

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

REGULAR BOARD MEETING

Friday, October 4, 2019

9:00 A.M.

28th Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia

[Membership and Votes](#)

A G E N D A¹

A. ADOPTION OF THE AGENDA

1. October 4, 2019 Regular Meeting Agenda

That the GVS&DD Board adopt the agenda for its regular meeting scheduled for October 4, 2019 as circulated.

B. ADOPTION OF THE MINUTES

1. July 26, 2019 Regular Meeting Minutes

That the GVS&DD Board adopt the minutes for its regular meeting held July 26, 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. LIQUID WASTE COMMITTEE REPORTS

1.1 Biosolids Management Strategic Direction

That the GVS&DD Board:

- a) endorse biosolids drying as a biosolids management option; and
- b) direct staff to report back to the Board with the recommended procurement model for implementation of a regional biosolids drying facility.

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

1.2 Award of Contract Resulting from Request for Proposal No. 19-112: Utility Residuals Management Hauling Services

That the GVS&DD Board:

- a) approve the award of a contract for an amount of up to \$77,845,000 (exclusive of taxes) to Arrow Transportation Systems Inc., resulting from Request for Proposal No. 19-112: Utility Residuals Management Hauling Services; and
- b) authorize the Commissioner and the Corporate Officer to execute the contract.

1.3 Award of a Contract Resulting from Tender No. 19 - 243: Northwest Langley Wastewater Treatment Plant Phase 2 Ground Improvement and Preload

That the GVS&DD Board:

- a) approve the award of a contract in the amount of \$26,511,384 (exclusive of taxes) to Pomerleau Inc. resulting from Tender No. 19 - 243: Northwest Langley Wastewater Treatment Plant Phase 2 Ground Improvement and Preload; and
- b) authorize the Commissioner and the Corporate Officer to execute the contract.

1.4 Award of a Contract Resulting from Tender No. 19-110: Annacis Island Wastewater Treatment Plant Stage 5 Expansion - Phase 2 Contract A507 - Digester Heat Exchanger Expansion

That the GVS&DD Board:

- a) approve the award of a contract in the amount of \$9,337,000 (exclusive of taxes) to Bennett Mechanical Installations (2001) Ltd., resulting from Tender No. 19-110: Annacis Island Wastewater Treatment Plant Stage 5 Expansion - Phase 2 Contract A507 - Digester Heat Exchanger Expansion; and
- b) authorize the Commissioner and the Corporate Officer to execute the contract.

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 October 4, 2019 pursuant to the *Community Charter* provisions, Section 90 (1) (i), (k) and 90 (2) (b) 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:
- (i) the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose;
 - (k) negotiations and related discussions respecting the proposed provision of a regional district service that are at their preliminary stages and that, in the view of the board or committee, could reasonably be expected to harm the interests of the regional district if they were held in public; and
- 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 October 4, 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 10:24 a.m. on Friday, July 26, 2019 in the 28th Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia.

MEMBERS PRESENT:

Burnaby, Chair, Director Sav Dhaliwal	Richmond, Director Malcolm Brodie
North Vancouver City, Vice Chair Director Linda Buchanan	Richmond, Director Harold Steves
Burnaby, Director Pietro Calendino	Surrey, Director Doug Elford
Burnaby, Director Mike Hurley	Surrey, Director Laurie Guerra
Coquitlam, Director Craig Hodge	Surrey, Director Brenda Locke
Coquitlam, Director Richard Stewart	Surrey, Director Doug McCallum (departed at 10:37 a.m.)
Delta, Director George Harvie	Surrey, Alternate Director Allison Patton for Jack Singh Hundial
Delta, Director Lois Jackson	Surrey, Director Steven Pettigrew
Electoral Area A, Jen McCutcheon	Vancouver, Director Christine Boyle
Langley City, Director Val van den Broek	Vancouver, Director Adriane Carr
Langley Township, Director Jack Froese	Vancouver, Director Melissa De Genova
Langley Township, Director Kim Richter	Vancouver, Director Lisa Dominato
Maple Ridge, Director Mike Morden (departed at 10:38 a.m.)	Vancouver, Alternate Director Pete Fry for Kennedy Stewart
New Westminster, Director Jonathan Coté	Vancouver, Director Colleen Hardwick
North Vancouver District, Director Lisa Muri	Vancouver, Director Michael Wiebe
Pitt Meadows, Director Bill Dingwall	West Vancouver, Director Mary-Ann Booth
Port Coquitlam, Alternate Director Darrell Penner for Brad West	White Rock, Director Darryl Walker
Port Moody, Alternate Director Hunter Madsen for Rob Vagramov	Commissioner Carol Mason (Non-voting member)

MEMBERS ABSENT:

None

STAFF PRESENT:

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

A. ADOPTION OF THE AGENDA

1. July 26, 2019 Regular Meeting Agenda

It was MOVED and SECONDED

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

CARRIED

B. ADOPTION OF THE MINUTES

1. June 28, 2019 Regular Meeting Minutes

It was MOVED and SECONDED

That the GVS&DD Board adopt the minutes for its regular meeting held June 28, 2019 as circulated.

