

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

Friday, July 31, 2020

9:00 A.M.

28th Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia[Membership and Votes](#)**REVISED AGENDA¹****A. ADOPTION OF THE AGENDA****1. July 31, 2020 Regular Meeting Agenda**

That the GVS&DD Board adopt the agenda for its regular meeting scheduled for July 31, 2020 as circulated.

B. ADOPTION OF THE MINUTES**1. July 3, 2020 Regular Meeting Minutes**

That the GVS&DD Board adopt the minutes for its regular meeting held July 3, 2020 as circulated.

C. DELEGATIONS

- Added 1. Tessa Danelesko, Georgia Strait Alliance**
Subject: Iona Island Wastewater Treatment Plant Project Design Concept

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 Note: Recommendation is shown under each item, where applicable. All Directors vote unless otherwise noted.

1. LIQUID WASTE COMMITTEE REPORTS

1.1 Iona Island Wastewater Treatment Plant Project Design Concept

That the GVS&DD Board endorse the Iona Island Wastewater Treatment Plant Project design concept as presented in the report dated June 23, 2020, titled "Iona Island Wastewater Treatment Plant Project Design Concept".

1.2 Award of Contract Resulting from Standing Request for Expression of Interest SRFOI No. 19-283: Biosolids Management

That the GVS&DD Board:

- a) authorize award of a contract in the amount of up to \$6,860,000 (exclusive of taxes) to Arrow Transportation Systems Inc. for biosolids management at Fraser Valley Aggregates' Castle Pit, resulting from Standing Request for Expressions of Interest No. 19-283: Biosolids Management, subject to final review by the Commissioner; and
- b) authorize the Commissioner and the Corporate Officer to execute the contract once the Commissioner is satisfied that the award should proceed.

F. ITEMS REMOVED FROM THE CONSENT AGENDA

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

I. OTHER BUSINESS

1. GVS&DD Board Committee Information Items and Delegation Summaries

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 July 31, 2020 pursuant to the *Community Charter* provisions, Section 90 (2) (b) as follows:

"90 (2) A part of a meeting must be closed to the public if the subject matter being considered relates to one or more of the following:

- (b) the consideration of information received and held in confidence relating to negotiations between the regional district and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party."

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

M. ADJOURNMENT/CONCLUSION

That the GVS&DD Board adjourn/conclude its regular meeting of July 31, 2020.

**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 11:12 a.m. on Friday, July 3, 2020 in the 28th Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia.

MEMBERS PRESENT:

Burnaby, Chair, Director Sav Dhaliwal
North Vancouver City, Vice Chair Director
Linda Buchanan*

Anmore, Director John McEwen*
Burnaby, Director Pietro Calendino*
Burnaby, Director Mike Hurley*
Coquitlam, Director Craig Hodge*
Coquitlam, Director Richard Stewart*
Delta, Alternate Director Dylan Kruger* for
George Harvie
Delta, Director Bruce McDonald*
Electoral Area A, Alternate Director Mike Feeley*
for Jen McCutcheon
Langley City, Director Val van den Broek*
Langley Township, Director Jack Froese*
Langley Township, Director Kim Richter*
Maple Ridge, Director Mike Morden*
New Westminster, Director Jonathan Coté*
North Vancouver District, Director Lisa Muri*
Pitt Meadows, Director Bill Dingwall*
Port Coquitlam, Director Brad West*
Richmond, Director Malcolm Brodie*

Richmond, Director Harold Steves*
Surrey, Director Linda Annis*
Surrey, Director Doug Elford*
Surrey, Director Laurie Guerra*
Surrey, Director Doug McCallum*
Surrey, Director Mandeep Nagra*
Surrey, Director Allison Patton*
Vancouver, Director Adriane Carr*
Vancouver, Director Melissa De Genova*
Vancouver, Director Lisa Dominato*
Vancouver, Alternate Director Pete Fry* for
Kennedy Stewart
Vancouver, Director Colleen Hardwick*
Vancouver, Alternate Director Jean Swanson* for
Christine Boyle
Vancouver, Director Michael Wiebe*
West Vancouver, Director Mary-Ann Booth*
White Rock, Alternate Director David Chesney*
for Darryl Walker
Commissioner Jerry W. Dobrovolny (Non-voting
member)

MEMBERS ABSENT:

Port Moody, Director Rob Vagramov

STAFF PRESENT:

Janis Knaupp, Legislative Services Coordinator, Board and Information Services
Chris Plagnol, Corporate Officer

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

A. ADOPTION OF THE AGENDA

1. July 3, 2020 Regular Meeting Agenda

It was MOVED and SECONDED

That the GVS&DD Board adopt the agenda for its regular meeting scheduled for July 3, 2020 as circulated.

CARRIED

B. ADOPTION OF THE MINUTES

1. May 29, 2020 Regular Meeting Minutes

2. June 5, 2020 Joint Special Meeting Minutes

It was MOVED and SECONDED

That the GVS&DD Board adopt the minutes for its regular meeting held May 29, 2020, and the minutes for its joint special meeting of the MVRD, GVS&DD, GVWD and MVHC Boards held June 5, 2020 as circulated.

CARRIED

C. DELEGATIONS

No items presented.

D. INVITED PRESENTATIONS

No items presented.

E. CONSENT AGENDA

It was MOVED and SECONDED

That the GVS&DD Board adopt the recommendations in the following items presented in the July 3, 2020 GVS&DD Board Consent Agenda:

- 1.1 Board Appointments and Rescindments of Bylaw Enforcement Officers
- 1.2 Change in Greater Vancouver Sewerage and Drainage District Membership
- 1.3 Award of Contract Resulting from Standing Request for Expression of Interest SRFOI No. 19-283: Biosolids Management
- 1.4 Award of Engineering Construction Services – Burnaby Lake North Interceptor No. 2– Winston Street Section – Open Cut Resulting from RFP No. 14-163
- 2.1 2019 Integrated Solid Waste & Resource Management Plan Biennial Report
- 2.2 Solid Waste Management Plan Independent Consultation and Engagement Panel: Terms of Reference
- 2.3 Board Appointment of Solid Waste Bylaw Enforcement Officer

CARRIED

The items and recommendations referred to above are as follows:

1.1 Board Appointments and Rescindments of Bylaw Enforcement Officers

Report dated May 21, 2020 from Ray Robb, Division Manager, Environmental Regulation and Enforcement, Parks and Environment, seeking the GVS&DD Board to appoint and rescind appointments of Metro Vancouver and City of Vancouver employees as Board-designated municipal sewage control managers and municipal sewage control officers.

Recommendation:

That the GVS&DD Board:

- a) pursuant to *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw No. 299, 2007* and Section 29 of the *Environmental Management Act*:
 - i. rescind the appointment of former City of Vancouver employee Ana Nic Lochlainn as a municipal sewage control officer; and
 - ii. appoint Metro Vancouver employee Ana Nic Lochlainn as a municipal sewage control officer; and
 - iii. appoint City of Vancouver employee Upkar Matharu as a sewage control manager; and
 - iv. appoint City of Vancouver employee Sarah Wells as a deputy sewage control manager; and
 - v. rescind the appointment of City of Vancouver employee Mark Schwark as a sewage control manager.
- b) pursuant to Section 28 of the *Offence Act* for the purpose of serving summons for alleged violations under *Greater Vancouver Sewerage and Drainage District Sewer Use Bylaw No. 299, 2007*:
 - i. rescind the appointment of former City of Vancouver employee Ana Nic Lochlainn; and
 - ii. appoint Metro Vancouver employee Ana Nic Lochlainn.

