Joint Venture.

### **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 Board of Directors.

This report is being brought forward to the Liquid Waste Committee to consider a recommendation to the GVS&DD Board to award a contract for the construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Influent Pump Station Expansion Project.

### **PROJECT DESCRIPTION**

As part of the Annacis Island Wastewater Treatment Plant (AIWWTP) Stage 5 Expansion program, an expansion of the Influent Pump Station (IPS) is required. The IPS Expansion Project consists of the supply and installation of the following equipment:

- One new influent pump, motor and variable frequency drive
- One new transformer and other electrical equipment, and
- One new influent bar screen and ancillary equipment.

As a result of Request for Qualifications (RFQ No. 18-299) that was publicly advertised on the Metro Vancouver's and BC Bid websites, four experienced firms were invited to respond to Tender No. 18-328, for the AIWWTP Stage 5 Phase 2 IPS Expansion Project. The tender closed on March 12, 2019 and the following compliant bids were received:

<b>Contractor</b>	<b>Total Tender Price (exclusive of taxes)</b>
Graham Infrastructure LP & Aecon Water Infrastructure – a Joint Venture	\$15,946,950.00
Bennett Mechanical Installations (2001) Ltd.	\$16,787,000.00
Maple Reinders Constructors Ltd.	\$17,509,450.00
Kenaidan Contracting Ltd.	\$18,384,149.95

Bids were reviewed for completeness by members of the project team in Liquid Waste Services Department and Purchasing and Risk Management Division, Financial Services Department. Graham Infrastructure LP & AECON Water Infrastructure Inc. – a Joint Venture has been identified as the lowest compliant bid.

#### **ALTERNATIVES**

1. That the GVS&DD Board:
  - a) approve the award of a contract in the amount of \$15,946,950 (exclusive of taxes) to Graham Infrastructure LP & AECON Water Infrastructure Inc. – a Joint Venture, resulting from Tender No. 18-328: Construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Influent Pump Station Expansion Project; and
  - b) authorize the Commissioner and the Corporate Officer to execute the contract.
2. That the GVS&DD Board terminate Tender No. 18-328: Construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Influent Pump Station Expansion Project and direct staff to report back to the GVS&DD Board with options for an alternate course of action.

#### **FINANCIAL IMPLICATIONS**

If the GVS&DD Board approves Alternative 1, a contract in the amount of \$15,946,950 (exclusive of taxes) will be awarded to Graham Infrastructure LP & AECON Water Infrastructure Inc. – a Joint Venture. The tender submitted by Graham Infrastructure LP & AECON Water Infrastructure Inc. – a Joint Venture is the lowest compliant bid.

There are currently sufficient funds in the construction budget to award this contract.

The GVS&DD Board has the choice not to proceed with Alternative 1, but staff will need further direction in relation to completion of the project. Alternative 2 will delay the Corporation's ability to fully utilize the expanded liquid waste stream facilities currently being incorporated into the AIWWTP by the Stage 5 Phase 1 construction project. Future Stage 5 wastewater treatment flows cannot be achieved without the IPS Expansion.

## **SUMMARY / CONCLUSION**

Tender No. 18-328 was issued for the construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Influent Pump Station Expansion Project, and Graham Infrastructure LP & AECON Water Infrastructure Inc. – a Joint Venture provided the lowest compliant bid. It is recommended that the GVS&DD Board authorize the Commissioner and the Corporate Officer to award and execute a contract to Graham Infrastructure LP & AECON Water Infrastructure Inc. – a Joint Venture, in the amount of \$15,946,950 (exclusive of taxes).

## **Attachment**

1. Annacis Island Wastewater Treatment Plant (AIWWTP) Stage 5 Phase 2 Influent Pump Station (IPS) Expansion Project – Work Scope

28953008

## Annacis Island WWTP Stage 5 Expansion Phase 2 Influent Pump Station Expansion Project – Work Scope

### Influent Pump Station at Annacis Island WWTP



Influent Bar Screen



Influent Pump

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To: Liquid Waste Committee

From: Roy Moulder, Director, Purchasing and Risk Management, Financial Services  
Colin Meldrum, Acting Director - Project Delivery, Liquid Waste Services

Date: March 28, 2019 Meeting Date: April 11, 2019

Subject: **Award of a Contract Resulting from Tender No. 18-412: Construction of the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project**

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**RECOMMENDATION**

That the GVS&DD Board:

- a) approve the award of a contract in the amount of \$9,731,000 (exclusive of taxes) to Maple Reinders Constructors Ltd., resulting from Tender No. 18-412: Construction of the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project;
- b) increase the budget for the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project by \$1,931,000; and
- c) authorize the Commissioner and the Corporate Officer to execute the contract.

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**PURPOSE**

This report is to advise the GVS&DD Board of the result of Tender No. 18-412: Construction of the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project, to recommend award of the contract in the amount of \$9,731,000 (exclusive of taxes) to Maple Reinders Constructors Ltd. and request an increase of the project budget by \$1,931,000.

**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 Board of Directors.

This report is being brought forward to the Liquid Waste Committee to consider a recommendation to the GVS&DD Board to award a contract for the construction of the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project and to increase the project budget.

**PROJECT DESCRIPTION**

The Lulu Island Wastewater Treatment Plant Biogas Cleanup Project involves the installation of a biogas cleanup facility to treat surplus digester gas to pipeline quality biomethane, which will reduce flaring of excess digester gas and corresponding greenhouse gas emissions. The proposed technology for this treatment is the Greenlane RIMU System, a water scrub system which is comprised of skid mounted units and separate components. Under agreement with Fortis BC, the treated biomethane will be purchased and exported into Fortis BC's gas system, creating a revenue stream for Metro Vancouver, reducing greenhouse gas emissions and helping achieve Strategy 2.1 of the *Integrated Liquid Waste Management and Resource Plan*, which is to "pursue Liquid Waste Resource Recovery in an integrated Resource Recovery context."

As a result of Request for Qualifications (RFQ No. 18-300) that was publicly advertised on the Metro Vancouver's and BC Bid websites, five experienced firms were invited to respond to Tender No. 18-412, for the Biogas Cleanup Facility installation. The tender closed on March 14, 2019 and the following compliant bids were received:

<b>Contractor</b>	<b>Total Tender Price (exclusive of taxes)</b>
Maple Reinders Constructors Ltd.	\$9,731,000
Tritech Group Ltd.	\$10,132,715
Kenaidan Contracting Ltd.	\$11,689,070
Filtrum Inc.	\$12,329,000
Pomerleau, Inc.	\$13,117,586

Bids were reviewed for completeness by members of the project team in Liquid Waste Services Department and Purchasing and Risk Management Division, Financial Services Department. Maple Reinders Constructors Ltd. has been identified as the lowest compliant bid.

All bids received were higher than the anticipated budget. The budget for the Biogas Cleanup Project was approved by the GVS&DD Board at \$10,400,000. The projected cost of the project to completion including construction contracts, engineering and consulting services is anticipated to be \$12,331,000. A budget increase of \$1,931,000 is requested to cover the shortfall.

#### **BUSINESS CASE**

A contract was put in place in 2012 with FortisBC to sell the generated biomethane, which will be injected into a FortisBC pipeline beside the wastewater treatment plant. The GVS&DD will receive a premium, inflation-adjusted price (approximately 8 times higher than the regular natural gas commodity price) for the first 40,000 gigajoules (GJ) of generated biomethane, for which FortisBC will own the associated greenhouse gas emission reduction credits. The GVS&DD will receive the natural gas commodity price, for amounts in excess of 40,000 GJ, and will retain the greenhouse gas emission reduction credits for this excess. The contract is for ten years, with automatic renewal unless one party chooses to end the agreement.

If approved, the project will generate a positive net benefit of \$5,400,000 based on a 25 year timeframe. Initial annual cash revenues from biomethane sales are projected to be \$630,000, based on an anticipated volume of 40,000 GJ. Initial operating and maintenance costs are expected to be approximately \$150,000. The project will reduce greenhouse gas emissions by 2,200 tonnes in its first year of operation, which is valued as a benefit of \$330,000 per year under the Carbon Price Policy value of \$150 per tonne. In addition, the system has been sized to allow for additional biogas processing and consequent additional revenue through future biogas enhancements, should future works at the plant result in increased biogas generation.

## **ALTERNATIVES**

1. That the GVS&DD Board:
  - a) approve the award of a contract in the amount of \$9,731,000 (exclusive of taxes) to Maple Reinders Constructors Ltd., resulting from Tender No. 18-412: Construction of the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project;
  - b) increase the budget for the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project by \$1,931,000; and
  - c) authorize the Commissioner and the Corporate Officer to execute the contract.
2. That the GVS&DD Board authorize termination of Tender No. 18-412: Construction of the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project and direct staff to report back to the GVS&DD Board with options for an alternate course of action.

## **FINANCIAL IMPLICATIONS**

If the GVS&DD Board approves Alternative 1, the project budget will be increased by \$1,931,000 to \$12,331,000 to cover the projected costs and a contract in the amount of \$9,731,000 (exclusive of taxes) will be awarded to Maple Reinders Constructors Ltd. The Lulu Island Wastewater Treatment Plant Digester 3 project, which is related, is projected to underspend its budget, which will be sufficient to cover the budget increase in the Biogas Cleanup Project. Therefore, GVS&DD Board approval of the budget increase will not affect the sewerage levy. In addition, staff will be required to manage the delivery on other projects in the Lulu Island Sewerage Area to ensure the total budgeted expenditures are within the allocated budget.

The GVS&DD Board has the choice not to proceed with Alternative 1, but staff will need further direction in relation to completion of the project. Alternative 2 will eliminate the Corporation's opportunity at the Lulu Island Wastewater Treatment Plant to reduce waste gas emissions, obtain revenues from the provision and sale of renewable natural gas to the region, and reduce regional greenhouse gas emissions in support of the Board-approved Climate 2050 Strategic Framework.

## **SUMMARY / CONCLUSION**

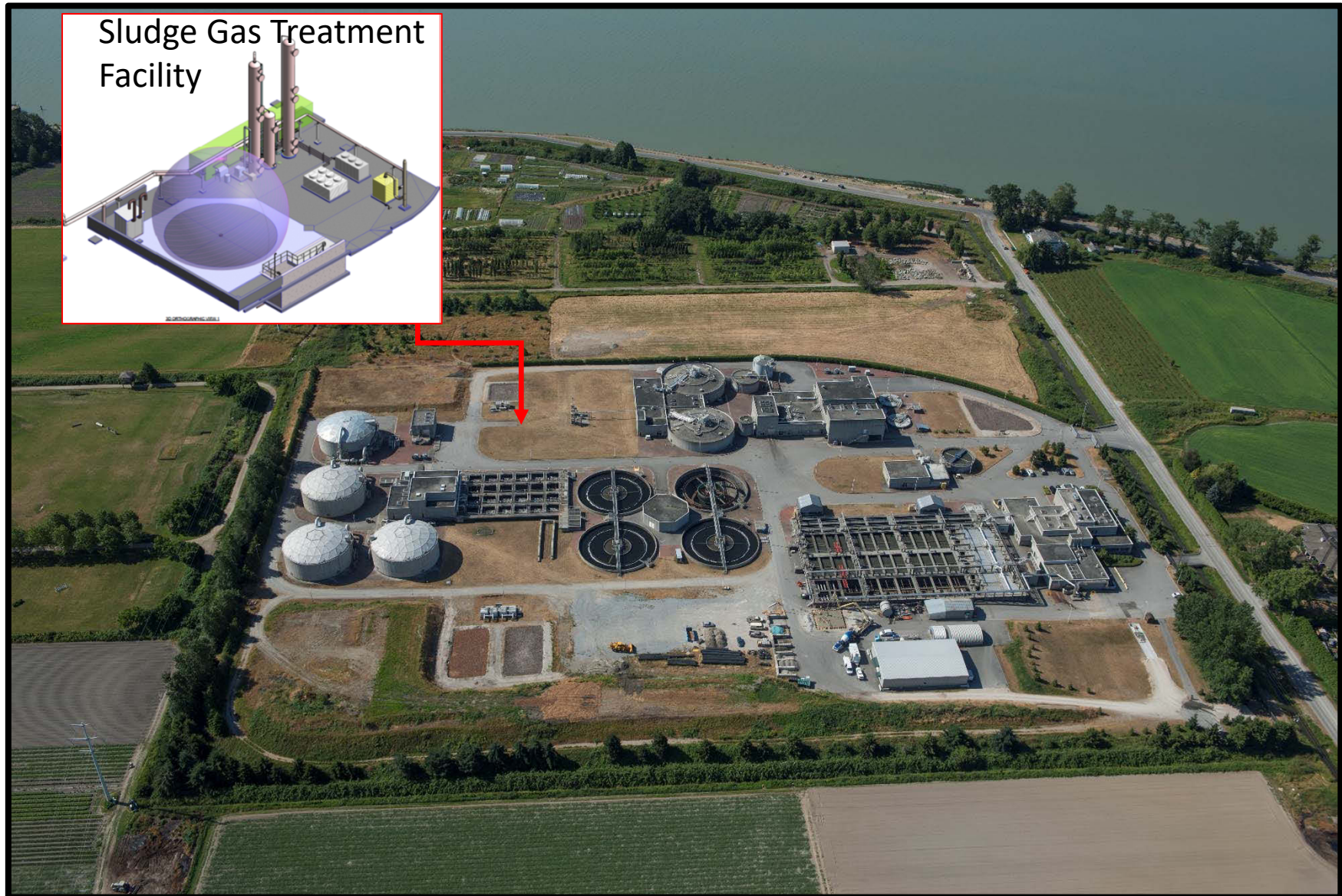
Tender No. 18-412 was issued for Construction of the Lulu Island Wastewater Treatment Plant Biogas Cleanup Project, and Maple Reinders Constructors Ltd. was identified as providing the lowest compliant bid. It is recommended that the GVS&DD Board increase the project budget by \$1,931,000 to cover the financial commitments made through existing and future contracts, and authorize the Commissioner and the Corporate Officer to award and execute a contract to Maple Reinders Constructors Ltd., in the amount of \$9,731,000 (exclusive of taxes).