CARRIED

C. DELEGATIONS

No items presented.

D. INVITED PRESENTATIONS

No items presented.

E. CONSENT AGENDA

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

- 3.1 Organics and Paid Recyclables Management at Metro Vancouver Transfer Stations

It was MOVED and SECONDED

That the GVS&DD Board adopt the recommendations contained in the following items presented in the July 26, 2019 GVS&DD Board Consent Agenda:

- 1.1 Appointment of External Auditors
2.1 Liquid Waste Services Capital Program Expenditure Update as at April 30, 2019
2.2 Award of Contract Resulting from Request for Proposal No. 19-011: Annacis Island Wastewater Treatment Plant Trickling Filter Media, Rotary Distributor and Ducting Replacement
2.3 Regional Sewerage Services – Village of Anmore
3.2 Initiating Procurement for Bottom Ash Beneficial Use
3.3 Support for Municipal Jurisdiction to Regulate Single-Use Items

CARRIED

The items and recommendations referred to above are as follows:

1.1 Appointment of External Auditors

Report dated June 25, 2019 from Dean Rear, Director, Financial Planning and Operations, advising the GVS&DD Board of the results of Request for Proposal No. 19-096: External Audit Services, and seeking Board appointment of the highest ranked proponent, BDO Canada LLP.

Recommendation:

That the GVS&DD Board appoint BDO Canada LLP as external auditors for the fiscal years 2019 to 2023.

Adopted on Consent

2.1 Liquid Waste Services Capital Program Expenditure Update as at April 30, 2019

Report dated July 3, 2019 from Bryan Shoji, Director, Project Delivery, Liquid Waste Services, reporting on the status of the Liquid Waste Services' capital program for the period ending April 30, 2019.

Recommendation:

That the GVS&DD Board receive for information the report dated July 3, 2019, titled "Liquid Waste Services Capital Program Expenditure Update as at April 30, 2019".

Adopted on Consent

2.2 Award of Contract Resulting from Request for Proposal No. 19-011: Annacis Island Wastewater Treatment Plant Trickling Filter Media, Rotary Distributor and Ducting Replacement

Report dated July 2, 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 Request for Proposal No. 19-011: Annacis Island Wastewater Treatment Plant (AIWWTP) Trickling Filter Media, Rotary Distributor and Ducting Replacement, and seeking the GVS&DD Board to award the contract, in an amount of up to \$32,870,400 (exclusive of taxes), to Maple Reinders Constructors Ltd.

Recommendation:

That the GVS&DD Board:

- a) approve the award of a contract for an amount of up to \$32,870,400 (exclusive of taxes) to Maple Reinders Constructors Ltd., resulting from Request for Proposal No. 19-011: Annacis Island Wastewater Treatment Plant Trickling Filter Media, Rotary Distributor and Ducting Replacement; and
- b) authorize the Commissioner and the Corporate Officer to execute the contract.

Adopted on Consent

2.3 Regional Sewerage Services – Village of Anmore

Report dated July 5, 2019 from Fred Nenninger, Director, Policy, Planning and Analysis, Liquid Waste Services, responding to a June 13, 2019 request from the Liquid Waste Committee for further information on extending the sewerage system to service properties in the Village of Anmore.

Recommendation:

That the GVS&DD Board direct staff to review the *GVS&DD Cost Apportionment Bylaw No. 283, 2014* with respect to how growth charges are calculated and apportioned to Anmore.

Adopted on Consent

3.2 Initiating Procurement for Bottom Ash Beneficial Use

Report dated July 5, 2019 from Sarah Wellman, Senior Engineer, Solid Waste Services, seeking GVS&DD Board approval to initiate a procurement process for bottom ash beneficial use.

Recommendation:

That the GVS&DD Board direct staff to initiate a procurement process for bottom ash beneficial use.