Adopted on Consent

1.2 Change in Greater Vancouver Sewerage and Drainage District Membership

Report dated June 2, 2020 from Chris Plagnol, Corporate Officer and Director of Board and Information Services, informing the GVS&DD Board of a change in membership of the Greater Vancouver Sewerage and Drainage District.

Recommendation:

That the GVS&DD Board receive for information the report dated June 2, 2020, titled "Change in Greater Vancouver Sewerage and Drainage District Membership".

Adopted on Consent

1.3 Award of Contract Resulting from Standing Request for Expression of Interest SRFOI No. 19-283: Biosolids Management

Report dated May 22, 2020 from Roy Moulder, Director, Purchasing and Risk Management, Financial Services, and Janelle Hunt, Operations Supervisor, Utility

Residuals Management, Liquid Waste Services, advising the GVS&DD Board of the results of SRFEOI No. 19-283: Biosolids Management, and seeking the Board award the contract, in an amount of up to \$8,676,000 (exclusive of taxes), to Arrow Transportation Systems Inc., for the beneficial use of biosolids at the Blackwell property.

Recommendation:

That the GVS&DD Board:

- a) authorize award of a contract in the amount of up to \$8,676,000 (exclusive of taxes) to Arrow Transportation Systems Inc. for biosolids management at Blackwell, resulting from Standing Request for Expressions of Interest No. 19-283: Biosolids Management, subject to final review by the Commissioner; and
- b) authorize the Commissioner and the Corporate Officer to execute the contract once the Commissioner is satisfied that the award should proceed.

Adopted on Consent

1.4 Award of Engineering Construction Services – Burnaby Lake North Interceptor No. 2– Winston Street Section – Open Cut Resulting from RFP No. 14-163

Report dated June 10, 2020 from Roy Moulder, Director, Purchasing and Risk Management, Financial Services and Colin Meldrum, Acting Director, Project Delivery, Liquid Waste Services, seeking GVS&DD Board authorization to award Phase C1, Engineering Construction Services, in an amount of up to \$1,596,888 (exclusive of taxes), to Phase A and B consultant, AECOM Canada Ltd. (AECOM) for the Installation of BLNI2 – Winston Street Section – Open Cut.

Recommendation:

That the GVS&DD Board authorize:

- a) authorize award of Phase C1, Engineering Construction Services, for an amount of up to \$1,596,888 (exclusive of taxes) to the Phase A and B consultant, AECOM Canada Ltd, for the Installation of Burnaby Lake North Interceptor No. 2 – Winston Street Section – Open Cut, subject to final review by the Commissioner; and
- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

Adopted on Consent

2.1 2019 Integrated Solid Waste & Resource Management Plan Biennial Report

Report dated June 10, 2020 from Andrew Marr, Director of Solid Waste Planning, Solid Waste Services, informing the GVS&DD Board of feedback received regarding the 2019 Biennial Report on the *Integrated Solid Waste and Resource Management Plan*.

Recommendation:

That the GVS&DD Board receive for information the report dated June 10, 2020, titled "2019 Integrated Solid Waste & Resource Management Plan Biennial Report".

Adopted on Consent

2.2 Solid Waste Management Plan Independent Consultation and Engagement Panel: Terms of Reference

Report dated June 12, 2020 from Sarah Evanetz, Division Manager, Programs and Public Involvement, Solid Waste Services, updating the GVS&DD Board on engagement of a Solid Waste Management Plan Independent Consultation and Engagement Panel.

Recommendation:

That the GVS&DD Board receive for information the report dated June 12, 2020, titled "Solid Waste Management Plan Independent Consultation and Engagement Panel: Terms of Reference".

Adopted on Consent

2.3 Board Appointment of Solid Waste Bylaw Enforcement Officer

Report dated May 28, 2020 from Ray Robb, Division Manager, Environmental Regulation and Enforcement, Parks and Environment, seeking the GVS&DD Board to appoint a Metro Vancouver employee as GVS&DD Board-designated officer.

Recommendation:

That the GVS&DD Board:

- a) pursuant to the *Greater Vancouver Sewerage and Drainage District Municipal Solid Waste and Recyclable Material Regulatory Bylaw No. 181, 1996* and the *Environmental Management Act* appoint Metro Vancouver employee Ana Nic Lochlainn as an officer; and
- b) pursuant to the *Offence Act* appoint Ana Nic Lochlainn 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 No. 181, 1996*.

Adopted on Consent

F. ITEMS REMOVED FROM THE CONSENT AGENDA

No items presented.

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

1.1 Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 338, 2020 – Fraser Sewerage Area – Village of Anmore

Report dated June 5, 2020 from Brent Burton, Division Manager, Policy, Planning and Analysis, Liquid Waste Services, seeking GVS&DD Board approval to amend

Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Bylaw No. 310, 2018 to include the building footprints for the existing homes at a strata complex known as “Anmore Green Estates”, along with the entire property of Eagle Mountain Middle School, both located within the Village of Anmore.

It was MOVED and SECONDED

That the GVS&DD Board give first, second and third reading to *Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 338, 2020*.

CARRIED

It was MOVED and SECONDED

That the GVS&DD Board pass, and finally adopt *Greater Vancouver Sewerage and Drainage District Sewerage and Drainage Areas Boundaries Amending Bylaw No. 338, 2020*.

CARRIED

1.2 Proposed Amendments to Greater Vancouver Sewerage and Drainage District Cost Apportionment Bylaw No. 283, 2014 – Village of Anmore

Report dated June 5, 2020 from Peter Navratil, General Manager, Liquid Waste Services, and Dean Rear, General Manager, Chief Financial Officer/General Manager, Financial Services, seeking GVS&DD Board approval of proposed amendments to *Greater Vancouver Sewerage and Drainage District Cost Apportionment Bylaw No. 283, 2014* that defines the required schedule for submission of fees to Metro Vancouver.

It was MOVED and SECONDED

That the GVS&DD Board:

- a) rescind third reading of the *Greater Vancouver Sewerage and Drainage District Bylaw No. 332, 2019* given on November 1, 2019;
- b) amend the *Greater Vancouver Sewerage and Drainage District Bylaw No. 332, 2019* as outlined in Attachment 2 of the report dated June 5, 2020, titled “Proposed Amendments to Greater Vancouver Sewerage and Drainage District Cost Apportionment Bylaw No. 283, 2014 – Village of Anmore”; and
- c) give third reading to the *Greater Vancouver Sewerage and Drainage District Bylaw No. 332, 2019*, as amended.

CARRIED

It was MOVED and SECONDED

That the GVS&DD Board pass, and finally adopt the *Greater Vancouver Sewerage and Drainage District Bylaw No. 332, 2019*, as amended.

CARRIED

H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

No items presented.

I. OTHER BUSINESS

1. GVS&DD Board Committee Information Items and Delegation Summaries

It was MOVED and SECONDED

That the GVS&DD Board receive the "GVS&DD Board Committee Information Items and Delegation Summaries", dated July 3, 2020, for information.

CARRIED

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 July 3, 2020 pursuant to the *Community Charter* provisions, Section 90 (1) (e) as follows:

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

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

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 July 3, 2020.

CARRIED

(Time: 11:20 a.m.)

CERTIFIED CORRECT

Chris Plagnol, Corporate Officer

Sav Dhaliwal, Chair

July 6, 2020

Metro Vancouver GVS&DD Board
Metrotower III
4730 Kingsway
Burnaby, BC
V5H 0C6

Thank you for the opportunity to comment on the Iona Island Wastewater Treatment Plant Project (the Project), I recognize the great lengths that the Metro Vancouver team is taking to continue the Project, collect public input and overcome the serious challenges presented by the COVID-19 pandemic.