## **Attachment**

1. Tender No. 18-412: Lulu Island Wastewater Treatment Plant Biogas Cleanup Project – Site Plan

28308698

# Tender 18-412: Lulu Island Wastewater Treatment Plant Biogas Cleanup Project – Site Plan



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To: Liquid Waste Committee

From: Colin Meldrum, Acting Director - Project Delivery, Liquid Waste Services

Date: March 25, 2019 Meeting Date: April 11, 2019

Subject: **Status of Liquid Waste Services Capital Expenditures to December 31, 2018**

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**RECOMMENDATION**

That the GVS&DD Board receive for information the report dated March 25, 2019, titled "Status of Liquid Waste Services Capital Expenditures to December 31, 2018".

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**PURPOSE**

The purpose of the report is to provide an update on the status of utility capital expenditures for the Liquid Waste Services for the year ending December 31, 2018.

**BACKGROUND**

The Capital Expenditure reporting process as approved by the 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 June/July and October/November, and a final year-end report to the Committees and the GVWD and GVS&DD Boards in April of each year.

This is the third and final report for 2018 and looks at both the overall capital program for the utilities with a multi-year view of capital projects and the actual capital spending for the 2018 fiscal year in terms of comparison to the annual budget.

**LIQUID WASTE SERVICES 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. In 2018, the impact on the ratepayers for the Liquid Waste Services Capital Budget of \$380.4 million is the capital funding of \$79.7 million (contribution to capital and new debt service costs) included in the 2018 Liquid Waste Operating Budget.

**OVERALL LIQUID WASTE SERVICES CAPITAL PROGRAM**

The overall capital program for Liquid Waste comprises 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 all Liquid Waste capital projects completed in 2018 or ongoing at some point in 2018 will be under budget by \$16.6 million which is within 0.25% of budget.

Table 1 in Appendix A provides a summary of Liquid Waste 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 Board approved spending limits. With the rare exception, projects tend to complete with actual spending below the approved limits predominantly due to savings on budgeted contingency amounts.

Attachment 1 provides the details behind the summary information including specific capital projects and their various project phases while Attachment 2 provides additional project status information of some of the key projects included in Appendix A – Table 1.

### **2018 LIQUID WASTE CAPITAL PROGRAM PROGRESS**

The Metro Vancouver financial planning process included 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. Projecting the spending on these projects represents somewhat of a timing exercise which is often subject to uncontrollable circumstances. These uncontrollable circumstances are more likely when projects are in certain phases of completion. Where a project is in the definition, pre-design or detailed design phases, it is more likely that a project may be subject to delays from necessary permitting, access, clarification of design details or procurement complexities which will result in a lag in spending. Conversely, when a project is within the construction phase where a contractor is in place and working effectively on site, actual spending is usually very close to budgeted expectations.

In 2018, annual capital expenditures for Liquid Waste Services were \$297.8 million compared to a capital budget of \$380.4 million. The underspending of the Liquid Waste Capital Budget was due to several projects in the pre-construction phases experiencing a variety of uncontrollable delays. It is noted that the regional ratepayers fund the Liquid Waste Services Capital Program primarily through the Metro Vancouver Liquid Waste Levy which is derived from the Liquid Waste Operating Budget, including capital funding (contribution to capital and debt service costs), and do not directly fund the capital program.

The 2018 Liquid Waste Operating Budget included capital funding of \$100.3 million. As a result of the underspending of the 2018 Capital Budget, a surplus of \$1.8 million in capital funding (contribution to capital and debt service costs) was realized. The capital funding surplus along with any other operating surpluses in any year, remain with Liquid Waste Services, and are applied in the subsequent budget year to avoid debt thereby reducing the impact on ratepayers.

Table 2 in Appendix A provides a summary of the 2018 actual capital spending compared to the Board approved Capital Budget while the “Status of Liquid Waste Services Capital Expenditures to December 31, 2018” included in Attachment 3 provides further information of the variance.

### **ALTERNATIVES**

This is an information report. No alternatives are presented.

### **FINANCIAL IMPLICATIONS**

For 2018, resulting primarily due to uncontrollable project delays, the underspending of the Liquid Waste Services Capital Budget was approximately \$82.6 million or 21.7% which contributed to an overall surplus in capital funding of \$1.8 million. This surplus, per policy, will be used in future years to fund capital and avoid debt.

### **SUMMARY / CONCLUSION**

In 2018, the Liquid Waste Services underspent its Capital Budget by \$82.6 million or 21.7%. The delays experienced in projects in the early stages of completion resulted in the timing of expenditures differing from expectations. The underspending in the 2018 Liquid Waste Services Capital Budget, resulted in a realization of a surplus in capital funding of \$1.8 million. This surplus, per policy, will be used in future years to fund capital and avoid debt.

Although the 2018 Liquid Waste Services Capital Budget was underspent, the variance is a result of timing with the actual overall spending on a capital project expected to be close to or less than the overall budget for that project due to the savings of any budgeted contingencies.

### **Attachments**

Appendix A: Capital Expenditure Summary – Liquid Waste Services

Attachment 1: Detailed Liquid Waste Services Capital Expenditure Summary

Attachment 2: Liquid Waste Services Capital Project Status Information

Attachment 3: 2018 Liquid Waste Services Capital Spending Status Information

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## Metro Vancouver

Capital Expenditure Summary

Liquid Waste Services

As at December 31, 2018

**Table 1 – Ongoing and Completed Project Summary**

	Total Projected to Completion	Total Budget	Projected Variance	
<b>Liquid Waste Services</b>				
Ongoing	6,340,975,000	6,341,204,000	229,000	<b>0.0%</b>
Completed	6,665,000	23,015,000	16,350,000	<b>71.0%</b>
Not Started	238,740,000	238,740,000	-	
	<b>\$ 6,586,380,000</b>	<b>\$ 6,602,959,000</b>	<b>\$ 16,579,000</b>	

**Table 2 – 2018 Capital Spending Summary**

	2018 Budget	Actual Expenditures	
<b>Liquid Waste Services</b>			
Infrastructure Growth - Annacis Stage 5 Expansion Capital	131,050,000	127,863,543	
Infrastructure Growth Capital	93,000,000	74,212,832	
Infrastructure Maintenance Capital	44,035,000	19,160,180	
Infrastructure Resilience Capital	45,750,000	37,807,672	
Infrastructure Upgrade - Secondary Treatment Capital *	39,500,000	31,400,191	
Infrastructure Upgrade Capital	13,260,000	6,634,787	
Opportunity Capital	13,770,000	768,111	
	<b>\$380,365,000</b>	<b>\$297,847,316</b>	<b>78.3%</b>

\* Includes annual budget amount plus additions as subsequently approved by the Board

**Metro Vancouver**  
**Liquid Waste Services Capital Expenditures Summary**  
**As of December 31, 2018**

Project Lifetime Budget												
Project Name	Project Location	Total Budget	Lifetime Expenditures to Date	Remaining Budget	Projected Expenditures	Projected Remaining Budget	Percent Complete	Status	Project Schedule	Note	Comments	
Liquid Waste Infrastructure Growth Capital												
AIWWTP Site Construction Layout	Delta	600,000	4,737	595,263	600,000	-	1%	Ongoing	N		Project delayed due to lack of resources.	
Albert Street Trunk Sewer	Port Moody	4,850,000	268,421	4,581,579	4,850,000	-	6%	Ongoing	N		Project delayed at City's request, project now proceeding.	
Annacis Outfall System	Delta	378,000,000	42,858,144	335,141,856	378,000,000	-	11%	Ongoing	Y			
Burnaby Lake North Interceptor	Burnaby	153,050,000	9,041,012	144,008,988	153,050,000	-	6%	Ongoing	Y			
Burnaby South Slope Interceptor	Burnaby	22,700,000	-	22,700,000	22,700,000	-	0%	Not Started	Y		Project scheduled to begin 2020.	
Cloverdale PS Upgrade	Surrey	31,100,000	138,554	30,961,446	31,100,000	-	0%	Ongoing	N		Preliminary engineering delayed to investigate lower capital cost solutions.	
Cloverdale Trunk Sewer Upgrade	Surrey	28,975,000	-	28,975,000	28,975,000	-	0%	Not Started	Y		Project scheduled to begin 2020.	
Collingwood Trunk Sewer	Vancouver	5,415,000	4,837,089	577,912	5,215,000	200,000	89%	Ongoing	Y	(2)		
Glenbrook Combined Trunk Kingsway Sanitary Section	Burnaby	3,400,000	125,003	3,274,997	3,400,000	-	4%	Ongoing	Y			
Golden Ears Forcemain and River Crossing	Maple Ridge	114,000,000	2,094,985	111,905,015	114,000,000	-	2%	Ongoing	Y			
Golden Ears Pump Station	Maple Ridge	38,100,000	1,703,646	36,396,354	38,100,000	-	4%	Ongoing	Y			
Hastings Sanitary Trunk Sewer	Burnaby	45,031,000	3,718,253	41,312,747	35,031,000	10,000,000	8%	Ongoing	Y	(2)	Project budget was reduced for 2019 Capital Plan.	
Hastings-Cassiar Intake Connection	Vancouver	750,000	70,156	679,844	1,250,000	(500,000)	9%	Ongoing	Y	(7)	Project scope to be increased to address operational improvement opportunities.	
Langley Pump Station Upgrade	Surrey	15,700,000	242,693	15,457,307	250,000	15,450,000	2%	Completed	Y	(6)	Preliminary Engineering determined the project could be significantly deferred and will be cancelled.	
LIWWTP Digester No 3	Richmond	53,300,000	19,829	53,280,171	53,300,000	-	0%	Ongoing	N	(4)	Project on hold due to resources and potential rescope.	
Lozells Sanitary Trunk Golf Course Section	Burnaby	22,150,000	-	22,150,000	22,150,000	-	0%	Not Started	N		Project delayed due to resources and updated flow modelling.	
Marshend Pump Station Capacity Upgrade	Burnaby	10,025,000	439,942	9,585,058	10,025,000	-	4%	Ongoing	N		Project delayed to allow for proper scope definition.	
North Road Trunk Sewer	Coquitlam	11,613,000	1,196,760	7,030,573	14,613,000	(3,000,000)	10%	Ongoing	N		Contract tender was greater than expected.	
North Vancouver Interceptor - Lynn Branch Pre-build	Dist of North Van	3,950,000	274,063	3,675,937	3,950,000	-	7%	Ongoing	Y			
Northwest Langley WWTP Expansions	Langley Township	850,300,000	67,196,274	783,103,726	850,300,000	-	8%	Ongoing	Y			
NSI Flow Management	Surrey	47,800,000	4,241,880	43,558,120	57,800,000	(10,000,000)	9%	Ongoing	N		Concept level engineering recommends increased contingency.	
Port Moody PS Upgrade	Port Moody	9,755,000	308,153	9,446,847	9,755,000	-	3%	Ongoing	N		Project was delayed pending confirmation of future flows from Port Moody and the impact on the existing station.	
Port Moody South Interceptor Upgrade	Port Moody	3,450,000	-	3,450,000	3,450,000	-	0%	Not Started	Y		Project scheduled to begin in 2020.	
Queensborough Pump Station Replacement	New Westminster	6,600,000	329,309	6,270,691	750,000	5,850,000	5%	Ongoing	Y	(3)	Preliminary Engineering resulted in a reduced scope.	
Rosemary Heights Pressure Sewer Upgrade	New Westminster	10,750,000	-	10,750,000	10,750,000	-	0%	Not Started	Y		Project scheduled to begin in 2020.	
Sapperton Pump Station	New Westminster	93,303,000	59,194,421	34,108,579	83,303,000	10,000,000	63%	Ongoing	Y	(2)		
South Surrey Interceptor Twinning	Surrey	79,658,000	38,934,128	40,723,872	95,658,000	(16,000,000)	49%	Ongoing	Y		Additional budget added in 2019 for 2nd Odour Control Facility. Engineering recommends additional contingency for remainder of project.	
Sperling PS Increase Pump Capacity	Burnaby	3,150,000	2,092,233	1,057,767	3,000,000	150,000	66%	Ongoing	Y	(2)		
Stoney Creek Trunk Upgrade	Burnaby	10,200,000	-	10,200,000	10,200,000	-	0%	Not Started	N		Project on hold due to resources and updated flow modelling.	
Surrey Central Valley Upgrade	Surrey	60,800,000	-	60,800,000	60,800,000	-	0%	Not Started	Y		Project scheduled to begin in 2021.	
		2,118,475,000	239,329,684	1,875,759,648	2,106,325,000	12,150,000						
Liquid Waste Infrastructure Growth - Annacis Stage 5 Expansion Capital												
Annacis Stage 5 Expansion	Delta	595,500,000	285,108,893	310,391,107	595,500,000	-	48%	Ongoing	Y			
		595,500,000	285,108,893	310,391,107	595,500,000	-						
Liquid Waste Infrastructure Maintenance Capital												
AIWWTP Fibre Optic Infrastructure	Delta	1,500,000	41,250	1,458,750	1,500,000	-	3%	Ongoing	Y			
AIWWTP Gravity Thickner and DAF Steel Repair and Recoating	Delta	2,000,000	1,790,132	209,868	2,000,000	-	90%	Ongoing	Y			
AIWWTP IPS Pump Building Roof Replacement Phase 2	Delta	690,000	-	690,000	690,000	-	0%	Not Started	N		Project delayed due to lack of resources.	
AIWWTP Replacement of CDAC Equipment	Delta	4,395,000	1,768,783	2,626,217	4,395,000	-	40%	Ongoing	Y			
AIWWTP Scum Pump Upgrade	Delta	1,350,000	-	1,350,000	1,350,000	-	0%	Not Started	Y		Project scheduled to begin in 2019.	
AIWWTP Secondary Clarifier Corrosion Repair	Delta	77,484,000	10,800,765	66,683,235	52,484,000	25,000,000	14%	Ongoing	Y	(1)	Favorable tender pricing.	
AIWWTP Station Battery Replacement	Delta	1,207,000	735,663	471,337	1,207,000	-	61%	Ongoing	Y			
AIWWTP Trickling Filter Media & Distributor Arms & Ducting Replacement	Delta	35,500,000	231,281	35,268,719	57,900,000	(22,400,000)	1%	Ongoing	Y		Project budget updated for 2019 after completion of project definition.	
Annacis MCC 80 051, 80 070, 80 071 Replacement	Delta	2,844,000	1,036,693	1,807,307	2,844,000	-	36%	Ongoing	Y			
Baynes Road PS VFD Replacement	Pitt Meadows	1,225,000	1,089,514	135,486	1,125,000	100,000	89%	Ongoing	Y	(2)		
Cost Allocation Billing Network (Combined 96 F4)	Regional	5,230,000	5,033,369	196,631	5,230,000	-	96%	Ongoing	Y	(7)		
Crescent Beach FM - Replacement	Surrey	24,915,000	582,277	24,332,723	24,915,000	-	2%	Ongoing	Y			
English Bay/Balaclava Outfalls Improvement	Regional	900,000	-	900,000	900,000	-	0%	Not Started	Y		Project scheduled to begin in 2021.	
Gilbert/Brighthouse Trunk Pressure Sewer	Richmond	132,501,000	34,446,924	98,054,076	182,501,000	(50,000,000)	26%	Ongoing	Y		Project budget updated for 2019 after contract award for North Section.	