Adopted on Consent

3.3 Support for Municipal Jurisdiction to Regulate Single-Use Items

Report dated July 12, 2019 from the Zero Waste Committee requesting that the GVS&DD Board write a letter to the Province of BC and the Union of British Columbia Municipalities in support of municipal jurisdiction to regulate single use items.

Recommendation:

That the GVS&DD Board write a letter to the Province of BC and the Union of British Columbia Municipalities in support of municipal jurisdiction to regulate single use items, as it relates to the June 24, 2019 District of West Vancouver Council resolution.

Adopted on Consent

F. ITEMS REMOVED FROM THE CONSENT AGENDA

3.1 Organics and Paid Recyclables Management at Metro Vancouver Transfer Stations

Report dated July 3, 2019 from Sarah Evanetz, Division Manager, Solid Waste Programs and Public Involvement, Solid Waste Services, seeking GVS&DD Board approval of a funding and service model for organics and paid recyclables (including yard trimmings, clean wood, new gypsum and mattresses) at Metro Vancouver transfer stations.

It was MOVED and SECONDED

That the GVS&DD Board:

- a) approve setting tipping fees for paid recyclables to recover operational costs, except where the risk of illegal dumping or other negative impacts exist, alternate fees structures will be considered;
- b) approve providing municipal organics transfer services upon request and under contract with full cost recovery;
- c) direct staff to initiate procurement for processing services for municipal organics from the North Shore Transfer Station; and
- d) direct staff to develop a business case for the provision of commercial organics transfer services at Metro Vancouver transfer stations and report back on options.

CARRIED

Directors Harvie and Steves absent at the vote.

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

1.1 Proposed Amendments to GVS&DD Cost Apportionment Bylaw No. 283, 2014

Report dated July 17, 2019 from the Finance and Intergovernment Committee, seeking GVS&DD Board adoption of *Greater Vancouver Sewerage and Drainage District Cost Apportionment Amending Bylaw No. 328, 2019*, to allow for the direct application of Development Cost Charge revenues, the allocation of revenue from Tier I and Tier II capital projects, and the establishment of a cost apportionment formula for the purpose of applying growth charges to the University of British Columbia to cover their proportionate share of the liquid waste system growth costs within the Vancouver Sewerage Area.

10:37 a.m. Director McCallum departed the meeting.

10:38 a.m. Director Morden departed the meeting.

It was MOVED and SECONDED

That the GVS&DD Board give first, second and third reading to *Greater Vancouver Sewerage and Drainage District Cost Apportionment Amending Bylaw No. 328, 2019*.

CARRIED

Director Brodie absent at the vote.

It was MOVED and SECONDED

That the GVS&DD Board pass and finally adopt *Greater Vancouver Sewerage and Drainage District Cost Apportionment Amending Bylaw No. 328, 2019*.

CARRIED

Director Brodie absent at the vote.

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 for information the Board Committee Information Items and Delegation Summaries, dated July 26, 2019.

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 26, 2019 pursuant to the *Community Charter* provisions, Section 90 (1) (a), (g) (k) and 90 (2) (b) 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:

(a) personal information about an identifiable individual who holds or is being considered for a position as an officer, employee or agent of the regional district or another position appointed by the regional district;

(g) litigation or potential litigation affecting the regional district;

(k) negotiations and related discussions respecting the proposed provision of a regional district service that are at their preliminary stages and that, in the view of the board or committee, could reasonably be expected to harm the interests of the regional district if they were held in public; and

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.”

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 26, 2019.

CARRIED
(Time: 10:40 a.m.)

CERTIFIED CORRECT

Chris Plagnol, Corporate Officer

Sav Dhaliwal, Chair

To: Liquid Waste Committee

From: Lillian Zaremba, Program Manager, Utility Residuals Management, Liquid Waste Services

Date: September 13, 2019 Meeting Date: September 19, 2019

Subject: **Biosolids Management Strategic Direction**

RECOMMENDATION

That the GVS&DD Board:

- a) endorse biosolids drying as a biosolids management option; and
 - b) direct staff to report back to the Board with the recommended procurement model for implementation of a regional biosolids drying facility.
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PURPOSE

To seek GVS&DD Board direction toward establishing a regional biosolids drying facility that will allow the continued beneficial use of biosolids through the recovery of energy and nutrients.