In the accompanying submission, Georgia Strait Alliance (GSA) offers recommendations for the Project, aimed at preserving the integrity of the Salish Sea's aquatic ecosystems, marine biodiversity and coastal communities. Our recommendations are grounded in years of experience working to keep the region's waterways healthy, in support of those who rely on them most. The realization of these recommendations in the Project's final design would signal the Board's movement towards much needed progressive environmental leadership and control a significant source of contaminants that cause harm to the Salish Sea and its inhabitants.

GSA is a regional charitable organization that works to protect and restore the marine environment and promote the sustainability of the Strait of Georgia, one of Canada's most at-risk environments, and its adjoining waters and communities. Founded in 1990, GSA has over 18,000 members and supporters who work collectively to address root causes of threats to the Strait and find solutions that protect it.

During our combined 35 years as advocates for the Salish Sea, the protection of wild salmon and at-risk species, including endangered Southern Resident orcas, has been a common thread. The health of wild salmon in particular is an indicator of the health of the region's ecosystems and coastal communities. That is why GSA has long been strongly in favour of national regulations and source control programs to reduce marine contamination in the marine and freshwater environments. This has included our advocacy for region-wide tertiary wastewater treatment.

Research shows overwhelmingly that contaminants negatively impact marine ecosystems. Sex ratios for fish populations living downstream from wastewater plants have been skewed because of wastewater effluent containing pharmaceuticals flowing into their habitat. Locally, pollution in the Salish Sea is putting Pacific salmon at risk and causing immune and endocrine system dysfunction in Southern Resident orcas.

Effluent from the Iona Island Plant flows into the Salish Sea at the mouth of the Fraser River. This effluent can carry persistent, bioaccumulative toxins including (but not limited to) PCBs, DDT, PFOS, PFOA, copper, phthalates, bisphenols, and current use pesticides, from household and industrial sources. A significant body of scientific knowledge shows that these contaminants are of major concern to Chinook salmon and endangered Southern Resident orcas. This list of contaminants was recently validated by the federal government's Southern Resident orca Contaminants Technical Working Group, which was convened to develop strategies to mitigate the threat of marine contaminants to Southern Resident orcas and their prey. The Technical Working Group also identified wastewater effluent as a main source of several of these contaminants.

The Project represents one of the single greatest opportunities to considerably quell this known source of pollution to Salish Sea's waterways. It is imperative that the environmental impact of the treatment measures under consideration for the Project are made clear to the Board. Incorporating, at a minimum, tertiary treatment methods that specifically target the above list of contaminants can help reverse the decline of the Southern Residents – of which only 72 remain. Additionally, constructing infrastructure to better treat the 8-10% of influent that receives treatment at or below the primary level during overflow or wet weather events, as indicated by Rick Bitcon at the May 19 Community Meeting, would also be beneficial as even the release of small quantities of contaminants can cause decades of harm to marine ecosystems.

GSA recognizes that the cost of tertiary treatment presents a barrier. The following costs must be considered should only secondary treatment be included in the Project's final design:

- Cost of the loss of Salish Sea ecosystem function due to contamination;
- Economic impact on the region's ecotourism sector and fisheries, both of which have been devastated by the COVID-19 pandemic;
- Cost of the decline of the health of the region's marine wildlife and coastal communities; and the
- Future cost for the cleanup of contaminants and microplastics that will enter the Salish Sea via effluent from the Iona Island Plant.

Treating wastewater at the Iona Island Plant to the tertiary level at a minimum, and as soon as possible before the 2030 deadline, will prevent the above environmental costs and protect the health of the Salish Sea, its surrounding communities and inhabitants. Anything less than a tertiary treatment process would directly oppose Vancouver's Greenest City initiative and the federal Coastal Restoration Fund, as well as continue the flow of harmful contaminants into local waters. The Salish Sea and Fraser River are sensitive, ecologically important areas that are under ongoing stress and this is an opportunity to reduce that stress. The health of these invaluable places relies on decision-makers like you to take action that will offer the protection so desperately needed.

Thank you for considering our recommendations.

Regards,



Tessa Danelesko
Biodiversity Program Coordinator
Georgia Strait Alliance

To: Liquid Waste Committee

From: Bryan Shoji, Director, Policy, Planning & Analysis, Liquid Waste Services

Date: June 23, 2020 Meeting Date: July 16, 2020

Subject: **Iona Island Wastewater Treatment Plant Project Design Concept**

RECOMMENDATION

That the GVS&DD Board endorse the Iona Island Wastewater Treatment Plant Project design concept as presented in the report dated June 23, 2020, titled "Iona Island Wastewater Treatment Plant Project Design Concept".

EXECUTIVE SUMMARY

Metro Vancouver is advancing one of Canada's most dynamic and transformative urban sustainability projects – the Iona Island Wastewater Treatment Plant Project (Project). The recommended design concept includes tertiary treatment level for the new plant, resource recovery opportunities, integration with Iona Beach Regional Park and surrounding communities, and a range of ecological projects designed to improve water quality, restore fish habitat, protect bird habitat and enhance terrestrial ecosystems. The treatment plant concept includes reuse of the existing solids treatment infrastructure. The recommended design concept was identified after a comprehensive evaluation of three potential concepts, which included consideration of input from community engagement. Narrowing to a single design concept will allow the project team to focus on developing a detailed schedule, budgets and recommended procurement methods to be included in the final Indicative Design, which will be presented as part of the Project Definition Report to the Board in January 2021.

PURPOSE

To provide the Liquid Waste Committee with a recommendation for the design concept for the new Iona Island Wastewater Treatment Plant.

BACKGROUND

In May 2011, Metro Vancouver's *Integrated Liquid Waste and Resource Management Plan* was approved by the BC Minister of Environment. The plan requires that the Iona Island Wastewater Treatment Plant upgrade be completed within 20 years of plan adoption. The Federal Wastewater Systems Effluent Regulation that became law in 2012 requires the plant be upgraded by no later than December 31, 2030.

Three wastewater treatment plant concepts, potential resource recovery opportunities, community, ecological and park integration enhancement opportunities and a community engagement update were presented to the Committee on February 7, 2020 (see Reference). This report is being brought forward to advise the Committee and Board on the subsequent progress of the technical work and community engagement and to recommend a design concept for the wastewater treatment plant and for community, ecological and park integration.

COMMUNITY ENGAGEMENT

Since 2018, Metro Vancouver has engaged on the Iona Island Wastewater Treatment Plant Project with local government staff and elected officials, residents and businesses, First Nations, environmental groups, Iona Beach Regional Park users, regulators and other government agencies.

Public Engagement

2020 public engagement activities, focusing on the potential design concepts, include:

- three stakeholder meetings
- Metro Vancouver participation in three community events
- two online public meetings (May 19 and 21 – 140 participants)

Correspondence was also received, including an email campaign aimed at Metro Vancouver directors.