**Liquid Waste Services Capital Expenditures Summary**  
As of December 31, 2018

Project Lifetime Budget												
Project Name	Project Location	Total Budget	Lifetime Expenditures to Date	Remaining Budget	Projected Expenditures	Projected Remaining Budget	Percent Complete	Status	Project Schedule	Note	Comments	
Glen Eagles Forcemain Replacement	West Vancouver	10,234,000	2,475,877	7,758,123	10,234,000	-	24%	Ongoing	N		Project on hold pending decisions on pump stations capacities and pipe sizes.	
Glen Eagles Pump Stations	West Vancouver	43,400,000	1,908,245	41,491,755	43,400,000	-	4%	Ongoing	Y			
Golden Ears SSO Storage	Maple Ridge	65,400,000	2,957,219	62,442,781	65,400,000	-	5%	Ongoing	Y			
Harbour West & East Interceptors Reloc & Protect	Vancouver	19,500,000	-	19,500,000	19,500,000	-	0%	Not Started	N		Project awaiting Vancouver Port realocation request.	
IIWWTP HVAC upgrade	Richmond	2,095,000	2,017,702	77,298	2,020,000	75,000	100%	Completed	Y			
IIWWTP Influent Gate Refurbishment	Richmond	1,325,000	-	1,325,000	1,325,000	-	0%	Not Started	N		Project delayed due to lack of resources.	
IIWWTP Maintenance and Administration Building HVAC	Richmond	550,000	441,825	108,175	450,000	100,000	80%	Ongoing	Y	(2)		
IIWWTP MCC/Power Distribution Assess/Replace - Phase 2	Richmond	1,000,000	595,292	404,708	1,000,000	-	60%	Ongoing	Y			
IIWWTP PA-Sed Tank & Gallery Wall Refurbishment	Richmond	1,345,000	-	1,345,000	1,345,000	-	0%	Not Started	N		Project delayed due to lack of resources.	
IIWWTP Replacement of CoGen Control System	Richmond	2,470,000	332,363	2,137,637	2,470,000	-	13%	Ongoing	Y			
IIWWTP Sed Tank Trough Replacement	Richmond	2,800,000	2,108,940	691,060	2,740,000	60,000	75%	Ongoing	Y	(2)		
IIWWTP Siphon Chamber Refurbishment Detailed Design	Richmond	2,200,000	-	2,200,000	2,200,000	-	0%	Not Started	Y		Project scheduled to begin in 2019.	
IIWWTP Water Supply	Richmond	6,500,000	78,954	6,421,046	6,500,000	-	1%	Ongoing	Y	(4)	Project awaiting Vancouver Airport coordination.	
Iona Island Control & Instrumentation Replacement 2011	Richmond	2,750,000	1,351,312	1,398,688	2,750,000	-	49%	Ongoing	Y			
Iona MCC/Power Distribution Assess/Replace	Richmond	4,375,000	3,393,177	981,823	4,375,000	-	78%	Ongoing	Y			
Iona Solids Handling Upgrade Project	Richmond	57,400,000	49,208,746	8,191,254	57,400,000	-	86%	Ongoing	Y			
Lions Gate Control and Instrumentation Replacement	West Vancouver	1,700,000	285,954	1,414,046	1,700,000	-	17%	Ongoing	Y			
LIWWTP - Process Waste Drainage (PWD) Replacement	Richmond	600,000	539,070	60,930	550,000	50,000	90%	Ongoing	Y	(2)		
LIWWTP CDAC Component Upgrade	Richmond	360,000	140,327	219,673	360,000	-	39%	Ongoing	Y			
LIWWTP Fibre Optic Infrastructure	Richmond	600,000	56,675	543,325	600,000	-	9%	Ongoing	Y			
LIWWTP High Efficiency Boiler	Richmond	700,000	-	700,000	700,000	-	0%	Ongoing	N		Project delayed due to lack of resources.	
LIWWTP PA-Sed Tank Refurbishment	Richmond	4,115,000	-	4,115,000	4,115,000	-	0%	Not Started	Y			
Marshend PS Rehab	Burnaby	7,000,000	814,200	6,185,800	7,000,000	-	12%	Ongoing	N		Project delayed to allow for proper scope definition.	
New Westminster Interceptor - Annacis Section 2	Delta	98,350,000	92,200	98,257,800	45,000,000	53,350,000	0%	Ongoing	Y		Project rescope, budget updated for 2019.	
New West Interceptor Grit Chamber	New Westminster	3,250,000	214,125	3,035,875	3,250,000	-	7%	Ongoing	Y			
New Westminster Interceptor Repair Columbia St. Section	New Westminster	10,882,000	886,005	9,995,995	10,882,000	-	8%	Ongoing	Y		Remainder of project on hold until Sapperton PS is complete, allowing work to be more easily completed.	
North Surrey Interceptor Annieville Channel Crossing Scour Protection	Regional	995,000	378,315	616,685	445,000	550,000	38%	Ongoing	Y	(3)		
NSI Rehab or Replacement Phase 1	Surrey	21,750,000	261,871	21,488,129	21,750,000	-	1%	Ongoing	Y			
NWL WWTP 25 kV Substation Replacement	Langley Township	8,025,000	929,313	7,095,687	8,025,000	-	12%	Ongoing	Y			
NWL WWTP CDAC System Hardware Upgrade	Langley Township	1,500,000	798,904	701,096	1,500,000	-	53%	Ongoing	Y			
Ocean Park Trunk Manholes Lining	Langley Township	520,000	-	520,000	520,000	-	0%	Not Started	Y		Project scheduled to begin in 2021.	
Royal Ave. Sewer Pump Station (RYA) Building Expansion & Electrical Upgrade	New Westminster	4,218,000	1,040,912	3,177,088	4,218,000	-	25%	Ongoing	N		Scope to be reviewed pending hydraulic review.	
Surrey H2S Control Facility Replacement	Surrey	2,890,000	-	2,890,000	2,890,000	-	0%	Ongoing	N		Project delayed due to lack of resources.	
Westridge PS 1 & 2 Upgrades	Burnaby	15,950,000	230,889	15,719,111	15,950,000	-	1%	Ongoing	Y			
Westridge FM Replacement	Burnaby	3,650,000	199,629	3,450,371	3,650,000	-	5%	Ongoing	Y			
WWTPs Electrical System Studies & Upgrades	Regional	1,890,000	-	1,890,000	1,890,000	-	0%	Not Started	Y		Project delayed due to lack of resources.	
		704,030,000	131,294,690	572,735,310	697,145,000	6,885,000						
Liquid Waste Infrastructure Resilience Capital												
AIWWTP Automation of Influent Gates	Delta	3,700,000	3,443,377	256,623	3,700,000	-	93%	Ongoing	Y			
AIWWTP Cogeneration Backup Power	Delta	83,503,000	51,819,379	31,683,621	83,503,000	-	62%	Ongoing	Y		Final design report to be submitted once OEM shop as build drawings received; Equipment supply is delayed due to design issues; OEM delays extend construction by 3 months	
AIWWTP PST Area Walkway & Column Remediation	Delta	3,100,000	793,083	2,306,917	3,100,000	-	26%	Ongoing	Y			
FSA Easement Acquisition	Regional	1,500,000	1,074,775	425,225	1,500,000	-	72%	Ongoing	Y			
FSA Sewer Seismic Upgrades Implementation	Regional	161,500,000	548,958	160,951,042	161,500,000	-	0%	Ongoing	Y			
Highbury Interceptor Air Treatment Facilities	Vancouver	11,500,000	7,079,047	4,420,953	11,500,000	-	62%	Ongoing	Y			
IIWWTP - Biogas Lines Relocation	Richmond	5,780,000	805,975	4,974,026	5,780,000	-	14%	Ongoing	Y			
New CSO Management Gates for New Westminster Interceptor	New Westminster	5,885,000	37,779	5,847,221	5,885,000	-	1%	Ongoing	N		Project delayed due to lack of resources.	
Ocean Park Trunk Crescent Section (OPC) Pipe Rehabilitation/Replacement	Surrey	3,603,000	75,523	3,527,477	3,603,000	-	2%	Ongoing	N		Project on hold pending subdivision application approval by Surrey.	
SSI Sulfide Odour and Corrosion Control	Delta	6,360,000	545,955	5,814,045	6,360,000	-	9%	Ongoing	Y			
VSA Easement Acquisition Program	Vancouver	670,000	443,700	226,300	670,000	-	66%	Ongoing	Y	(7)		
VSA Emergency Backup Power	Vancouver	18,510,000	2,615,703	15,894,297	18,510,000	-	14%	Ongoing	N		Delayed due to permitting and approvals.	
		305,611,000	69,283,254	236,327,746	305,611,000	-						
Liquid Waste Infrastructure Upgrade Capital												
8th Avenue Interceptor Air Treatment Facilities	Vancouver	14,200,000	230,148	13,969,852	14,200,000	-	2%	Ongoing	N		Project delayed due to lack of resources.	
AIWWTP Ammonia Removal	Delta	900,000	728,574	171,426	900,000	-	81%	Ongoing	Y			
AIWWTP Biosolids Dryer	Delta	39,000,000	-	39,000,000	39,000,000	-	0%	Not Started	N		Project on hold pending strategic direction from Board, report to be presented mid-2019.	
AIWWTP Electrical Distribution System Protection Control and Monitoring	Delta	2,630,000	-	2,630,000	2,630,000	-	0%	Not Started	N		Project delayed due to lack of resources.	
AIWWTP Replacement of Protective Relays	Delta	3,258,000	1,434,262	1,823,738	3,258,000	-	44%	Ongoing	Y			