BACKGROUND

The *Integrated Liquid Waste and Resource Management Plan* (ILWRMP, Reference 1) directs Metro Vancouver to use liquid waste as a resource and to evaluate opportunities to recover energy and nutrients from biosolids, using a business case approach. The ILWRMP refers to the *Biosolids Management Plan Framework* (Reference 2), which identifies three strategies to maximize environmentally sound, cost-effective, beneficial uses of biosolids:

- Use biosolids as a fuel to produce energy
- Use biosolids for land application
- Secure alternative uses or disposal for biosolids that cannot be used for land application or as a fuel.

On July 11, 2019, staff held a workshop with the Liquid Waste Committee to review long-term options for biosolids management. This report provides an update on the biosolids management strategy and seeks direction toward establishing a biosolids drying facility as part of the implementation of the *Biosolids Management Plan Framework*.

BIOSOLIDS MANAGEMENT OPTIONS

Current Biosolids Production and Beneficial Uses

Metro Vancouver currently generates 55,000 bulk tonnes of biosolids annually from its five wastewater treatment plants (WWTPs). Ninety-eight per cent of biosolids generated by Metro Vancouver over the past 20 years have been beneficially used through land application, which recycles nutrients and organic matter. Beneficial use projects in 2017 and 2018 included:

- fabricating topsoil for landscaping projects in the region;
- fertilizing rangeland and reclaiming agricultural land in the BC Interior;

- reclaiming mine sites and gravel pits for revegetation; and
- constructing a biocover for landfill closure, which mitigates greenhouse gas emissions.

Future Biosolids Production

The quantity of biosolids generated by the region will increase substantially in the near future due to the upcoming WWTP upgrades from primary to secondary treatment, along with increases due to population growth. The annual quantity is expected to grow to over 90,000 tonnes per year by 2021 and over 150,000 tonnes per year by 2050. It is unlikely that Metro Vancouver can secure sufficient new land application projects to beneficially use the entire additional biosolids recovered. Land application projects are vulnerable to fluctuations in customer markets and public concern.

Metro Vancouver WWTPs no longer have space to stockpile biosolids, so excess biosolids that cannot be beneficially used would be sent to landfill disposal. Currently available landfill disposal options are located outside of the province, do not fulfill the ILWRMP goal of recovering energy and nutrients from biosolids, and have a higher cost than energy or nutrient recovery options. Diversification of resource recovery options and beneficial use markets will reduce the costs and risks of managing our growing quantities of biosolids.

Biosolids Management Options Analysis

Metro Vancouver commissioned a series of studies to investigate options for recovering energy from biosolids. A biosolids drying facility was identified as the most viable and cost-effective option. The facility would be built at one of the regional WWTPs, where biogas from the plant and natural gas would supply the energy for drying. The facility would produce dried biosolids that can be used as a fuel to replace coal in cement kilns or as an ingredient in blended fertilizer products. A recent market analysis anticipates that local cement kilns or the fertilizer market could each use the entire quantity of dried biosolids produced by a facility with capacity of 75,000 bulk tonnes per year. The feasibility-level capital cost estimate for a biosolids drying facility of this size is \$197 million.

Using dried biosolids as fuel and as fertilizer fulfils the ILWRMP goals to recover energy and nutrients. Using dried biosolids as fuel has the additional benefit of reducing regional greenhouse gas (GHG) emissions: the emissions from the natural gas that fuels the dryer are less than the avoided GHG emissions from replacing coal at cement kilns and reduced hauling distances. The lifecycle cost of drying biosolids is less than that of land application, primarily due to costs of hauling dewatered biosolids long distances to land application sites. Placing a value on GHG emissions as directed by the *Carbon Price Policy* (Reference 3) further improves the business case for the dryer. The costs of the biosolids management options are compared in the table below, based on a 30-year lifecycle.

Biosolids management option	Lifecycle cost (per bulk tonne of biosolids)	Lifecycle cost including carbon price (per bulk tonne of biosolids)
Dried biosolids	\$110	\$100
Land application	\$140	\$145
Landfill disposal	\$160	\$165

A limited volume of undried biosolids (25,000 bulk tonnes per year) could also be burned in Metro Vancouver's Waste-to-Energy Facility, which would not affect the business case for the biosolids drying facility.

Procurement Models for Biosolids Drying Facility

The feasibility study for the biosolids drying facility provided a cost estimate for design and construction. Further study is required to evaluate the costs and risks of different procurement models for design, construction, operation and maintenance of the dryer (design-bid-build or design-build-operate), for marketing of the dried biosolids (in-house or third-party), and for financing (Metro Vancouver or third-party concession).