First Nation Engagement

Metro Vancouver has communicated with 14 First Nations, providing information on the Project and the opportunity to provide feedback on their interests. Metro Vancouver is working closely with the Musqueam Indian Band as their reserve land is located across the Fraser River from the plant. Activities during 2020 with Musqueam, focusing on the potential design concepts and other areas of interest, include:

- Musqueam participation in Integrative Design Process workshops 3, 4, 5 (2019) and 6
- Two staff-to-staff meetings
- Metro Vancouver CAO and Liquid Waste Services General Manager presentation to Musqueam Chief and Council

Community Engagement Input

A number of key themes emerged during public and First Nations engagement on the potential design concepts:

- increase wastewater treatment level to tertiary
- improve aquatic environment and marine biodiversity in the Fraser River and Salish Sea
- study and create breaches through Iona Island, the causeway and jetties to improve conditions for salmon migration
- significantly reduce odour resulting from plant operations
- develop a project partnership with Musqueam Indian Band
- maintain Musqueam's southwest views of the Vancouver Island mountains
- improve access to and within Iona Island
- consider lagoon decommissioning schedule to minimize impact to existing bird habitat
- support from provincial and federal governments for funding for habitat enhancement and higher treatment level.

These themes have either been incorporated into the recommended design concept or are being actively pursued by the project team.

Specific comments received from the Public and First Nations engagement activities and correspondence, and how input has been incorporated in the recommended design concept are included in Attachment 1. Metro Vancouver will provide a full summary of all Public and First Nations engagement activities and results to accompany the Project Definition Report and final Indicative Design in January 2021.

WASTEWATER TREATMENT PLANT CONCEPT

The wastewater treatment plant concept selected for further development includes biologically enhanced primary treatment (A-stage), secondary clarification and tertiary filtration – meeting regulatory requirements and following best practices. In this concept, tertiary filtration will also be used for wet weather treatment of high flows that can occur during rainfall events. A description of the liquid and solids treatment processes is presented in Attachment 2.

The selected design concept offers flexibility for future advances in treatment technology through process retrofitting to accommodate higher flows, meet more stringent regulatory requirements, and address changing societal values. A side-stream pilot process has also been included to validate the treatment performance of advanced treatment technologies to remove some constituents of environmental concern.

The design concept will reuse the existing solids treatment infrastructure including the anaerobic digesters and biosolids dewatering facility currently under construction. This will allow development and verification of advanced solids treatment processes such as hydrothermal liquefaction for its potential future use at the plant and would reduce initial capital cost.

Sludge quantities produced by the new plant will exceed existing solids processing capacity; therefore, excess sludge may need to be transported offsite to one of the other Metro Vancouver wastewater treatment plants in the interim. Staff are working on a strategy to manage the excess sludge as part of the final Project Definition Report.

RESOURCE RECOVERY

Integrated resource recovery opportunities are being explored for potential onsite and offsite uses. Preliminary business cases have been developed to assess the life cycle cost of opportunities that could be included with the commissioning of the plant such as the use of effluent for reclaimed water and heat, nutrient recovery and biogas utilization. Opportunities identified as having high or moderately high potential for implementation will be further developed in the Detailed Design Phase of the Project.

Potential offsite use of reclaimed water includes irrigation, grey water for buildings, vehicle washing, dust suppression and industrial purposes. The cities of Vancouver and Richmond, the University of British Columbia (UBC) and Vancouver International Airport have all shown interest in potentially using reclaimed water.

Effluent heat recovery for export to a district energy system could provide equivalent heating use for 50,000 apartment units. Opportunities for the potential use of effluent heat exist for the City of Vancouver's Cambie Corridor, Richmond City Center and future development on Sea Island.

Offsite biogas utilization opportunities include upgrading to renewable natural gas (RNG) and injection to the natural gas grid for various uses such as residential heating and vehicle fuel. FortisBC has expressed interest in accepting RNG from the future plant and has the infrastructure in place to transport the RNG to potential end users across BC. Discussions have taken place with the City of Vancouver, City of Richmond, TransLink and UBC to explore the use of RNG.

Nutrients recovered from the solids stream can be used directly as a fertilizer or as a raw material in the manufacture of soil and fertilizers.

COMMUNITY, ECOLOGICAL AND PARK INTEGRATION

Iona Island, set within the dynamic Fraser River estuary, provides essential habitat for migratory birds, fish and other wildlife. The significance of this site and the effect of existing conditions, such as the causeway that connects Iona Island to Sea Island, provides a unique opportunity to revitalize Iona Island. Consultation with Musqueam, the community and other stakeholders identified four ecological priorities—improve water quality, restore fish habitat, protect bird habitat and enhance terrestrial ecosystems. To address these interconnected priorities, 20 ecological enhancement opportunities (Attachment 3) have been identified, including:

- increasing aquatic connectivity and restoring tidal channels to improve conditions for juvenile salmon
- using sediment augmentation, intertidal marsh creation, and wave breaks to protect against rising sea levels and storm events
- restoring terrestrial and freshwater wetland ecosystems for birds and other wildlife

Next steps will include determining which ecological enhancement opportunities are integral to the success of the Project, refining timelines and identifying potential partnerships.

The project team has worked collaboratively with MV Parks to ensure integration with Iona Beach Regional Park will improve the visitor experience with additional pedestrian and cycling trails, parking, landforms such as berms and lookout mounds. Outdoor structures such as floating and dipping docks, bird blinds, pavilions and shelters, lookouts and boardwalks will be added to complement and enhance existing park features. These structures will provide additional benefits, such as visual screening of the plant and noise attenuation.

An interpretive program will showcase the breadth of ecological, cultural, and climate-change issues being addressed. Early stages of the interpretive approach include identifying high-level areas for messaging including wastewater quality and source control, climate change, ecological health, and community relationships, including First Nations. The final program will engage visitors in a rich diversity of topics that touch on how our society can proactively adapt to future changes and reconcile its ecological and cultural relationships.

SUSTAINABILITY STRATEGY

The wastewater treatment plant buildings will be designed to meet the performance standards of LEED and Envision gold according to the requirements of the Metro Vancouver *Sustainable Infrastructure and Buildings Policy*. Specific and quantifiable sustainable building performance targets will be developed for inclusion in the Project Definition Report. The suitability of other rating systems such as Salmon-safe that promotes sustainable land management to protect marine and estuary habitat will also be considered.

PROJECT IMPLEMENTATION CHALLENGES

The island and site of the new treatment plant present a number of challenges including: seismic and geotechnical complexity, integration with the existing plant, ecological conditions, and the cultural sensitivity of the island. According to our consultant team, it will be a challenge to complete the Project by the 2030 deadline. Doing so will require the use of collaborative procurement models and careful staging of work. By narrowing the focus to the design concept, work can now begin on establishing a budget and schedule that reflects the complexities of the Project.

ALTERNATIVES

1. That the GVS&DD Board endorse the Iona Island Wastewater Treatment Plant Project design concept as presented in the report dated June 23, 2020, titled "Iona Island Wastewater Treatment Plant Project Design Concept".
2. That the GVS&DD Board receive for information the report dated June 23, 2020, titled "Iona Island Wastewater Treatment Plant Project Design Concept", and provide staff with alternate direction.

FINANCIAL IMPLICATIONS

If the GVS&DD Board endorses Alternative 1, staff will continue to refine the preferred design concept to be presented in the Project Definition Report in January 2021. The current \$1.9 billion estimate incorporated in the Financial Plan was prepared in 2009 and does not reflect the preliminary design activity since 2018, nor does it anticipate any senior level funding contributions. Over the next six months, a high level estimate will be developed along with a financing and funding strategy. Senior government partnering is expected because of the co-benefit opportunities related to the ecological enhancements, resource recovery and green energy opportunities.

As the Iona Island Wastewater Treatment Plant project transitions from preliminary design to Detailed Design and Construction, the staff team will be expanded commensurately to manage and control a project of this scale and scope. These resources will be funded in 2020 from the existing Project Definition project and later by the Detailed Design and Construction budgets, subject to Board approval of the 2021 budget.