**Liquid Waste Services Capital Expenditures Summary**  
As of December 31, 2018

Project Lifetime Budget											
Project Name	Project Location	Total Budget	Lifetime Expenditures to Date	Remaining Budget	Projected Expenditures	Projected Remaining Budget	Percent Complete	Status	Project Schedule	Note	Comments
AIWWTP Secondary Bypass	Delta	1,725,000	1,436,314	288,686	1,575,000	150,000	83%	Ongoing	Y	(2)	
All WWTPs Power Quality Monitoring & Outage Alarming Network	Regional	2,870,000	862,879	2,007,121	2,870,000	-	30%	Ongoing	N	(7)	Project delayed due to lack of resources
FSA Flow Metering Program – Phase 1	Regional	2,700,000	59,334	2,640,666	2,700,000	-	2%	Ongoing	Y		Preparing RFP for detailed engineering.
FSA Wastewater Meter Upgrades	Regional	600,000	378,143	221,857	600,000	-	63%	Ongoing	Y		
Glenbrook Combined Trunk Sewer Separation	New Westminster	49,750,000	13,505	49,736,495	49,750,000	-	0%	Ongoing	Y		Project scope under review.
IIWWTP Biosolids Dewatering Facility	Richmond	46,300,000	2,024,175	44,275,825	46,300,000	-	4%	Ongoing	Y		
IIWWTP Grit Channel Effluent Gates and PA Influent Channel Gates	Richmond	1,840,000	1,047,092	792,908	1,090,000	750,000	100%	Completed	Y		
IIWWTP Provision of a Redundant 12.5 kV Feeder to Switch House	Richmond	850,000	201,885	648,115	850,000	-	24%	Ongoing	Y		
Lions Gate Sludge Thickener No. 2	West Vancouver	3,380,000	3,303,824	76,176	3,305,000	75,000	100%	Completed	Y		
LIWSA Wastewater Meter Upgrades	Richmond	300,000	75,962	224,038	300,000	-	25%	Ongoing	Y		
LIWWTP Ammonia Removal	Richmond	600,000	199,949	400,051	600,000	-	33%	Ongoing	Y		
LIWWTP Power Reliability	Richmond	4,202,000	293,394	3,908,606	5,702,000	(1,500,000)	7%	Ongoing	N		Project delayed in order to complete a third party technical review, project budget updated for 2019.
NSA Flow Metering Program – Phase 1	West Vancouver	300,000	-	300,000	300,000	-	0%	Not Started	N		Project delayed due to lack of resources.
NSSA Wastewater Meter Upgrades	Regional	300,000	63,849	236,151	300,000	-	21%	Ongoing	Y		Preparing RFP for detailed engineering.
NWL Disinfection System	Langley Township	2,750,000	-	2,750,000	2,750,000	-	0%	Not Started	N	(6)	Project to be cancelled due to planned expansion of Northwest Langley WWTP.
Purchase of a High Performance Liquid Chromatography - Mass Spectrometer	Regional	985,000	625,965	359,035	985,000	-	64%	Ongoing	N	(7)	New equipment with significant advanced features will be in the market soon. Reason for the delayed purchase.
Sperling Pump Station Upgrade	Burnaby	7,500,000	7,009,057	490,943	7,500,000	-	93%	Ongoing	Y		
SSI Influent Control Chamber Repair and Replace Gates	Delta	1,305,000	13,554	1,291,446	1,305,000	-	1%	Ongoing	N		Project delayed due to lack of resources.
VSA Flow Metering Program – Phase 1	Regional	3,200,000	5,056	3,194,944	3,200,000	-	0%	Ongoing	Y		Preparing RFP for detailed engineering.
VSA Wastewater Meter Upgrades	Vancouver	464,000	298,409	165,591	464,000	-	64%	Ongoing	Y		
		191,909,000	20,305,331	171,603,669	192,434,000	(525,000)					
Liquid Waste Infrastructure Upgrade - Secondary Treatment Capital											
Iona Secondary Treatment Upgrade	Richmond	1,904,500,000	4,054,934	1,900,445,066	1,904,500,000	-	0%	Ongoing		(5)	
North Shore WWTP Secondary Upgrade and Conveyance	Dist of North Van	749,700,000	32,632,836	717,067,164	749,700,000	-	4%	Ongoing		(5)	
		2,654,200,000	36,687,770	2,617,512,230	2,654,200,000	-					
Liquid Waste Opportunity Capital											
AIWWTP Hydrothermal Processing Pilot	Delta	8,980,000	1,224	8,978,776	8,980,000	-	0%	Ongoing	Y		
AIWWTP IPS VFD Replacement	Delta	2,211,000	1,876,438	334,562	2,211,000	-	85%	Ongoing	Y		
AIWWTP TF VFD Replacement	Delta	1,943,000	1,695,548	247,453	1,943,000	-	87%	Ongoing	Y		
Fraser Sewerage Area Integrated Resource Recovery (IRR) Study	Regional	1,200,000	-	1,200,000	1,200,000	-	0%	Not Started	Y		
LIWWTP Biogas Clean-up Project	Richmond	10,400,000	1,583,054	8,816,946	12,331,000	(1,931,000)	15%	Ongoing	N		Design Delays, award of contract and budget increase to be presented to Liquid Waste Committee in April, 2019
LIWWTP Pilot Digestion Optimization Facility	Richmond	1,000,000	112,717	887,283	1,000,000	-	11%	Ongoing	Y		
North Surrey Interceptor - Port Mann Section - Odour Control	Surrey	7,500,000	75,824	7,424,176	7,500,000	-	1%	Ongoing	Y		
		33,234,000	5,344,805	27,889,195	35,165,000	(1,931,000)					
Total Liquid Waste Services		6,602,959,000	787,354,426	5,812,218,907	6,586,380,000	16,579,000					

**Notes:**

- (1) Project will be completed under budget - savings due to competitive pricing.
- (2) Full contingency not required.
- (3) Reduction in scope.
- (4) Project on hold.
- (5) Separate quarterly status reports for the Secondary Wastewater Treatment Upgrade projects are being provided to the Liquid Waste Committee and Board.
- (6) Project cancelled.
- (7) Funds will be spent if/when opportunity arises.

## Liquid Waste Capital Project Status Information December 31, 2018

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Major GVS&DD liquid waste capital projects are generally proceeding on schedule and within budget. The following capital program project descriptions highlight some of the larger or more significant projects currently underway.

### *i) Infrastructure Growth Program*

- **VSA – Collingwood Trunk Sewer** – The existing Collingwood Trunk Sewer is being replaced with a new 750mm and 900mm diameter PVC sewer with a total length of 440 meters. The work includes bypassing of all sewage and completion of tie-ins necessary to commission the system. The tender was awarded in May of 2018 and the construction of the new sewer completed in December. Final restoration will occur in the Spring. The new sewer provides increased capacity to service the growing Collingwood area in Vancouver and the Metrotown area in Burnaby.
- **VSA – Hastings Sanitary Trunk Sewer** – The Hastings Trunk sewer (also known as the Douglas Trunk Sewer) will be constructed to provide additional capacity to support rapid development and population growth in the Brentwood Mall and Gilmour areas of Burnaby. The sewer will follow the Halifax and Douglas Road alignment. It will be 1.8 km long and range from 750mm to 1200mm in diameter, with a 1 km length constructed using tunneling methods. The main launch shaft was completed before Christmas, with tunneling to start in January. The work is to be completed in 2020.
- **FSA – Burnaby Lake North Interceptor** (also known as the Winston Street Sewer) – Phase 1 of the sewer along Lougheed Highway west of Sperling Street is complete. Phase 2 and 3, with diameters of 1050 mm to 1800 mm, involves 2000m of tunneled sewer and 1200m of open cut sewer. It is currently under design, and will be located along Winston Street from Sperling to east of Piper Street. The open cut portion of the work is expected to be tendered in mid-2019, with the tunneling to be tendered later in 2019 or early 2020. Construction is scheduled to be complete in 2021. Phase 4, which continues to Cariboo Street, will be completed at a later date.
- **FSA – Sapperton Pump Station** – Construction is well underway following contract award in September 2016. Work is expected to be substantially complete by the end of 2019. The work is approximately 65% complete, with the below grade concrete structure completed, the above grade building, Brunette River foreshore restoration work and electrical work all underway. When complete, the new pump station will service Coquitlam, Port Moody, Port Coquitlam and parts of Burnaby and New Westminster.
- **FSA – South Surrey Interceptor Johnston Road Section** – Construction of the sewer twinning started in 2015. Phase 1 included installation of approximately 1100m of 3m diameter corrosion resistant concrete sewer pipe installed in two separate contracts, which are both substantially complete. Phase 2 comprises 820m of tunnel and 220m of open cut sections. The tunnel section construction contract was awarded in April 2018. To date four of the five tunnel shafts have been constructed, and tunneling is about 50% complete. Substantial completion of the tunneled section

is scheduled for the middle of 2019. Detailed design of the remaining open cut section is underway and is scheduled to be complete in 2019, to be followed by construction in 2019 and 2020.

- **FSA – Annacis Island WWTP Outfall** – This project increases the capacity of the outfall to support growth. Detailed design of a new 4.2m diameter outfall is complete and Requests for Proposals for construction from prequalified contractors were submitted in December 2018. The tunnel will be constructed at a depth of approximately 40m, and convey treated effluent approximately 1 km from the AIWWTP to the Fraser River where it will discharge from a 2.5 m, 250m long diffuser manifold buried in the river bed. The application to the Port of Vancouver for the Project Environmental Review has been submitted, and the Stage 2 Environmental Impact Assessment, including diffuser design/dilution modelling reports, has been submitted to the Ministry of Environment. Construction is scheduled to start in 2019 and be completed in 2022.
- **Northwest Langley Treatment Projects** – This work involves expansion of the treatment plant from serving 30,000 people to 230,000 people. It also includes a new river crossing and a new pump station and SSO storage tank. The Project Definition Report has been completed and staff are currently preparing the tender for detailed design. Design of the pump station and river crossing is well underway and will be ready for tender in the fall of 2019. Phase 1 ground improvements have started and will be completed in May 2019.

*ii) Infrastructure Maintenance Program*

- **LSA – Gilbert Trunk Sewer Twinning** - Construction of the 3.5 km long Phase 1 is complete. The remaining 3 Phases have a total length of 6.5km of 1.5 and 1.8m diameter sewers. Phase 2, from Blundell to north of Westminster Highway, is under construction, and will be completed in early 2020. Phase 4, from Steveston Highway to the Lulu Island WWTP, will be tendered in the second half of 2019 with construction starting in late 2019 or early 2020. Phase 3, which extends from Blundell Road south to the Steveston Highway will be completed last, with construction likely starting in late 2020.
- **VSA – Iona Island WWTP Solids Handling Upgrade** – This project involves improving the existing grit removal and sludge screening systems, increasing sludge thickening capacity, and improving the digester mixing systems. Refurbishment of the existing sludge thickener was initiated in October 2015 and was completed on schedule by April 2016 and is back in full operation. The new Screening, Degritting and Thickening facility is commissioned and in operation. The Digester Mixing Upgrade contract started in November 2015, and is expected to be complete in 2020. Digesters No. 2 and No. 4 upgrades are complete and the digesters are back in service. Work on Digester No. 3 is approximately 50% complete. Digester No. 1 work will be done during the 2019/2020 winter season.
- **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 useful life. This project is being implemented with the Secondary Clarifier Flow Control and Secondary Bypass projects which involve the addition of 12 new influent flow balancing gates, and the replacement of 3 existing secondary bypass gates. To date, 7 mechanisms, 3 flow balancing gates and all 3 secondary bypass gates have been replaced. A tender for the remainder of the units, and the replacement of the 12 existing effluent launders and weirs, will close in January 2019 for construction work in 2020-2023, in coordination with the Stage 5 Expansion construction.

### *iii) Infrastructure Resilience Program*

- **VSA – Highbury Interceptor Air Treatment Facilities** – Construction of this odour control facility, located in Musqueam Park in Vancouver, started in February 2018. Excavation work and the concrete substructure are complete. The facility should be completed by May 2019. When complete, it will draw air from the sewer, remove the odourous compounds and disperse it into the atmosphere. It is intended to alleviate odour issues on the Highbury Interceptor between the Musqueam Indian Reserve and 18<sup>th</sup> Avenue in Vancouver, as well as prevent corrosion in the sewer.
- **VSA – Emergency Backup Power** - This project involves the design, supply and installation of standby emergency backup generators at Chilco, Columbia, Harbour, Hudson, Jervis, Kent and Willingdon pump stations so that in the event of a power failure, the stations will keep pumping and the risk of a sanitary sewage overflow will be considerably reduced. The upgrades for Columbia, Harbour, Hudson, Kent and Willingdon are in design with construction scheduled for the latter half of 2019. For the Chilco and Jervis facilities, permitting and planning with the Vancouver Parks Board are still underway prior to start of the detailed design phase.
- **FSA – Annacis Island WWTP Cogeneration System** – This project involves the installation of four new cogeneration engines and two standby diesel generators at the Annacis Island WWTP. The cogeneration engines will generate electricity and heat from the digester gas, and help power the plant, while the diesel generators will provide reliable backup power to enable the plant to operate during a power failure. Construction started near the end of 2017, with the work currently 85% complete and construction to be complete in the summer of 2019.