ALTERNATIVES

1. That the GVS&DD Board:
 - a) endorse biosolids drying as a management option; and
 - b) direct staff to report back to the Board with the recommended procurement model for implementation of a regional biosolids drying facility.
2. That the Liquid Waste Committee receive for information the report dated September 13, 2019, titled "Biosolids Management Strategic Direction" and provide alternate direction.

FINANCIAL IMPLICATIONS

If the Board approves Alternative 1, staff will complete the evaluation of procurement models and report back to the Committee and Board with the recommended procurement approach and associated costs for implementing a regional biosolids drying facility. If the procurement approach and associated costs are accepted, a capital project with a budget on the order of \$197 million will be added to the 10-year capital plan. Biosolids drying is expected to have a lower lifecycle cost compared to other biosolids management options, thereby resulting in a net reduction in overall household impact.

Under Alternative 2, if biosolids drying is not endorsed at this time and further steps towards implementing a regional drying facility are not initiated, additional biosolids quantities will be sent out of province for landfill disposal if sufficient beneficial use land application projects cannot be secured. The cost of landfill disposal is higher than both the cost of land application and the lifecycle cost of a new biosolids drying facility.

SUMMARY / CONCLUSION

The *Integrated Liquid Waste and Resource Management Plan* directs Metro Vancouver to recover energy and nutrients from biosolids. The *Biosolids Management Plan Framework* sets out three strategies for beneficial use of biosolids: use biosolids as a fuel to produce energy; use biosolids for land application; and secure alternative uses or disposal for biosolids that cannot be used for land application or as a fuel. To date, Metro Vancouver has successfully pursued land application projects to beneficially use biosolids. The amount of biosolids generated by the region will increase substantially in the near future. Diversifying the options for managing biosolids will reduce costs and risks associated with the increasing quantity of biosolids.

A biosolids drying facility has been identified as the most viable and cost-effective option for recovering energy from biosolids. The dried biosolids could be used as fuel or fertilizer. Using dried biosolids to replace coal in local cement kilns would reduce regional GHG emissions. The lifecycle cost of drying biosolids is less than that of land application or landfill disposal. The feasibility-level capital cost estimate for the dryer is \$197M. Further study is required to evaluate different procurement models for design, construction, operation, marketing and financing. If the Board supports the approach of drying biosolids, staff will complete the evaluation of procurement models for a regional biosolids dryer and will report back to the Board. Staff recommend the approval of Alternative 1.

References

1. [Integrated Liquid Waste and Resource Management Plan](#)
2. [Biosolids Management Plan Framework](#)
3. [Carbon Price Policy](#)

28843062

To: Liquid Waste Committee

From: Roy Moulder, Director, Purchasing and Risk Management, Financial Services
Houston Marsh, Acting Operations Supervisor, Utility Residuals Management, Liquid Waste Services

Date: August 22, 2019 Meeting Date: September 19, 2019

Subject: **Award of Contract Resulting from Request for Proposal No. 19-112: Utility Residuals Management Hauling Services**

RECOMMENDATION

That the GVS&DD Board:

- a) approve the award of a contract for an amount of up to \$77,845,000 (exclusive of taxes) to Arrow Transportation Systems Inc., resulting from Request for Proposal No. 19-112: Utility Residuals Management Hauling Services; 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 Request for Proposal (RFP) No. 19-112: Utility Residuals Management Hauling Services and to recommend award of the contract in an amount of up to \$77,845,000 (exclusive of taxes) over a five (5) year term to Arrow Transportation Systems Inc.

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 authorize the award of a contract to provide hauling services for residuals, namely Biosolids, from Metro Vancouver's five (5) wastewater treatment plants and drinking water treatment residuals from the Seymour Capilano Filtration Plant.

DESCRIPTION OF SERVICES

The scope of work includes hauling services for biosolids from Metro Vancouver's five (5) wastewater treatment plants and drinking water treatment residuals from the Seymour Capilano Filtration Plant, to various sites, mainly in, but not limited to, southwestern British Columbia and western Alberta for beneficial use and disposal.

Hauling services for biosolids and drinking water treatment residuals are currently executed under two separate contracts. Early 2020 dewatered biosolids from the Iona Island Wastewater Treatment Plant will be produced for which there is no hauling services contract in place. RFP No. 19-112 will combine the two hauling services contracts into one contract and include the hauling requirements

for the dewatered biosolids, due to start early 2020, from the Iona Island Wastewater Treatment Plant.