CONCLUSION

The primary objective of this report is to narrow down from three potential concepts to a single design concept. With one chosen concept, the Project team can focus on developing a detailed schedule, budgets and recommended procurement methods to be included in the final Indicative Design, which will be presented as part of the Project Definition Report to the Board in January 2021.

The Project Definition Phase is currently underway to produce an Indicative Design for the upgraded plant with overall goals to meet federal Wastewater System Effluent Regulations, maximize resource recovery and integrate the new plant into the local community and surrounding Regional Park. The design concept presented in this report embodies these goals. Staff recommend Alternative 1.

Attachments

1. Community Engagement Input (2020)
2. Summary of proposed wastewater treatment plant concept
3. Schematic of community, ecological and park integration projects

References

[Iona island Wastewater Treatment Plant: Project Definition Update, February 7, 2020 Presentation to the Liquid Waste Committee](#)

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**IONA ISLAND WASTEWATER TREATMENT PLANT – PROJECT DEFINITION PHASE
COMMUNITY ENGAGEMENT INPUT (2020)**

Public Engagement

Following is a summarized list of input received from engagement activities and via correspondence:

- increase wastewater treatment level to tertiary
- expedite schedule to complete project as soon as possible
- improve aquatic environment and marine biodiversity by increasing treatment level, reducing contaminants and sewer overflows, and improving salmon connectivity via breaches
- reduce odour resulting from wastewater treatment process
- explore resource recovery opportunities including reclaimed water, biofuel, dried biosolids for beneficial reuse (e.g. for cement kilns)
- improve access to Iona Island, including safer cycling opportunities and bus drop-off points
- improve trail system on Iona Island
- maintain areas of bird and wildlife refuge
- create community spaces e.g. bird banding and education opportunities
- consider a visitor centre to support education and enhance visitor experience
- consider lagoon decommissioning schedule to minimize impact to existing bird habitat
- maintain off-limit areas to protect habitat
- support for provincial and federal funding for habitat enhancement and higher treatment level.

Musqueam Engagement

Following is a summarized list of input received from engagement with Musqueam Indian Band:

- seek partnership with Metro Vancouver
- protect health of community members
- protect the watershed, fish and fish habitat
- significantly reduce odour resulting from plant operations
- address impacts to archaeological areas and cultural activities
- minimize construction and operation impacts including: air quality, noise, and lighting
- minimize visual impact of new plant (location and height) and maintain southwest views of the Vancouver Island mountains
- protect Musqueam Creek, and address present and future concerns with the Highbury Interceptor
- create economic and employment opportunities for Musqueam opportunities through design, construction and operation of the new plant
- create areas of Musqueam-only access on Iona Island for traditional use
- provide recognition through signage and naming
- study and create breaches to improve river flow
- revegetate with preferred species and Musqueam involvement
- explore the cooperative management of Iona Beach Regional Park
- document commitments through a Memorandum of Understanding.

INCORPORATING COMMUNITY ENGAGEMENT INPUT INTO THE DESIGN CONCEPT

Input received through the Project Definition Phase, including recent meetings, has been shared with the Project team and considered in the development of the design concept. Following is a brief summary of how input was incorporated into the design concept:

- The design concept includes tertiary treatment in the form of disk filters. The design also includes space allocation for new technologies as they are developed and tested. This addresses strong stakeholder support for treatment beyond secondary.
- Expediting the project to reach a higher quality of effluent more quickly is not feasible given the scope and complexity of the project. However, the design concept includes phasing some habitat enhancement opportunities beginning as soon as 2021. Ground improvements may also commence before detailed design of the plant is complete.
- Increasing treatment level, incorporating new technologies, creating breaches on the island, and improving intertidal wetlands and marshes will improve the aquatic environment, marine biodiversity, river flow, salmon connectivity and fish habitat. These actions, along with a comprehensive habitat enhancement plan, will also protect the health of the community.
- Resource recovery opportunities with interested parties continue to be explored, this includes reclaimed water, effluent heat, biofuel, and beneficial use of dried biosolids.
- The proposed concept sites the new plant to the east end of the existing plant, minimizing the visual impact to Musqueam located directly to the north of the island. This will maintain the southwest views of the Vancouver Island mountains that are historically and culturally important.
- The Plant is designed to reduce impacts to air quality, noise and lighting. Odour will be managed using a robust two-stage odour control treatment system. These steps will help reduce disturbances to wildlife near the site, and minimize impact to Musqueam and residents north of the Fraser.
- A comprehensive habitat enhancement plan for the island, in conjunction with a future Iona Beach Regional Park Management Plan, will maintain and enhance the biodiversity of the island, maintain areas of bird and wildlife refuge, and improve access to and within Iona Island.
- New park spaces will include areas of Musqueam access for traditional use, and recognition of the cultural history of the site through signage and naming.
- The new O&M building includes a flexible space for community and educational use and an interpretive and educational plan will address elements of what a visitor centre can provide.
- Metro Vancouver will explore working with the City of Richmond and YVR on improvements Ferguson Road to ensure safety of pedestrians, cyclists and motorists.
- The Project Definition Report will identify procurement opportunities for economic and employment for Musqueam and other First Nations throughout the design, construction and operation of the new plant.
- An archaeological team will be retained throughout the duration of the Project to preserve traditional areas and cultural activities.
- Metro Vancouver and Musqueam Indian Band will explore the cooperative management of Iona Beach Regional Park.