### *iv) Infrastructure Upgrade Program*

- **FSA – Sperling Pump Station** - The Sperling Pump Station Upgrading Project provides for a totally refurbished and expanded pump station by upgrading the existing aging and under capacity facility. Construction started in started February 2017. Construction is 97% complete, with testing, commissioning and landscaping to be completed in early 2019.
- **VSA – Iona Island WWTP Temporary Biosolids Dewatering Facility** – Decommissioning of the four existing digested sludge lagoons and the sludge drying area must occur prior to the construction of the new secondary treatment plant. A mechanical dewatering facility will be needed to dewater on-going plant production of biosolids, so that they can be hauled away for use. The RFP for the design build of this facility closed in September 2018. A recommendation to the GVS&DD Board to award the contract will be made in February 2019. The facility is scheduled for completion in December 2020.

### *v) Annacis Stage 5 Expansion Program*

- **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, which will provide additional capacity to service an additional 250,000 residents. The \$253 million construction contract was awarded in April 2017. Construction of the Phase 1 main contract is 48% complete and the anticipated substantial completion date is July 2021.

**Liquid Waste Services  
Capital Spending Status Information  
December 31, 2018**

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**Liquid Waste Services**

Planned capital spending activities for Liquid Waste services were relatively close to budget in most capital program areas with significant progress on the projects for Annacis Stage 5 Expansion, Sapperton Pump Station and Force Main Connection, and the AIWWTP Cogeneration Back up Power project.

There were delays in receiving municipal approvals and permits resulted in delays in the Annacis Island Outfall and the Hastings Sanitary Trunk Sewer projects, however now are both in construction or have been tendered. Minor design delays were identified in several projects such as Gilbert Trunk Sewer, Lulu Island Biogas Clean-up and North Road Truck Sewer, all of which have been now been tendered or are in construction. Refinements to project scope and the need for further information has created some additional delays and allowed for deferral of some projects in all program areas.

To: Zero Waste Committee

From: Andrew Doi, Environmental Planner, Solid Waste Services

Date: April 4, 2019

Meeting Date: April 12, 2019

Subject: **Recycling Update**

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### **RECOMMENDATION**

That the GVS&DD Board receive for information the report dated April 4, 2019, titled “Recycling Update”.

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### **PURPOSE**

The purpose of this report is to provide the Zero Waste Committee and GVS&DD Board with an update on recycling markets and Extended Producer Responsibility programs.

### **BACKGROUND**

Recycling producers throughout North America and Europe have been impacted as a result of changes in contamination standards for recyclables entering China and other foreign markets. This report provides an overview of the recycling markets and Extended Producer Responsibility programs in the region.

### **RECYCLING IN METRO VANCOUVER**

Recycling is a cornerstone of the Metro Vancouver *Integrated Solid Waste and Resource Management Plan*, which identifies a number of strategies and actions included in Goal 1 “Minimize Waste Generation” and Goal 2 “Maximize Reuse, Recycling and Material Recovery”. Within the regional recycling system, a number of different actors play key roles including: residents, local governments, non-profit organizations, Extended Producer Responsibility (EPR) organizations, and private businesses.

In general, recycling involves diverting products and materials from the garbage into defined channels of collection, which may include curbside/multi-family pick-up, public space containers, return-to-retail, direct shipment, bottle depots, recycling depots and transfer stations. Efficient diversion of materials/products provides items in sufficient quantities and quality to sell into downstream commodity markets. These markets may be local or overseas, and recycled materials/products may be used as ingredients in commodities used to make new products.

Metro Vancouver’s disposal bans play an important role particularly in the commercial/institutional and multi-family environments as the bans signal which materials are not appropriate for disposal. Haulers are surcharged at Metro Vancouver and City of Vancouver disposal facilities if materials included in the disposal ban program are observed to be in excess quantities in waste loads. Metro Vancouver’s proposed Commercial Waste Hauler Licensing Bylaw is an even more important regulatory tool as it will require recycling containers be provided wherever garbage is collected.

### **Extended Producer Responsibility**

Extended Producer Responsibility (EPR) is a solid waste policy instrument that shifts costs and responsibility from residents/ratepayers/taxpayers and local government to producers and consumers. In British Columbia, EPR is enabled through the *Recycling Regulation*, which defines product categories and obligates producers to create end-of-life management programs. In many cases these programs are recycling programs, but in some cases (e.g., pharmaceuticals or household hazardous waste) they are, instead, safe disposal programs.

An EPR system can promote equity, because those who consume more, also pay more of the costs of the system. In addition, by emphasizing end-of-life management costs and responsibilities that are assigned to producers, businesses may choose to make different design decisions. For example, designers may choose to no longer use problematic materials, to substitute materials for those which are easier to recycle/carry a higher recovery value, or to include recycled content in the product or packaging.

The BC *Recycling Regulation* is a ‘framework’ legislation. It creates a common set of requirements and performance expectations for all EPR programs. New product categories are added as new schedules to the existing regulation. In other jurisdictions, product-specific legislation has been used to regulate each product category, meaning each new EPR program requires its own statute.

EPR programs contribute significantly to the amount of recyclable materials collected in the region. Approximately 1/3 of recycled materials generated by residents and businesses in the region (excluding food and yard waste and construction and demolition material) are collected and managed through EPR programs. The majority of these materials are packaging and paper products collected through residential “blue box” programs that have been collected by municipalities for more than 20 years. These products were added to the *Recycling Regulation* and therefore became EPR materials in 2014.

### **Recycling Markets**

Recycling markets are subject to fluctuations in value, so at a specific point in time, actors in recycling markets may be paid for collected materials, or may have to pay to move collected materials. Often, the effort involved in collecting and separating materials/products, consolidating, transporting and processing materials/products exceeds the residual value of recovered materials, although there are exceptions. The value of recycling can also be understood in terms of keeping materials out of the garbage, and preserving the embedded energy, material, and GHG inputs associated with creating the product in the first place.

Through Metro Vancouver’s Environmental Regulation and Enforcement Division, licensed facilities which process recyclable materials are required to report quantities of materials processed and recycled at the facilities. EPR programs, on the other hand, are not regulated locally but rather through the Provincial Government which requires the programs to report on the ‘end-fate’ of collected materials. The programs report annually on the amount of materials that goes into the garbage, energy recovery, recycling or reuse.

Historically, many of the blue box materials collected from residents in the region were transported to Asia for recycling. During the transition to EPR for packaging and paper products, which was launched under Recycle BC (formerly Multi-Material BC) on May 19, 2014, the amount of materials

collected for the entire province enabled substantial investments in the processing infrastructure for those materials. The end result of this investment is that nearly all of the plastics collected for residential recycling are processed within BC, through Recycle BC's contractor, Green by Nature, and specifically Merlin Plastics, one of the partners in Green by Nature. Additionally, Recycle BC's contracts with collectors, either municipal or commercial, specify maximum contamination levels in collected recyclables.

In 2018, the Chinese Government implemented a policy called 'National Sword', following five years of increasingly stringent acceptance standards, in an effort to reduce the levels of contamination for materials imported in the country for recycling. The impact of this policy effectively 'closed' the Chinese recycling markets to many of the recycling programs in large urban centres throughout North America. Although not immune to this policy, many local governments in British Columbia observed minimal impacts because the structure of the Recycle BC program separated the roles and responsibilities of collectors, such as local governments, and post-collection service providers. Accordingly, the risks and rewards of marketing recovered materials rests with the post-collection service providers and with the producer members of Recycle BC, which have benefited from the economies of scale for marketing recycled material collected from the whole province, as well as the high quality recyclables collected in Metro Vancouver along with the rest of the province.

On the other hand, businesses which provided recycling services to commercial/institutional customers have had to make significant adjustments to the new standards in global recycling markets. Many recycling companies have experienced increased costs related to sorting collected material to reduce the amount of contamination, as well as reduced numbers of buyers of recycled materials. For example, recycling markets for rigid plastics collected from generators outside of the Recycle BC program underwent a period of poor conditions, where materials were stockpiled and were unable to be sold. Market swings, such as those associated with National Sword, underline the vulnerabilities in the recycling system, and the limited tolerance of end-markets for poorly sorted materials. Actions undertaken in these end-markets also emphasize the importance of collecting clean materials which are sorted into materials streams with little contamination, as well as the need to improve the resiliency of collection networks through circular economy initiatives which may help stabilize demand for recycled materials.

## **ALTERNATIVES**

This is an information report. No alternatives are presented.

## **FINANCIAL IMPLICATIONS**

Although there are no direct financial implications for Metro Vancouver, there are indirect financial implications for Metro Vancouver and its member jurisdictions. Local governments participating in the Packaging and Paper Product EPR program have experienced increased costs to meet contamination standards in their contracts with Recycle BC.

## **SUMMARY / CONCLUSION**

Recycling is a cornerstone of the Metro Vancouver *Integrated Solid Waste and Resource Management Plan*. Many residents and businesses participate in recycling, utilizing several collection options, such as curbside/multi-family pick-up, public space containers, return-to-retail, direct shipment, bottle depots, recycling depots, and transfer stations. EPR programs contribute significantly to the amount of recyclable materials collected in the region accounting for approximately 1/3 of recycled materials

generated by residents and businesses in the region (excluding food and yard waste and construction and demolition material). Investments by Recycle BC as well as high quality recyclables have helped ensure that recyclables from Metro Vancouver and the rest of British Columbia continue to be marketed for recycling either locally or other markets.

28774757

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To: Zero Waste Committee

From: Jenny Tough, Senior Project Engineer, Solid Waste Operations

Date: February 27, 2019 Meeting Date: April 12, 2019

Subject: **Acceptance of Health Care Facility Waste at Metro Vancouver Transfer Stations**

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**RECOMMENDATION**

That the GVS&DD Board receive for information the report dated February 27, 2019, titled "Acceptance of Health Care Facility Waste at Metro Vancouver Transfer Stations".

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**PURPOSE**

The purpose of this report is to update the Zero Waste Committee and the GVS&DD Board on the acceptance of health care facility waste at Metro Vancouver transfer stations.

**BACKGROUND**

Historically, all of the garbage from health care facilities in the region was delivered to the Waste-to-Energy Facility due to worker safety concerns over the characteristics of the health care facility garbage. Workers were concerned about acceptable materials including tubing, gauze, dressings, intravenous bags and diapers as well as the occasional unacceptable item such as sharps. This resulted in increased costs for the health authorities due to transport distances. The system also lacked redundancy because the waste could not be delivered to any other regional facility in the event of a service disruption at the Waste-to-Energy Facility.

Metro Vancouver conducted a pilot program between November 2017 and December 2018 to determine if garbage from health care facilities could be safely managed at transfer stations. This report describes the successful implementation of receipt of health care facility waste at the North Shore and Coquitlam Transfer Stations.

**ACCEPTANCE OF NON-BIOMEDICAL HEALTH CARE FACILITY WASTE AT METRO VANCOUVER TRANSFER STATIONS**

Metro Vancouver, the City of Vancouver, Metro Vancouver's contractor Emterra and the health authorities have worked together to accept health care facility waste at both the North Shore and Coquitlam Transfer Stations. The health authorities presented their updated waste management program including extensive action taken to harmonize procedures across facilities, train staff and conduct regular compliance audits. Emterra and the City of Vancouver worked with their Joint Health and Safety Committees to develop exposure control plans and safe operating procedures for the acceptance of the health care facility waste.

**Pilot Program**

From November 2017 to December 2018 Metro Vancouver conducted a pilot program to test the safe operating procedures and inspect loads from participating health care facilities. A total of 85 loads from 19 facilities were inspected with no incidences of unacceptable material being sent for disposal and no impact on the health and safety of workers or the public. By December 19, 2018 all

19 participating health care facilities had received approval to deliver garbage to the North Shore or Coquitlam Transfer Stations.

**Sustainability**

Accepting health care facility waste at the North Shore and Coquitlam Transfer Stations reduces the total driving distance of the heavy duty roll-off truck fleet by approximately 13,500 km per year. The shorter driving distance reduces greenhouse gas emissions by approximately 50 tonnes CO<sub>2</sub> equivalent per year and reduces heavy truck traffic on local roads.

**ALTERNATIVES**

This is an information report, and therefore no alternatives are presented.

**FINANCIAL IMPLICATIONS**

Receipt of health care facility waste has been incorporated into transfer station operations with no additional costs to the regional system. Hauling waste only to the Waste-to-Energy Facility was costing the health authorities an additional \$100,000 per year. Access to the transfer stations will allow the health authorities to minimize hauling costs in the future.