RFP No. 19-112 was publically advertised on Metro Vancouver's and BC Bid websites. The RFP closed on May 28, 2019 and two (2) firms submitted proposals as follows:

Table: Proponent Submission Pricing

Proponent	Total Cost for Five Years (exclusive of taxes)
Arrow Transportation Systems Inc.	\$80,724,725
KBL Logistics	\$88,746,625

The evaluation of the proposals identified Arrow Transportation Systems Inc. (Arrow) as the highest ranked proponent, and their proposal was considered the most advantageous to Metro Vancouver. Arrow offered the lowest price and received the highest technical score from the evaluation team.

Proponents were evaluated on the experience and qualifications of their firm and team members as well as on their methods of addressing key components of the required services (i.e., the approach to undertaking the scope of work, proposed hauling equipment, flexibility on hauling requirements, communication strategy with project partners, and safety). Metro Vancouver's biosolids hauling services have been executed by Arrow for 24 years. Arrow's proposal demonstrated their experience and their ability to adapt to changes in hauling requirements.

The proposed fee of \$80,724,725 from Arrow was based on quantities and trips specified in the RFP which were intended to be used as a basis of comparison between proposals. Following the identification of the highest ranked proposal, negotiations ensued as allowed for in the RFP, and the actual forecast of biosolids and drinking water treatment residual quantities and the associated cost of hauling during the contract period were refined. As a result, the total cost was decreased to \$77,845,000 (exclusive of taxes).

ALTERNATIVES

1. That the GVS&DD Board:
 - a) approve the award of a contract for an amount of up to \$77,845,000 (exclusive of taxes) to Arrow Transportation Systems Inc., resulting from Request for Proposal No. 19-112: Utility Residuals Management Hauling Services; and
 - b) authorize the Commissioner and the Corporate Officer to execute the contract.
2. That the GVS&DD Board terminate Request for Proposal No. 19-112: Utility Residuals Management Hauling Services 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 will be awarded to Arrow Transportation Systems Inc. in the amount of up to \$77,845,000 (exclusive of taxes). This amount is within the respective Liquid Waste Services and Water Services departments operating budgets allocated for this work.

As per the terms of the RFP, Metro Vancouver has the option to extend the contract by an additional five (5) years. Authorization from the GVS&DD Board to extend the contract will be sought at a later date subject to satisfactory execution of the services by Arrow through the initial term and further rate negotiations. If the five (5) year extension is executed, the overall ten (10) year contract value will exceed \$130,435,000. Hauling rates are subject to an inflation cost adjustment which factors in the Consumer Price Index and a fuel index which are factored into extended term hauling rates.

The GVS&DD Board has the choice to not proceed with Alternative 1, but staff will need further direction in relation to the services. Continuous removal of biosolids and drinking water treatment residuals from Metro Vancouver's treatment plants is critical for the operation of these facilities, as there is no operational storage capacity available at any of the sites. A delay associated with Alternative 2 will significantly impact the ability of the wastewater treatment plants and the Seymour Capilano Filtration Plant to operate. This will require temporary on-site storage of biosolids and drinking water treatment residuals, which will create odour issues and could lead to rewetting of the material, resulting in higher hauling costs when the material is removed.

SUMMARY / CONCLUSION

Request for Proposal No. 19-112 was issued for Utility Residuals Management Hauling Services, and Arrow Transportation Systems Inc. was identified as the highest ranked and lowest cost proposal. 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 \$77,845,000 (exclusive of taxes).

29979560

To: Liquid Waste Committee

From: Roy Moulder, Director, Purchasing and Risk Management, Financial Services
Paul Wilting, Program Manager, Northwest Langley Wastewater Treatment Projects,
Liquid Waste Services

Date: August 28, 2019 Meeting Date: September 19, 2019

Subject: **Award of a Contract Resulting from Tender No. 19 - 243: Northwest Langley
Wastewater Treatment Plant Phase 2 Ground Improvement and Preload**

RECOMMENDATION

That the GVS&DD Board:

- a) approve the award of a contract in the amount of \$26,511,384 (exclusive of taxes) to Pomerleau Inc. resulting from Tender No. 19 - 243: Northwest Langley Wastewater Treatment Plant Phase 2 Ground Improvement and Preload; and
- b) authorize the Commissioner and the Corporate Officer to execute the contract.

PURPOSE

This is to advise the GVS&DD Board of the results of Tender No. 19 – 243: Northwest Langley Wastewater Treatment Plant (NLWWTP) Phase 2 Ground Improvement and Preload, and to recommend award of the contract in the amount of \$26,511,384 (exclusive of taxes).