Iona Island Wastewater Treatment Plant Project Definition

Overview of Preferred Wastewater Treatment Plant Design Concept

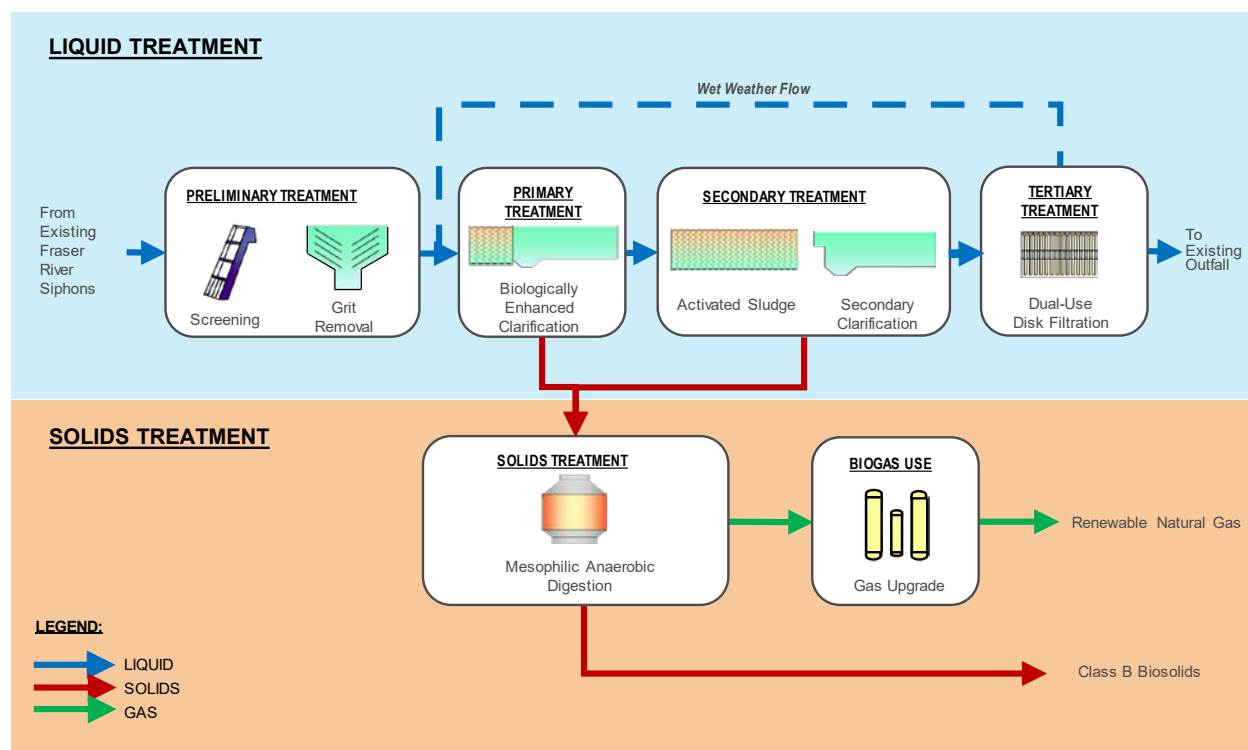


Figure 1: Iona Island Wastewater Treatment Plant Design Concept

1. Introduction

A wastewater treatment plant is made up of a number of nested process functions which are equally important to long-term operations and maintenance. Each process function interacts with other process functions, must be robust and reliable, and must be designed to avoid single points of failure, which could cause a cascading failure of other process functions. The following describes the process functions that have been included in the preferred design concept for the Iona Island Wastewater Treatment Plant (IIWWTP).

Treatment Level	Technology
Liquid Treatment	
Preliminary Treatment	Screens
Primary Treatment	Biologically Enhanced (A-stage)
Secondary Treatment	Activated Sludge Secondary Clarification
Tertiary Treatment	Filtration
Wet weather treatment	Filtration
Solids Treatment	
	Anaerobic Digestion (MAD) Biogas upgrading

2. Liquid Treatment

2.1. Preliminary Treatment

Preliminary treatment removes material in the wastewater that, if allowed to pass, could cause damage to process equipment or impair the function of downstream treatment processes. The process functions in the preliminary treatment group include screening for debris, grit removal, and, fat, oil, and grease (FOG) removal. Metro Vancouver generally directs screenings to the waste-to-energy (WTE) facility in Burnaby, and grit to the Vancouver landfill. Waste FOG generated by these processes is pumped to the sludge management system for co-treatment with sludge from primary treatment.

2.2. Primary Treatment

Primary treatment is the next level of treatment where heavier solids and associated organic material are separated from the liquid stream. Primary treatment is designed to remove total suspended solids (TSS) and biological oxygen demand (BOD) and generally takes place by gravity sedimentation. The design of IWWTP includes an enhanced form of primary treatment called Biologically Enhanced Primary Treatment (A-stage) involving aeration to enhance solids settling properties and achieving a degree of soluble organic absorption. The hydraulic and solids retention times used in this process do not lead to substantial oxidation of the material. Hence, a high level of organic carbon (biomass) is diverted to solids treatment, while at the same time, substantially reducing the size of the downstream secondary treatment process. The increased diversion of carbon to solids treatment allows for greater energy conversion than conventional primary treatment.

2.3. Secondary Treatment

The main objective of secondary treatment is to transform soluble organic matter to biological solids that can be removed so that the treated effluent has less impact on the receiving environment. To achieve this objective, the environment within the secondary treatment reactor tanks is controlled through aeration to allow microorganisms to thrive and carry out the necessary biological conversions. Through the activated sludge process, microorganisms are maintained in suspension in a reactor tank (aeration) and followed by secondary clarification where the liquids and solids separate which is known (secondary clarification). Solids are directed to solids treatment and the liquid phase can be further treated by tertiary treatment.

2.4. Tertiary Treatment

Tertiary treatment refers to processes that remove a greater fraction of TSS and suspended colloidal material from secondary effluent. The IWWTP design includes disk (or disc) filters, that are comprised of a fabric filtration media mounted on disks that are attached to a central shaft. The media is composed of woven fabric or fine mesh with 10-µm openings. These filters are able to remove fine particles from the liquid stream producing a highly polished effluent.

2.5. Wet Weather Treatment

The BC *Municipal Wastewater Regulation* (MWR) (2018) requires that secondary treatment be provided for all flows up to two times the average dry weather flow (2 x ADWF) and the equivalent of primary treatment for flows greater than 2 x ADWF. For the new IWWTP, it is expected that, during

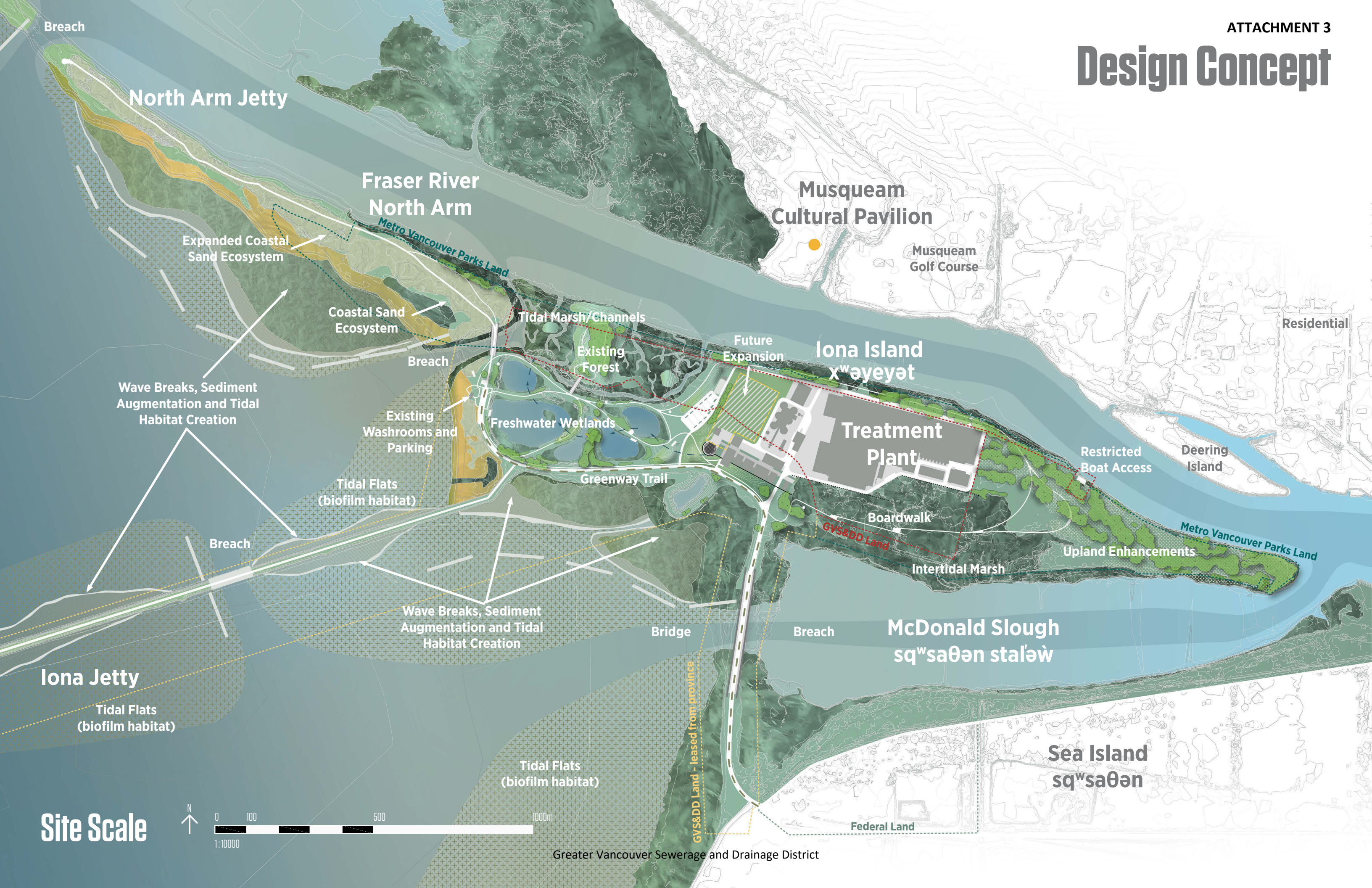
a portion of the wet weather flow period, flows will exceed this threshold. Wet weather treatment will be used to treat the flows in excess of 2 x ADWF. The disk filters used for tertiary treatment will serve a dual purpose and will be used for wet weather treatment during high rainfall events.