**SUMMARY / CONCLUSION**

Metro Vancouver, the City of Vancouver, Metro Vancouver's contractor Emterra and the health authorities have worked together to safely accept health care facility waste at both the North Shore and Coquitlam Transfer Stations. Access to these transfer stations will allow health authorities to reduce waste hauling costs, reduce truck travel distance by 13,500 km per year and reduce greenhouse gas emissions by approximately 50 tonnes CO<sub>2</sub> equivalent per year.

28774747

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To: Zero Waste Committee

From: Lynne Vidler, Senior Project Engineer, Solid Waste Services

Date: April 4, 2019 Meeting Date: April 12, 2019

Subject: **Reallocation of Capital Funds for Transfer Station Compactor Replacements**

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**RECOMMENDATION**

That the GVS&DD Board authorize reallocation of 2019 capital funds originally approved for a Surrey Transfer Station compactor to the purchase of a compactor for the replacement Coquitlam Transfer Station.

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**PURPOSE**

The purpose of this report is to seek Board approval to reallocate capital funds approved for a Surrey Transfer Station compactor towards the purchase of a compactor at the replacement Coquitlam Transfer Station.

**BACKGROUND**

Any changes to the approved capital budget require Board approval. In the 2019 solid waste capital budget, \$2,000,000 was approved for the replacement of the Surrey Transfer Station compactor (see Capital Plan attached). Analysis has shown that replacing the Surrey Transfer Station compactor can be delayed, and potentially moving the compactor from the current Coquitlam Transfer Station to the replacement Coquitlam Transfer Station would be inefficient. Therefore, reallocation of the budget from a Surrey Transfer Station compactor to the replacement Coquitlam Transfer Station is recommended for the Board's consideration.

**TRANSFER STATION COMPACTORS**

There are stationary compactors at the Surrey, North Shore and Coquitlam Transfer Stations, where they are used to increase the density of waste prior to loading it into transfer trucks for shipment to disposal facilities. Each compactor has an approximate service life of ten years. The five-year capital plan includes replacement of the Surrey Transfer Station compactor in 2019, followed by the North Shore Transfer Station compactor in 2022. Recent compactor inspections indicate that with repairs the Surrey and North Shore Transfer Station compactor service lives can be extended. The Surrey Transfer Station unit can be extended to at least 2022 and the North Shore Transfer Station can be extended until approximately 2025.

With the construction of the replacement Coquitlam Transfer Station, staff examined the possibility of moving the compactor from the existing Coquitlam Transfer Station rather than purchasing a new unit. Following testing and analysis, staff concluded that moving the existing unit would be inefficient for a number of reasons. The replacement Coquitlam Transfer Station is not expected to be operational until August of 2020, however significant lead time is required for ordering the unit, which must be initiated in the next few months if the compactor is to be operating when the facility opens.

## **ALTERNATIVES**

1. That the GVS&DD Board authorize reallocation of 2019 capital funds originally approved for a Surrey Transfer Station compactor to the purchase of a compactor for the replacement Coquitlam Transfer Station.
2. That the Zero Waste Committee receive for information the report dated April 4, 2019, titled "Reallocation of Capital Funds for Transfer Station Compactor Replacements" and provide alternate direction to staff.

## **FINANCIAL IMPLICATIONS**

If the Board approves Alternative 1, staff will proceed with purchasing a compactor for the replacement Coquitlam Transfer Station with the \$2,000,000 allotted budget reallocated from the Surrey Transfer Station compactor. The replacement of the Surrey Transfer Station compactor will be delayed until at least 2022.

If the reallocation of capital funds is not approved, a compactor would not be in place at the replacement Coquitlam Transfer Station when the facility opens. If a compactor is not in place when the facility opens, waste would be "top loaded" directly into transfer trucks until a compactor is installed. This is current practice whenever a transfer station compactor is taken out of service for maintenance or repairs. Top loading results in lower weights of transfer trucks, increasing greenhouse gas emissions and increasing operating costs.

## **SUMMARY / CONCLUSION**

Recent inspections have indicated that the Surrey and North Shore Transfer Station compactors' service lives can be extended. A review of the potential to move the compactor from the existing Coquitlam Transfer Station to the replacement facility concluded that moving the compactor would not be efficient. Staff recommend Alternative 1 that the \$2,000,000 for the Surrey Transfer Station compactor replacement in 2019 be re-allocated for the Coquitlam Transfer Station compactor purchase.

## **Attachment**

Solid Waste Services 2019-2023 Capital Plan (*Doc #29025545*)

28952975

**GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT  
CAPITAL PROGRAMS & PROJECT TOTALS  
SOLID WASTE SERVICES  
2019 - 2023 CAPITAL PLAN**

	2019 CAPITAL BUDGET	2020 CAPITAL PLAN	2021 CAPITAL PLAN	2022 CAPITAL PLAN	2023 CAPITAL PLAN	2019 TO 2023 TOTAL	TOTAL PROJECT COSTS
<b>CAPITAL EXPENDITURES</b>							
<b>SW Landfills Capital</b>							
Coquitlam Landfill Closure	\$ 4,500,000	\$ -	\$ -	\$ -	\$ -	4,500,000	\$ 5,000,000
Coquitlam Landfill East Closure	-	400,000	-	-	3,500,000	3,900,000	5,000,000
Coquitlam Landfill Fly Ash Cell 2 Closure Final Cover	3,200,000	-	-	-	-	3,200,000	3,200,000
Coquitlam Landfill Gas Collection Upgrades	1,000,000	-	-	-	-	1,000,000	3,300,000
Coquitlam Landfill Pump Station Upgrade	500,000	100,000	-	-	-	600,000	600,000
Coquitlam Landfill: Leachate Collection System Grade Realignment	200,000	480,000	320,000	-	-	1,000,000	1,000,000
	<u>\$ 9,400,000</u>	<u>\$ 980,000</u>	<u>\$ 320,000</u>	<u>\$ -</u>	<u>\$ 3,500,000</u>	<u>\$ 14,200,000</u>	<u>\$ 18,100,000</u>
<b>SW Opportunity Capital</b>							
WTE Facility District Heating Opportunities	210,000	2,090,000	-	-	-	2,300,000	2,300,000
	<u>\$ 210,000</u>	<u>\$ 2,090,000</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 2,300,000</u>	<u>\$ 2,300,000</u>
<b>SW Transfer Stations Capital</b>							
Coquitlam Transfer Station Replacement	\$ 40,000,000	\$ 23,000,000	\$ -	\$ -	\$ -	63,000,000	\$ 70,200,000
Maple Ridge Transfer Station Upgrades	-	-	2,000,000	-	-	2,000,000	2,000,000
North Shore Transfer Station Compactor Replacement	-	-	-	2,000,000	-	2,000,000	2,000,000
Surrey Recycling and Waste Drop-Off	22,000,000	12,800,000	7,500,000	-	-	42,300,000	42,300,000
Surrey Transfer Station Building Upgrades	1,000,000	-	-	-	-	1,000,000	1,000,000
Surrey Transfer Station Compactor Replacement	2,000,000	-	-	-	-	2,000,000	2,000,000
	<u>\$ 65,000,000</u>	<u>\$ 35,800,000</u>	<u>\$ 9,500,000</u>	<u>\$ 2,000,000</u>	<u>\$ -</u>	<u>\$ 112,300,000</u>	<u>\$ 119,500,000</u>
<b>SW Waste to Energy Facility Capital</b>							
Biosolids Processing	\$ 500,000	\$ -	\$ -	\$ -	\$ -	500,000	\$ 500,000
Bottom Ash Dischargers / Conveyors	500,000	-	-	-	-	500,000	1,700,000
Feed Hopper/Chute	2,300,000	-	-	-	-	2,300,000	2,600,000
Feedwater Pump Replacement	1,000,000	-	-	-	-	1,000,000	1,000,000
Furnace Liner Upgrade	800,000	-	-	-	-	800,000	2,500,000
Infrastructure Allowance	-	9,000,000	-	1,500,000	350,000	10,850,000	12,850,000
Primary Economizer Replacement	-	-	2,000,000	3,000,000	-	5,000,000	5,000,000
Refuse Crane	4,000,000	-	-	-	-	4,000,000	7,000,000
Scrubber	-	5,550,000	20,000,000	20,000,000	-	45,550,000	47,000,000
Second Pass Superheater Replacement	5,500,000	-	-	-	-	5,500,000	5,500,000
Secondary Economizers Replacement	-	4,000,000	2,000,000	-	-	6,000,000	6,000,000
	<u>\$ 14,600,000</u>	<u>\$ 18,550,000</u>	<u>\$ 24,000,000</u>	<u>\$ 24,500,000</u>	<u>\$ 350,000</u>	<u>\$ 82,000,000</u>	<u>\$ 91,650,000</u>
<b>TOTAL CAPITAL EXPENDITURES</b>	<u><u>\$ 89,210,000</u></u>	<u><u>\$ 57,420,000</u></u>	<u><u>\$ 33,820,000</u></u>	<u><u>\$ 26,500,000</u></u>	<u><u>\$ 3,850,000</u></u>	<u><u>\$ 210,800,000</u></u>	<u><u>\$ 231,550,000</u></u>

<b>CAPITAL FUNDING</b>							
<b>New External Borrowing</b>	\$ 86,010,000	\$ 53,320,000	\$ 31,620,000	\$ 26,100,000	\$ 3,250,000	\$ 200,300,000	
<b>Surplus from Prior Year</b>	3,200,000	4,100,000	2,200,000	400,000	600,000	10,500,000	
	<u>\$ 89,210,000</u>	<u>\$ 57,420,000</u>	<u>\$ 33,820,000</u>	<u>\$ 26,500,000</u>	<u>\$ 3,850,000</u>	<u>\$ 210,800,000</u>	

<b>DEBT SERVICING</b>							
<b>Debt Servicing - Existing</b>	\$ 1,800,000	\$ 2,500,000	\$ 8,100,000	\$ 13,300,000	\$ 16,800,000	\$ 42,500,000	
<b>Debt Servicing - From New Borrowing</b>	700,000	5,600,000	5,200,000	3,500,000	2,300,000	17,300,000	
	<u>\$ 2,500,000</u>	<u>\$ 8,100,000</u>	<u>\$ 13,300,000</u>	<u>\$ 16,800,000</u>	<u>\$ 19,100,000</u>	<u>\$ 59,800,000</u>	

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To: Zero Waste Committee

From: Brent Kirkpatrick, Lead Senior Engineer, Solid Waste Services

Date: April 4, 2019 Meeting Date: April 12, 2019

Subject: **Waste-to-Energy Facility 2018 Financial Update**

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### RECOMMENDATION

That the GVS&DD Board receive for information the report dated April 4, 2019, titled "Waste-to-Energy Facility 2018 Financial Update".

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### PURPOSE

The purpose of the report is to provide the Zero Waste Committee and GVS&DD Board with a 2018 financial update for the Metro Vancouver Waste-to-Energy Facility located in Burnaby.

### BACKGROUND

On an annual basis, results of the operation of the Waste-to-Energy Facility and contract with Covanta Burnaby Renewable Energy, ULC (Covanta), including tonnages, expenditures, revenues, service level and performance, and unit costs, are provided to the Zero Waste Committee and Board for information.

### 2018 WASTE-TO-ENERGY FACILITY FINANCIALS

Table 1 provides the past three years of expenditures for the Waste-to-Energy Facility.

**Table 1: 3-Year Expenditures for the Waste-to-Energy Facility**

	2016	2017	2018
Operating Cost	\$20,437,204	\$20,575,965	\$19,617,423
Debt Charges *	\$1,629,151	\$1,700,248	\$879,800
Total Expenditure	\$22,066,355	\$22,276,213	\$20,497,223
Tonnage	254,256	259,748	253,123
Unit Cost / Tonne **	\$86.79	\$85.76	\$80.98

\* Debt charges are payments for principles and interests on long term financing.

\*\* Includes debt servicing costs.

Operating costs include operations and maintenance of the Waste-to-Energy Facility and ash management (additional information on ash management provided below in table 2). Cost reductions were primarily the result of reduced debt servicing costs with the completion of debt payments for the turbo generator and reduced ash management costs.

**Table 2: Metro Vancouver's Bottom Ash and Fly Ash Disposal costs for the Waste-to-Energy Facility**

	2016	2017	2018
Fly Ash Disposal	\$1,655,102	\$1,368,291	\$1,385,142
Bottom Ash Disposal	\$1,349,498	\$1,211,348	\$257,461
Disposal Costs / Tonne of Incoming Waste	\$11.82	\$9.93	\$6.49

Ash management costs have decreased over the last two years with the beneficial use of bottom ash in the construction of the replacement Coquitlam Transfer Station starting in October 2017. In 2018, all bottom ash was used as part of the transfer station construction. Metro Vancouver has also benefitted from reduced fly ash disposal costs following a 2017 tender and contract award for fly ash hauling and disposal.

Table 3 below outlines Metro Vancouver's portion of offsetting electrical revenues. Electrical revenue in 2018 was similar to 2016 and 2017. The metal revenue in 2018 reflected higher recycled metal prices.