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 Phase 2, ground improvements at the Northwest Langley Wastewater Treatment Plant.

PROJECT DESCRIPTION

Design of the new Northwest Langley Wastewater Treatment plant must be built with appropriate seismic resistance. The treatment plant site has liquefiable soils and is immediately adjacent to the Fraser River. Consequently, during an earthquake, without ground improvements, the soil would liquefy causing structures to sink up to a metre and flow up to three metres toward the river.

The proposed ground improvements include the installation of stone columns, importing fill to raise the site grade above the Fraser River flood level and the provision of importing additional sand for preloading the site. The stone columns, installed by vibro-displacement, and installation of sand preloading will densify the ground so it will withstand the design earthquake. Preloading with a thick layer of sand will also mitigate any future settlement.

Phase 1 Ground Improvements were started late summer last year and will be completed in October of this year. This, the second phase, should be completed by the end of next year, with the third and final phase being completed in 2022. The total value of the ground improvements for the treatment plant site is \$83M.

As a result of Request for Qualifications (RFQ No. 19 - 051) that was publicly advertised on Metro Vancouver's and BC Bid websites, two experienced firms were shortlisted and invited to respond to Tender No. 19 - 243, for the second phase of the ground improvement. The tender closed on August 22, 2019 and both firms submitted tenders as follows:

Proponent	Tender Price (exclusive of taxes)
Pomerleau Inc.	\$26,511,384
JJM Construction Ltd.	\$29,530,750

The bids were reviewed for completeness by members of the engineering project team and Purchasing and Risk Management Division. Pomerleau Inc. has been identified as the lowest compliant bid and has completed several projects of similar size and complexity, including the NLWWTP Phase 1 Ground Improvements.

ALTERNATIVES

- 1) That the GVS&DD Board:
 - a) approve the award of a contract in the amount of \$26,511,384 (exclusive of taxes) to Pomerleau Inc. resulting from Tender No. 19 - 243: Northwest Langley Wastewater Treatment Plant Phase 2 Ground Improvement and Preload; and
 - b) authorize the Commissioner and the Corporate Officer to execute the contract.

- 2) That the GVS&DD Board terminate Tender No. 19 – 243: Northwest Langley Wastewater Treatment Plant Phase 2 Ground Improvement and Preload 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 will be awarded to Pomerleau Inc. in the amount up to \$26,511,384 (exclusive of taxes). The tender submitted by Pomerleau Inc. is the lowest compliant bid and is within the budget allocated for the project.

SUMMARY / CONCLUSION

As part of the Northwest Langley Wastewater Treatment Projects, Tender No. 19 – 243 was issued for the second Phase of Ground Improvements, and Pomerleau Inc. was identified as 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 Pomerleau Inc. in the amount of \$26,511,384 (exclusive of taxes).

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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: August 29, 2019 Meeting Date: September 19, 2019

Subject: **Award of a Contract Resulting from Tender No. 19-110: Annacis Island Wastewater Treatment Plant Stage 5 Expansion - Phase 2 Contract A507 - Digester Heat Exchanger Expansion**

RECOMMENDATION

That the GVS&DD Board:

- a) approve the award of a contract in the amount of \$9,337,000 (exclusive of taxes) to Bennett Mechanical Installations (2001) Ltd., resulting from Tender No. 19-110: Annacis Island Wastewater Treatment Plant Stage 5 Expansion - Phase 2 Contract A507 - Digester Heat Exchanger Expansion; 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. 19-110: Annacis Island Wastewater Treatment Plant Stage 5 Expansion - Phase 2 Contract A507 - Digester Heat Exchanger Expansion, and to recommend award of the contract in the amount of \$9,337,000 (exclusive of taxes) to Bennett Mechanical Installations (2001) Ltd.

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 Digester Heat Exchanger Expansion Project.

PROJECT DESCRIPTION

The Annacis Island Wastewater Treatment Plant (AIWWTP), located in Delta, provides secondary treatment for approximately 1.2 million people in Metro Vancouver. At present, the Annacis facility treats about 175 billion litres of wastewater each year.

To accommodate growth, the facility is undergoing a major expansion which will increase its capacity to serve 1.5 million people. The Stage 5 Expansion Project includes design and construction of new turbo blowers, a new 3-storey Controls and Laboratory Building, additional odour control, additional primary sedimentation tanks, solids contact tanks, secondary clarifiers, new solids treatment (gravity

thickeners, digester heat exchanger systems & centrifuges), new trickling filter pump station and trickling filters, and maintenance workshops.