3. Solids Treatment

3.1. Anaerobic Digestion

Anaerobic digestion is a well-proven process that is currently used at the existing IWWTP for solids stabilization. It is recommended that the existing digesters be reused and incorporated into the new plant. Biogas produced from the digesters can be used onsite for process and building heating or upgraded to biomethane and injected into the natural gas pipeline or compressed as a vehicle fuel to displace diesel.

Design Concept



Site Scale










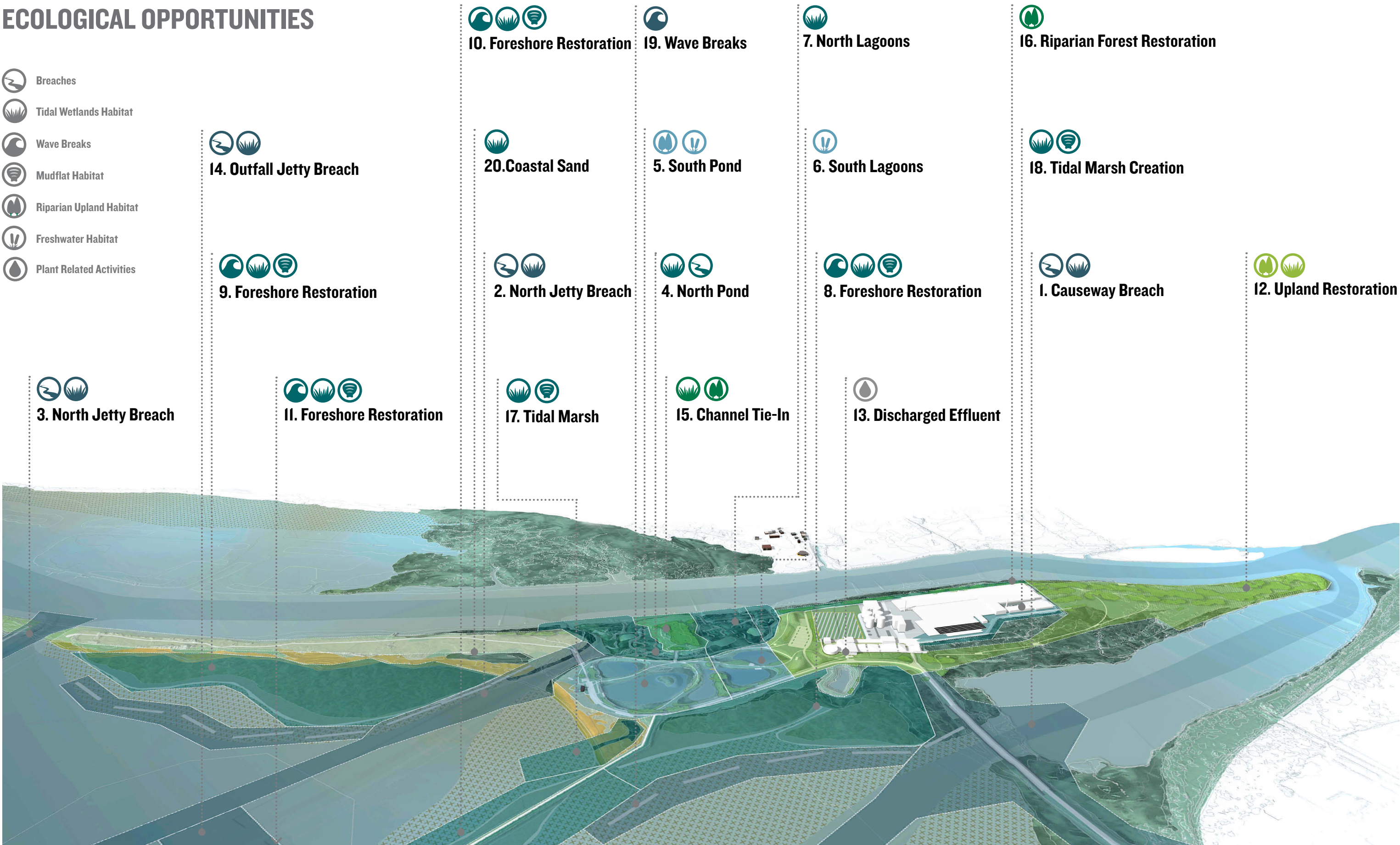
Greater Vancouver Sewerage and Drainage District

Ecological Opportunities

Ecological opportunities	Project numbers correspond with ecological opportunities drawing	Description	Key benefits
Breaches	1, 2, 3, 14	<ul style="list-style-type: none"> Removal of fill to create openings for the movement of aquatic species, water and sediment 	<ul style="list-style-type: none"> Improve connectivity for aquatic species, especially juvenile salmon Improve brackish estuary conditions for tidal wetlands and biofilm habitat Improve sediment characteristics and dynamics to support biofilm habitat, tidal wetlands, and/or shellfish habitat Potential fill source for IWWTP site works Facilitate installation of climate resilient crossings
Tidal wetland habitat	1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20	<ul style="list-style-type: none"> Tidal marsh and channel restoration and creation Conversion of north lagoon and pond to tidal marsh and channels Coastal sand restoration 	<ul style="list-style-type: none"> Increase rearing habitat for juvenile salmon Enhance habitat values for fish, birds, other wildlife and biodiversity Prepare for sea level rise and storm events Help meet City of Richmond's Environmentally Sensitive Area Development Permit requirements
Wave breaks	8, 9, 10, 11, 19	<ul style="list-style-type: none"> Breaks to dissipate wave energy 	<ul style="list-style-type: none"> Support establishment of tidal habitat Prepare for sea level rise and storm events
Mudflat habitat	8, 9, 10, 11, 17, 18	<ul style="list-style-type: none"> Sediment placement and tidal marsh creation 	<ul style="list-style-type: none"> Enhance habitat values for fish, birds, other wildlife and biodiversity Prepare for sea level rise and storm events
Riparian upland habitat	12, 15, 16	<ul style="list-style-type: none"> Invasive species management and planting indigenous plant species Planting and enhancement of riparian forest 	<ul style="list-style-type: none"> Enhance habitat values for birds, other wildlife and biodiversity Help meet City of Richmond's Environmentally Sensitive Area Development Permit requirements
Freshwater habitat	5, 6	<ul style="list-style-type: none"> Conversion of south lagoons to freshwater wetlands Regrade to create deeper areas, increase edge complexity, and plant riparian habitat 	<ul style="list-style-type: none"> Enhance habitat values for birds, other wildlife and biodiversity Help meet City of Richmond's Environmentally Sensitive Area Development Permit requirements
Plant effluent discharge	13	<ul style="list-style-type: none"> Recharge freshwater wetlands with treated effluent from IWWTP 	<ul style="list-style-type: none"> Improve health of freshwater wetlands by using high quality effluent