**Table 3: Metro Vancouver's Portion of Electrical and Metal Revenues for the Waste-to-Energy Facility**

	2016	2017	2018
Electrical Revenue	\$5,796,681	\$5,642,942	\$5,584,341
Metals Revenue	\$156,371	\$140,325	\$191,495
Tonnage	254,256	259,748	253,123
Unit Revenue / Tonne	\$23.41	\$22.26	\$22.82

Table 4 shows net cost per tonne for the Waste-to-Energy Facility from 2016 to 2018. A 6% reduction in net costs was achieved from 2017 to 2018.

**Table 4: 3-Year Net Unit Cost for Operation and Maintenance of the Waste-to-Energy Facility (including debt servicing)**

	2016	2017	2018
Unit Cost / Tonne (from Table 1)	\$86.79	\$85.76	\$80.98
Unit Revenue/ Tonne (from Table 3)	\$23.41	\$22.26	\$22.82
Net Unit Cost/ Tonne	\$63.37	\$63.50	\$58.16

## ALTERNATIVES

This is an information report, therefore no alternatives are presented.

**FINANCIAL IMPLICATIONS**

Waste-to-Energy Facility costs decreased in 2018 primarily through reduced costs for ash management with the beneficial use of bottom ash in the construction of the replacement Coquitlam Transfer Station. Metro Vancouver continues to work with Covanta to minimize facility costs and overall, the Waste-to-Energy Facility continues to be a low-cost regional disposal option.

**SUMMARY / CONCLUSION**

Expenditures in 2018 for the Waste-to-Energy Facility totaled \$20.5 million, including \$0.88 million in debt charges, resulting in an expenditure of \$80.98 per tonne. Metro Vancouver's portion of electrical and metals revenues totaled \$5,775,836 or \$22.82 per tonne. Based on the plant processing 253,123 tonnes of municipal solid waste, the net unit cost per tonne for operation and maintenance of the Waste-to-Energy Facility in 2018 was \$58.16 per tonne. Tipping fee revenues are accounted for separately and are not included in this analysis.

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To: Zero Waste Committee

From: Lynne Vidler, Senior Project Engineer, Solid Waste Services

Date: April 5, 2019 Meeting Date: April 12, 2019

Subject: **Status of Solid Waste Services Capital Expenditures to December 31, 2018**

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### **RECOMMENDATION**

That the GVS&DD Board receive for information the report dated April 5, 2019, titled "Status of Solid Waste Services Capital Expenditures to December 31, 2018".

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### **PURPOSE**

The purpose of the report is to provide an update on the status of utilities capital expenditures for the Solid Waste Services Department for the year ending December 31, 2018.

### **BACKGROUND**

The Capital Expenditure reporting process as approved by the 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 June/July and October/November, and a final year-end report to the Committees and the GVWD and GVS&DD Boards in April of each year.

This is the second and final report for 2018 and looks at both the overall capital program for the utilities with a multi-year view of capital projects and the actual capital spending for the 2018 fiscal year in terms of comparison to the annual budget.

### **SOLID WASTE CAPITAL PROGRAM FUNDING**

The capital spending for Solid Waste is funded through the Solid 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. In 2018, the impact on the ratepayers for the Solid Waste Capital Budget of \$41.4 million is the capital funding of \$3.1 million (contribution to capital and new debt service costs) included in the 2018 Solid Waste Operating Budget.

### **OVERALL SOLID WASTE CAPITAL PROGRAM**

The overall capital program for Solid Waste 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 all Solid Waste capital projects completed in 2018 or ongoing at some point in 2018 will be under budget by \$100,000 which is within 0.06% of budget.

Table 1 in Appendix A provides a summary of Solid Waste 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 Board approved spending limits. With the rare exception, projects tend to complete with actual spending below the approved limits predominantly due to savings on budgeted contingency amounts.

Attachment 1 provides the details behind the summary information including specific capital projects and their various project phases while Attachment 2 provides additional project status information of some of the key projects included in Appendix A – Table 1.

### **2018 SOLID WASTE CAPITAL PROGRAM PROGRESS**

The Metro Vancouver financial planning process included 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. Projecting the spending on these projects represents somewhat of a timing exercise which is often subject to uncontrollable circumstances. These uncontrollable circumstances are more likely when projects are in certain phases of completion. Where a project is in the definition, pre-design or detailed design phases, it is more likely that a project may be subject to delays from necessary permitting, access, clarification of design details or procurement complexities which will result in a lag in spending. Conversely, when a project is within the construction phase where a contractor is in place and working effectively on site, actual spending is usually very close to budgeted expectations.

In 2018, annual capital expenditures for Solid Waste Services were \$24.1 million compared to a capital budget of \$41.4 million. Both the Coquitlam Transfer Station replacement and Surrey Recycling and Waste Drop-Off Facility developments progressed in 2018, but not fully to the extent contemplated in the budget due in part to a longer than anticipated timeframe for procurement and permitting processes. Landfill expenditures related to the closure of the new transfer station portion of the Coquitlam Landfill are being completed in conjunction with the transfer station development, and are proceeding in 2019. It is noted that the Solid Waste Capital Program is funded through the Metro Vancouver Tipping Fees which are derived from the Solid Waste Operating Budget, including capital funding (Contribution to capital and debt service costs), and do not directly fund the capital program.

The 2018 Solid Waste Operating Budget included capital funding of \$3.9 million. As a result of the underspending of the 2018 Capital Budget, a surplus of \$1.1 million in capital funding (Contribution to capital and debt service costs) was realized. The Capital Funding surplus along with any other operating surpluses in any year, remain with Solid Waste, and are applied in the subsequent budget year to avoid debt thereby reducing the impact on ratepayers.

Table 2 in Appendix A provides a summary of the 2018 actual capital spending compared to the Board approved Capital Budget while the “Status of Solid Waste Services Capital Expenditures to December 31, 2018” included in Attachment 3 provides further information of the variance.

## **ALTERNATIVES**

This is an information report. No alternatives are presented.

## **FINANCIAL IMPLICATIONS**

For 2018, resulting primarily due to uncontrollable project delays, the underspending of the Solid Waste Capital Budget was approximately \$17.3 million or 41.6% which contributed to an overall surplus in capital funding of \$1.1 million. This surplus, per policy, will be used in future years to fund capital and avoid debt.

## **SUMMARY / CONCLUSION**

In 2018, the Solid Waste Services underspent its Capital Budget by \$17.3 million or 41.6%. The delays experienced in projects in the early stages of completion resulted in the timing of expenditures differing from expectations. The underspending in the 2018 Solid Waste Capital Budget, resulted in a realization of a surplus in capital funding of \$1.1 million. This surplus, per policy, will be used in future years to fund capital and avoid debt.

Although the 2018 Solid Waste Capital Budget was underspent, the variance is a result of timing with the actual overall spending on a capital project expected to be close to or less than the overall budget for that project due to the savings of any budgeted contingencies.

## **Attachments** *(Doc # 28955630)*

Appendix A: Capital Expenditure Summary – Solid Waste Services

Attachment 1: Detailed Solid Waste Services Capital Expenditure Summary

Attachment 2: Solid Waste Capital Project Status Information

Attachment 3: 2018 Solid Waste Capital Spending Status Information

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# Metro Vancouver

Capital Expenditure Summary

Solid Waste Services

As at December 31, 2018

**Table 1 – Ongoing and Completed Project Summary**

	Total Projected to Completion	Total Budget	Projected Variance	
<b>Solid Waste Services</b>				
Ongoing	103,800,000	103,900,000	100,000	<b>0.1%</b>
Completed	-	-	-	
Not Started	77,150,000	77,150,000	-	
	<b>\$ 180,950,000</b>	<b>\$ 181,050,000</b>	<b>\$ 100,000</b>	

**Table 2 – 2018 Capital Spending Summary**

	2018 Budget	Actual Expenditures	
<b>Solid Waste Services</b>			
Infrastructure Opportunity Program	2,090,000	-	
Landfills	6,700,000	-	
Transfer Station System *	23,990,000	17,285,578	
Waste to Energy Facility	8,600,000	6,860,007	
	<b>\$ 41,380,000</b>	<b>\$ 24,145,586</b>	<b>58.4%</b>

\* Includes annual budget amount plus additions as subsequently approved by the Board

Metro Vancouver

Sewerage and Drainage District Capital Expenditures - Solid Waste Services  
As of Dec 31,2018

		Project Lifetime Budget								
Project Name	Project Location	Total Budget	Lifetime Expenditures to Date	Remaining Budget	Projected Expenditures	Projected Remaining Budget	% Complete	Status	Project Schedule	Note
Solid Waste Capital Landfills										
Coquitlam Landfill Closure	Coquitlam	5,000,000	64,894	4,935,106	5,000,000	-	1%	Ongoing	Y	
Coquitlam Landfill Fly Ash Cell 2 Closure Final Cover	Coquitlam	3,200,000	-	3,200,000	3,200,000	-	0%	Ongoing	Y	
Coquitlam Landfill Gas Collection Upgrades Phase II	Coquitlam	3,600,000	-	3,600,000	3,600,000	-	0%	Not Started	Y	
Coquitlam Landfill: Leachate Collection System Grade Realignment	Coquitlam	1,000,000	-	1,000,000	1,000,000	-	0%	Not Started	Y	
		12,800,000	64,894	12,735,106	12,800,000	-				
Solid Waste Capital Infrastructure Opportunity Program										
WTE Facility District Heating Opportunities	Burnaby	2,300,000	-	2,300,000	2,300,000	-	0%	Not Started	Y	
		2,300,000	-	2,300,000	2,300,000	-				
Solid Waste Capital Transfer Station System										
Coquitlam Transfer Station Replacement	Coquitlam	52,200,000	6,787,609	45,412,391	52,200,000	-	13%	Ongoing	Y	
North Shore TS Structural Modifications	Dist of North Van	1,600,000	-	1,600,000	1,600,000	-	0%	Not Started	Y	
Surrey Recycling and Waste Drop-Off	Surrey	37,300,000	11,904,438	25,095,562	37,300,000	-	32%	Ongoing	Y	
Weigh Scale System Scale Replacement	Regional	1,500,000	1,124,703	375,297	1,400,000	100,000	98%	Ongoing	Y	(1)
		92,600,000	19,816,750	72,483,250	92,500,000	100,000				
Solid Waste Capital Waste to Energy Facility										
Bottom Ash Dischargers / Conveyors	Burnaby	1,700,000	1,021,276	678,724	1,700,000	-	60%	Ongoing	Y	
Feed Hopper/Chute	Burnaby	300,000	-	300,000	300,000	-	0%	Not Started	Y	
Furnace Liner Upgrade	Burnaby	2,500,000	1,877,924	622,076	2,500,000	-	99%	Ongoing	Y	
Infrastructure Allowance	Burnaby	17,350,000	-	17,350,000	17,350,000	-	0%	Not Started	Y	
Scrubber	Burnaby	47,000,000	-	47,000,000	47,000,000	-	0%	Not Started	Y	
Secondary Economizers Replacement	Burnaby	4,000,000	-	4,000,000	4,000,000	-	0%	Not Started	Y	
Turbine Generator Control System Upgrade	Burnaby	500,000	473,699	26,301	500,000	-	95%	Ongoing	Y	
		73,350,000	3,372,899	69,977,101	73,350,000	-				
Total Solid Waste Services		181,050,000	23,254,543	157,495,457	180,950,000	100,000				

Notes:  
(1) Full contingency not required.

**Capital Project Status Information as of December 31, 2018**

Major GVS&DD solid waste capital projects are proceeding on schedule and within budget. Project details are highlighted below:

**1) Transfer Station Program**

- The Coquitlam Transfer Station replacement project construction started in May 2018 with site grading works. Request for proposals for the full construction of the facility was released on June 15, 2018. The full construction contract was awarded to Stuart Olson in December 2018. Commissioning of the new transfer station is scheduled for Q3-2020.
- The Surrey Recycling and Waste Drop-Off Facility project received rezoning and development permit in late 2018. The project is currently in the detailed design phase. Requests for qualifications and proposals for construction are expected to be released in the first half of 2019.

**2) Landfills Program**

The Phase 2 landfill gas collection system upgrade for the new Coquitlam Transfer Station has been designed and will be a combination of an active system at buildings and a passive system over the remainder of the transfer station site. A new control room at the blower flare station is required for the existing and future system upgrade. A tender will be issued for the construction of the new control room in Q3 2019 for construction in Q4 2019 or Q1 2020. The landfill gas upgrade associated with the transfer station is expected to commence in 2019 with completion in 2020.

**3) Waste-to-Energy Program**

The bottom ash processing project received approval from the GVS&DD Board in October 2016 and Covanta was authorized to proceed with construction on January 13, 2017. The project is now substantially complete and was commissioned in October 2018. Covanta is working on resolving maintenance and operational issues identified during commissioning.