Over the past 6 years, roughly \$340 million of construction contracts have been awarded, of which over \$270 million of construction work has been completed under this program.

The Stage 5 liquid stream facilities expansion will produce additional solids. The digester heat exchangers are a high priority treatment process to be expanded after expansion is completed, as the existing digester heat exchangers do not have adequate capacity for current peak heating demands, particularly in the winter months.

The Digester Heat Exchanger Expansion Project consists of the following major work scope:

- four (4) additional Circulating Sludge / Heating Reservoir Heat Exchangers
- four (4) additional Digester Feed Pumps
- four (4) additional Digested Sludge Withdrawal Pumps
- four (4) additional Digested Sludge Circulation Pumps
- four (4) additional Hot Water Circulation Pumps
- two (2) additional HRS Digester Load Pumps.

As a result of Request for Qualifications (RFQ No. 19-074) that was publicly advertised on Metro Vancouver's and BC Bid websites, three experienced firms were invited to respond to Tender No. 19-110, for the construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Digester Heat Exchanger Expansion Project. The tender closed on July 25, 2019 and the following compliant bids were received:

Contractor	Total Tender Price (exclusive of taxes)
Bennett Mechanical Installations (2001) Ltd.	\$9,337,000
Tritech Group Ltd.	\$9,793,146
NAC Constructors Ltd.	\$9,806,000

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. Bennett Mechanical Installations (2001) Ltd. 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 \$9,337,000 (exclusive of taxes) to Bennett Mechanical Installations (2001) Ltd., resulting from Tender No. 19-110: Annacis Island Wastewater Treatment Plant Stage 5 Expansion - Phase 2 Contract A507 - Digester Heat Exchanger Expansion; and
 - b) authorize the Commissioner and the Corporate Officer to execute the contract.

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2. That the GVS&DD Board terminate Tender No. 19-110: Annacis Island Wastewater Treatment Plant Stage 5 Expansion - Phase 2 Contract A507 - Digester Heat Exchanger Expansion 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 \$9,337,000 (exclusive of taxes) will be awarded to Bennett Mechanical Installations (2001) Ltd. The tender submitted by Bennett Mechanical Installations (2001) Ltd. 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 effectively stabilize the additional solids produced from the expanded liquid waste stream facilities currently being incorporated into the AIWWTP by the Stage 5 Phase 1 construction project. AIWWTP Digesters provide essential regional standby digester treatment for the Corporation's four other wastewater treatment plants. For example, AIWWTP currently treats solids produced by the Northwest Langley Wastewater Treatment Plant. The Corporation's ability to fulfil both these roles would be impacted.

SUMMARY / CONCLUSION

Tender No. 19-110 was issued for the construction of the Annacis Island Wastewater Treatment Plant Stage 5 Phase 2 Digester Heat Exchanger Expansion Project, and Bennett Mechanical Installations (2001) Ltd provided the lowest compliant bid. It is recommended that the GVS&DD Board authorize the Commissioner and Corporate Officer to award and execute the contract with Bennett Mechanical Installations (2001) Ltd., in the amount of \$9,337,000 (exclusive of taxes).

Attachment

1. Award of a Contract Resulting from Tender No. 19-110 - Annacis Island WWTP Stage 5 Expansion - Phase 2 Contract A507 - Digester Heat Exchanger Expansion

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Award of a Contract Resulting from Tender No. 19-110 - Annacis Island WWTP Stage 5 Expansion - Phase 2 Contract A507 - Digester Heat Exchanger Expansion



Additional Mixed Sludge Feed Pumps to improve redundancy and meet future capacity



Additional Circulating Sludge/ Heating Reservoir Supply Heat Exchangers with associated Hot Water Circulation Pumps and Digested Sludge Circulation Pumps to meet future capacity



Additional Digested Sludge Withdrawal Pumps to improve redundancy



Additional Heating Reservoir Supply Digester Load Pumps to meet future capacity

COMMITTEE INFORMATION ITEMS AND DELEGATION SUMMARIES

Greater Vancouver Sewerage and Drainage District
Board Meeting Date – Friday, October 4, 2019

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 – September 19, 2019

Delegation Summaries:

- 3.1 No delegations presented

Information Items:

- 5.2 Update on Liquid Waste Sustainability Innovation Fund Projects
- 5.3 2018 GVS&DD Environmental Management and Quality Control Annual Report
- 5.8 2019 Regional "Wipe It, Green Bin It" Campaign Update

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