ECOLOGICAL OPPORTUNITIES

-  Breaches
-  Tidal Wetlands Habitat
-  Wave Breaks
-  Mudflat Habitat
-  Riparian Upland Habitat
-  Freshwater Habitat
-  Plant Related Activities





To: Liquid Waste Committee

From: Roy Moulder, Director, Purchasing and Risk Management, Financial Services
Lillian Zaremba, Program Manager, Utility Residuals Management, Liquid Waste Services

Date: June 25, 2020 Meeting Date: July 16, 2020

Subject: **Award of Contract Resulting from Standing Request for Expression of Interest
SRFEOI No. 19-283: Biosolids Management**

RECOMMENDATION

That the GVS&DD Board:

- a) authorize award of a contract in the amount of up to \$6,860,000 (exclusive of taxes) to Arrow Transportation Systems Inc. for biosolids management at Fraser Valley Aggregates' Castle Pit, resulting from Standing Request for Expressions of Interest No. 19-283: Biosolids Management, subject to final review by the Commissioner; and
 - b) authorize the Commissioner and the Corporate Officer to execute the contract once the Commissioner is satisfied that the award should proceed.
-

EXECUTIVE SUMMARY

The *Liquid Waste Management Plan* requires Metro Vancouver to beneficially use biosolids. This report identifies a new opportunity for beneficial use. Metro Vancouver biosolids have been beneficially used at Fraser Valley Aggregates (FVA) properties since 2018 to reclaim exhausted gravel pits for agricultural use. Arrow Transportation Systems Inc. (Arrow) submitted a proposal to beneficially use biosolids for reclaiming an additional FVA gravel pit in response to the Standing Request for Expressions of Interest (SRFEOI) No. 19-283: Biosolids Management. Arrow has demonstrated successful management of biosolids for Metro Vancouver and proposed a reasonable price. It is recommended that the GVS&DD Board authorize the Commissioner and the Corporate Officer to award and execute the contract to Arrow for an amount of up to \$6,860,000 (exclusive of taxes).

PURPOSE

This report is to advise the GVS&DD Board of the results of SRFEOI No. 19-283: Biosolids Management, and to recommend award of a contract in an amount of up to \$6,860,000 (exclusive of taxes) to Arrow Transportation Systems Inc., for the beneficial use of biosolids at FVA's Castle Pit.

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 that 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 to Arrow to provide management of biosolids at Castle Pit.

DESCRIPTION OF SERVICES

The scope of work includes the management and beneficial use of Class A and B biosolids generated at the Annacis Island, Lulu Island, Lions Gate and Iona Island Wastewater Treatment Plants (WWTPs). The biosolids will be mixed with native material excavated from the site and woodchips to create soil that will be used to reclaim land disturbed by gravel extraction and create farmland at the Castle Pit property near Mission, BC.

Management of Metro Vancouver biosolids at other FVA properties has been conducted by Arrow. Since 2018, Arrow has received 27,600 tonnes of Metro Vancouver biosolids at FVA's Pit 15 in Abbotsford for reclamation of the exhausted gravel pit to arable farm land. The current proposal is for FVA's Castle Pit, located in Dewdney, east of Mission. The services under the new contract will continue the reclamation of gravel pits for agricultural use at FVA properties in the Lower Mainland.

SRFEI No. 19-283 is publicly advertised on Metro Vancouver's and BC Bid websites for parties interested in beneficially using biosolids. This SRFEI remains on Metro Vancouver's and BC Bid websites on an ongoing basis to solicit proposals for the beneficial of biosolids at any time.

Arrow's proposal demonstrated their experience and qualifications in managing biosolids. The term is five (5) years, concluding on December 31, 2025. The amount of \$6,860,000 is based on biosolids quantities and site applications specified in Arrow's proposal, and subsequent negotiations. The rate per tonne is comparable to the cost of other Metro Vancouver biosolids beneficial use projects and is significantly less than the cost to dispose of biosolids in a landfill, which is not a beneficial use.

The cost of hauling biosolids to the site is not included in the award. Hauling services are provided under an existing contract awarded to Arrow Transportation Systems Inc. through competition No. RFP 19-112: Utility Residuals Management Hauling Services.

ALTERNATIVES

1. That the GVS&DD Board:
 - a) authorize award of a contract in the amount of up to \$6,860,000 (exclusive of taxes) to Arrow Transportation Systems Inc. for biosolids management at Fraser Valley Aggregates' Castle Pit, resulting from Standing Request for Expressions of Interest No. 19-283: Biosolids Management, subject to final review by the Commissioner; and
 - b) authorize the Commissioner and the Corporate Officer to execute the contract once the Commissioner is satisfied that the award should proceed.
2. That the Liquid Waste Committee receive for information the report dated June 25, 2020, titled "Award of Contract Resulting from Standing Request for Expression of Interest SRFEI No. 19-283: Biosolids Management" and direct staff to report back to the GVS&DD Board with options for an alternate course of action.

FINANCIAL IMPLICATIONS

If the Board approves Alternative 1, a contract will be awarded to Arrow in the amount of up to \$6,860,000 (exclusive of taxes). This amount is within the Liquid Waste Services operating budget allocated for this work.

Under Alternative 2, staff will need to seek other options for the management of biosolids. Limited opportunities are available for beneficial use of biosolids that need to be continuously removed from WWTPs. If an alternative beneficial use option cannot be secured, biosolids will need to be disposed in a landfill, resulting in additional costs of up to \$1,968,000 over the course of this contract.

CONCLUSION

Arrow submitted a proposal under SRFEI No. 19-283: Biosolids Management. The proposed services will beneficially use biosolids to reclaim land at FVA's Castle Pit property. It is recommended that the GVS&DD Board authorize the Commissioner and the Corporate Officer to award and execute a contract with Arrow Transportation Systems Inc. in an amount of up to \$6,860,000 (exclusive of taxes).

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COMMITTEE INFORMATION ITEMS AND DELEGATION SUMMARIES

Greater Vancouver Sewerage and Drainage District
Board Meeting Date – Friday, July 31, 2020

This information item, listing recent information received by committee, is provided for the GVS&DD Board's information. Please access a complete PDF package [here](#).

Liquid Waste Committee – July 16, 2020*Delegation Summaries:*

- 3.1 Myles Lamont, WildResearch Society
- 3.2 Tessa Danelesko, Georgia Strait Alliance
- 3.3 Zackary Shoom, Obabika

Information Items:

- 5.3 Board Budget Workshop – Overview and Next Steps for Liquid Waste Services
- 5.4 Liquid Waste Services Capital Program Expenditure Update as of April 30, 2020
- 5.5 2019 GVS&DD Environmental Management & Quality Control Annual Report
- 5.6 Metro Vancouver's Sewer Overflow Map

Zero Waste Committee – July 17, 2020*Delegation Summaries:*

No delegations presented

Information Items:

- 5.1 Board Budget Workshop – Overview and Next Steps for Solid Waste Services
- 5.2 Solid Waste Services Capital Program Expenditure Update as of April 30, 2020
- 5.3 Waste-to-Energy Facility Environmental Monitoring and Reporting, 2019 Update
- 5.4 Waste-to-Energy Facility 2019 Financial Update

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