**Solid Waste Services  
Capital Spending Status Information  
December 31, 2018**

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**Solid Waste Services**

The key capital expenditure for 2018 was that acquisition of the land for the Surrey Recycling and Waste Drop-Off facility which is reflected in the Transfer Station System results. Both the Coquitlam Transfer Station replacement and Surrey Recycling and Waste Drop-Off developments progressed in 2018, but not fully to the extent contemplated in the budget due in part to a longer than anticipated timeframe for procurement and permitting processes. Landfill expenditures related to the closure of the new transfer station portion of the Coquitlam Landfill are being completed in conjunction with the transfer station development, and are proceeding in 2019.

To: Zero Waste Committee

From: Rick Laird, Environmental Control Officer, Environmental Regulation and Enforcement, Planning and Environment Department

Date: April 3, 2019

Meeting Date: April 12, 2019

Subject: **Board Appointment and Rescindments of Bylaw Enforcement Officers**

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### **RECOMMENDATION**

That the GVS&DD Board:

- a) pursuant to *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw*:
    - i. rescind the appointments of the following persons as officers: Lynne Bosquet, Donna Hargreaves, Alex Clifford, and Jeff Gogol; and
    - ii. appoint the following Metro Vancouver employee as an officer: Permitting and Enforcement Officer, Brian Kerin; and
  - b) pursuant to the *Offence Act* appoint the following Metro Vancouver employee for the purpose of serving summons under section 28 of the *Offence Act* for alleged violations under the *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw*: Permitting and Enforcement Officer, Brian Kerin.
- 

### **PURPOSE**

To appoint and rescind appointments of Metro Vancouver employees as GVS&DD Board-designated officers.

### **BACKGROUND**

Employment status and job function changes for Metro Vancouver environmental regulatory staff have resulted in a need to update staff appointments to ensure appropriate authority to advance solid waste management goals. The *Environmental Management Act* and *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw* grants authority to Board-designated officers for bylaw compliance promotion purposes.

Metro Vancouver's Solid Waste Regulatory Program supports the goals of the Integrated Solid Waste Management Plan by regulating the management of municipal solid waste and recyclable material at privately operated facilities.

Officers may enter property, inspect works, and obtain records and other information to promote compliance with the *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw*.

The *Offence Act* allows regional districts to appoint bylaw 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 Municipal Solid Waste and Recyclable Material Regulatory Bylaw*.

## ALTERNATIVES

1. That the GVS&DD Board:
  - a) pursuant to *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw*:
    - i. rescind the appointments of the following persons as officers: Lynne Bosquet, Donna Hargreaves, Alex Clifford, and Jeff Gogol; and
    - ii. appoint the following Metro Vancouver employee as an officer: Permitting and Enforcement Officer, Brian Kerin; and
  - b) pursuant to the *Offence Act* appoint the following Metro Vancouver employee for the purpose of serving summons under section 28 of the *Offence Act* for alleged violations under the *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw*: Permitting and Enforcement Officer, Brian Kerin.
2. That the GVS&DD Board receive for information the report dated April 3, 2019, titled “Board Appointment and Rescindments of Bylaw Enforcement Officers” and provide alternate direction to staff.

## FINANCIAL IMPLICATIONS

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

## SUMMARY / CONCLUSION

Recent changes in staff have resulted in a need to update staff appointments as GVS&DD Board-designated officers under *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw* and the *Offence Act*. Staff recommend that the GVS&DD Board, adopt Alternative 1.

29174591

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To: GVS&DD Board of Directors

From: Janis Knaupp, Legislative Services Coordinator, Board and Information Services

Date: April 12, 2019 Meeting Date: April 26, 2019

Subject: **Delegations Received at Committee April 2019**

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**RECOMMENDATION**

That the GVS&DD Board receive for information the report, dated April 12, 2019, titled "Delegations Received at Committee April 2019" containing submissions received from the following delegates:

- a) Helmut Blanken, HBHE Consulting, Duncan
- 

**PURPOSE**

The purpose of this report is to keep the Board informed of delegation activities at Committee in accordance with Board direction.

Attached is the summary of the delegate to the following committee:

**Zero Waste Committee – April 12, 2019**

- a) Helmut Blanken, HBHE Consulting, Duncan

The Zero Waste Committee received the delegation executive summary and heard the delegation.

The delegation extended an invitation to Metro Vancouver to visit a mechanical and biological treatment facility in Germany to get more information on this technology and how it can be used to reduce greenhouse gas emissions. No further action was taken.

29316163



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To: Chris Plagnol		From: Helmut Blanken
Metro Vancouver Board & Information Services		HBHE Consulting, Duncan
File:		Date: March 18, 2019

Utilizing mechanic biological treatment (MBT) technology to maximize resource recovery and minimize GHG emissions

To maximize the waste recovery and to minimize the GHG emissions, the municipal waste must be processed.

The mechanic biological treatment (MBT) or mechanical treatment (MT) are technologies to maximize the material and energy recovery from residual waste and to eliminate the GHG emissions from disposed waste material in landfills. The MBT and MT are proven and well accepted technologies with many years of positive experience.

The presentation will provide an overview of the MBT and sorting technology. Supported by case studies, the presentation will provide information on the waste stream for the in- and output for customized facilities with a focus on generating a RDF (SRF) and maximizing the resource recovery. The state of the art optical sorting technology guarantees high quality, clean products with a 95% degree of purity.

The characteristics of this advanced waste processing technology can be summarized as follows:

- High degree on resource recovery;
- Flexible towards variation in waste composition and quantities;
- Flexible towards output requirements depending on needs and/or treatment targets;
- Generating a high calorific fuel with carbon dioxide emissions lower than natural gas
- “Decoupling” of waste treatment and energy production, and storability of RDF (SRF);
- Benefits existing industrial infrastructure by providing an alternative fuel source.

*HBlanken*

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To: Performance and Audit Committee

From: Dean Rear, Director, Financial Planning and Operations

Date: March 29, 2019 Meeting Date: April 10, 2019

Subject: **Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019**

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**RECOMMENDATION**

That the GVS&DD Board:

- a) give first, second and third reading to *Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019*; and
  - b) pass and finally adopt *Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019*.
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**PURPOSE**

To meet the statutory requirements to use Development Cost Charges (DCC's) for funding of the liquid waste growth capital program. This bylaw completes the authority for the required transfer of DCC's to fund the 2018 growth capital projects.

**BACKGROUND**

The regional sewer development cost charges are governed under the GVS&DD Act and were introduced in 1997, pursuant to the philosophy that "growth pays for growth". Funds received through the collection of DCC's are set aside as deferred revenue in reserve accounts on a sewerage area basis for the funding of growth projects. This use of DCC funding reduces the reliance on the sewer levy which is generated directly from member municipalities.

Under the Act, transfers of any revenues collected out of the DCC Reserve Funds can only be for the purposes intended and must be authorized by bylaw. This report brings forward the bylaw required for the authority to transfer DCC revenues to fund the 2018 growth capital projects.

**2018 DCC RESERVE APPLICATIONS**

DCC's are collected based on development in the region, held in reserve and applied to fund the projected sinking fund payments on debt related to growth capital expenditures to enhance system capacity. As a result of the volume of capital projects undertaken within the Liquid Waste Services function, long-term funding is not secured on a project by project basis but rather on a pooled basis by expenditure type (i.e. growth projects) by sewer area.

As part of the year-end accounting processes, the actual DCC revenue requirements are determined and Board authority for the necessary reserve fund transfers is requested through the attached bylaw. The funding required for 2018, as set out in the annual financial statements, is \$10,759,807 and is summarized by area as follows:

**Fraser Sewer Area**

**\$ 8,106,476**

This funding relates to a series of growth related projects due to required expansions/upgrades of the liquid waste collection system and the wastewater treatment plants in the Fraser Sewerage Area.

**Lulu Island West Sewer Area**

**\$ 1,625**

This funding is related to upgrades at the Lulu Island West wastewater treatment plant.

**North Shore Sewer area**

**\$ 732,912**

This funding relates to growth related projects due to required expansions/upgrades of the liquid waste collection system and the wastewater treatment plant in the North Shore area.

**Vancouver Sewer Area**

**\$ 1,918,794**

This funding relates to a series of growth related projects primarily due to required expansions/upgrades of the liquid waste collection system in the Vancouver Sewerage Area.

The balances in the DCC deferred revenue reserves at December 31, 2018, after the application of the growth funding amounts contemplated in this bylaw, are as follows:

Fraser Sewer Area	\$ 210,033,610
Vancouver Sewer Area	65,877,919
Lulu Island Sewer Area	23,644,181
North Shore Sewer area	12,038,222
	<u>\$ 311,593,932</u>

**ALTERNATIVES**

1. That the GVS&DD Board:
  - a) give first, second and third reading to *Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019*; and
  - b) pass and finally adopt *Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019*.
2. That the GVS&DD Board receive for information the report titled "*Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019*", dated March 29, 2019 and provide alternate direction.

**FINANCIAL IMPLICATIONS**

This bylaw as presented under alternative one finalizes the required DCC funding as contemplated in the 2018 Liquid Waste Services budgeted revenues.

Should this bylaw be amended or not approved, sewer levy funding may need to be used to fund debt on growth related capital expenditures rather than DCC's as intended a part of the DCC program. This would reduce the funding available for the other areas of the service and likely lead to an increase in the levy to member municipalities.

**SUMMARY / CONCLUSION**

The adoption of the bylaw as included under alternative one is recommended. The 2018 budget contemplated the transfer of DCC revenues collected to meet actual debt charge funding requirements related to the Liquid Waste growth capital program. This bylaw completes that process.

**Attachment:**

*Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019.*

28714240

**GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT  
BYLAW NUMBER 325, 2019  
A bylaw to Expend Development Cost Charge Reserve Fund**

**WHEREAS:**

- A. The Greater Vancouver Sewerage and Drainage District (the "Corporation") enacted *Development Cost Charge Bylaw 254, 2010*, (further amended by *Greater Vancouver Sewerage and Drainage District Amending Bylaws 286, 2014* and *292, 2015* and *305, 2017*) which was effective as of April 23, 2010 (replacing repealed *Development Cost Charge Bylaw 187, 1996*, which was effective as of January 1, 1997), pursuant to which the Corporation has imposed development cost charges to assist the Corporation in paying capital costs incurred to provide, construct, alter or expand sewerage facilities to service development;
- B. The Corporation has established a Development Cost Charge Reserve Fund pursuant to "*Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Bylaw No. 188, 1997*", which was enacted pursuant to Section 58.6 of the *Greater Vancouver Sewerage and Drainage District Act*, into which fund the Corporation has deposited and continues to deposit the monies collected pursuant to *Development Cost Charge Bylaw 254, 2010* (further amended by *Greater Vancouver Sewerage and Drainage District Amending Bylaws 286, 2014* and *292, 2015* and *305, 2017*) which was effective as of April 23, 2010 (replacing repealed *Development Cost Charge Bylaw 187, 1996* which was effective as of January 1, 1997);
- C. The Development Cost Charge Reserve Fund is divided into 4 separate accounts, pursuant to "*Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Bylaw No. 188, 1997*", being the Fraser Area Account, the Lulu Island West Area Account, the North Shore Area Account and the Vancouver Area Account; and
- D. The Corporation is authorized to pay from the Development Cost Charge Reserve Fund the capital costs of providing, constructing, altering or expanding sewerage facilities that relate to development within the area of the Corporation or principal and interest on a debt incurred by the Corporation as a result of an expenditure for the capital costs of providing, constructing, altering or expanding sewerage facilities that relate to development within the area of the Corporation.

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

- 1. The sum of \$8,106,476 held in the Fraser Area Account shall be paid out of such account and used to pay the portion of the principal on the debt incurred by the Corporation that has been apportioned to the Fraser Sewerage Area, which debt was incurred by the Corporation to pay for the capital costs of providing, constructing, altering or expanding sewerage facilities that relate to development within that area of the Corporation.

2. The sum of \$1,625 held in the Lulu Island West Area Account shall be paid out of such account and used to pay the portion of the principal on the debt incurred by the Corporation that has been apportioned to the Lulu Island West Sewerage Area, which debt was incurred by the Corporation to pay for the capital costs of providing, constructing, altering or expanding sewerage facilities that relate to development within that area of the Corporation.
3. The sum of \$732,912 held in the North Shore Area Account shall be paid out of such account and used to pay the portion of the principal on the debt incurred by the Corporation that has been apportioned to the North Shore Sewerage Area, which debt was incurred by the Corporation to pay for the capital costs of providing, constructing, altering or expanding sewerage facilities that relate to development within that area of the Corporation.
4. The sum of \$1,918,794 held in the Vancouver Area Account shall be paid out of such account and used to pay the portion of the principal on the debt incurred by the Corporation that has been apportioned to the Vancouver Sewerage Area, which debt was incurred by the Corporation to pay for the capital costs of providing, constructing, altering or expanding sewerage facilities that relate to development within that area of the Corporation.
5. This bylaw may be cited as "Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 325, 2019".

READ A FIRST, SECOND AND THIRD TIME this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

PASSED AND FINALLY ADOPTED this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
Sav Dhaliwal, Chair

\_\_\_\_\_  
Chris Plagnol, Corporate Officer