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To: Liquid Waste Committee

From: Paul Dufault, Project Manager, North Shore Wastewater Treatment Plant Project,  
Liquid Waste Services

Date: January 14, 2019 Meeting Date: January 17, 2019

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

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**RECOMMENDATION**

That the GVS&DD Board receive for information the report dated January 14, 2019 titled “North Shore Wastewater Treatment Plant Project Status Update”.

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**PURPOSE**

To update the GVS&DD Board on the current status of the North Shore Wastewater Treatment Plant Project.

**BACKGROUND**

As identified in Metro Vancouver’s *Integrated Liquid Waste and Resource Management Plan* (ILWRMP) approved by the BC Ministry of Environment in May 2011, and consistent with the federally mandated Wastewater Systems Effluent Regulations, the Lions Gate Wastewater Treatment Plant is to be upgraded to secondary treatment no later than December 31, 2020.

In 2011, the Board approved a budget of \$20 Million to initiate the planning for the secondary upgrades of the Lions Gate and Iona Wastewater Treatment Plants. At the November 15, 2013 meeting, the Board endorsed the Lions Gate Secondary Wastewater Treatment Plant Indicative Design Summary Report as well as amendments to the GVS&DD cost allocation formula. At the February 14, 2014 meeting, the Board directed staff to proceed with the Design-Build-Finance approach for implementing the Lions Gate Secondary Treatment Plant and apply for grant funding under the New Building Canada Fund as the top priority infrastructure project for Metro Vancouver.

**PROJECT DESCRIPTION**

The North Shore Wastewater Treatment Plant Project (NSWWTP Project), previously known as the Lions Gate Secondary Wastewater Treatment Plant Project, consists of the following three components:

- The North Shore Wastewater Treatment Plant (NSWWTP), consisting of a new secondary wastewater treatment plant located at West 1st Street, between Pemberton Avenue and Philip Avenue in the District of North Vancouver. On April 5, 2017, the GVS&DD approved entering into a project agreement with Acciona Wastewater Solutions LP (Acciona) for the design, construction and construction financing of the NSWWTP for \$525 million. On October 5, 2017, the GVS&DD exercised its option for including the District Energy System into the NSWWTP for \$16.9 million as provided for in Acciona’s original proposal.

- The NSWWTP Conveyance Project (Conveyance Project), that will convey the District of West Vancouver's, Squamish Nation's, and a portion of the District of North Vancouver's wastewater from the existing LGWWTP to the NSWWTP. This includes new gravity trunk sewers, a new pump station located under the Lions Gate Bridge, and a new forcemain from the First Narrows pump station to the NSWWTP. After treatment, the treated secondary effluent will be conveyed by a new pipe between the NSWWTP and the existing LGWWTP outfall. On July 19, 2018, the GVS&DD approved entering into a project agreement with North Shore Conveyance Partners for the design, construction and construction financing of the Conveyance Project for \$141 million.
- Decommissioning of the existing Lions Gate Wastewater Treatment Plant (LGWWTP) and returning the lands to the Squamish Nation. Facility decommissioning will commence in 2021, after the NSWWTP and the Conveyance Project are operational and the LGWWTP is no longer required. All structures at the LGWWTP are to be removed from the site and all soil will be remediated to meet residential standards.

#### **DESIGN AND CONSTRUCTION UPDATE**

The 60% design for the NSWWTP has been submitted and reviewed. The 90% design is expected to be submitted early in 2019 and the final detailed design of the entire facility is scheduled to be submitted in October of 2019. In December 2017, the District of North Vancouver Council approved the issuance of a development permit for the project. Acciona has applied for a building permit for the underground components of the facility.

Acciona mobilized to site shortly after award. Activities focused on establishment of the project office, relocation of the existing storm sewer, site remediation and ground improvements. Acciona has relocated the storm sewer that crossed the site to a new alignment along West 1<sup>st</sup> Street, completed the removal of contaminated material from the site, and has completed installation of the stone columns. Over 3700 stone columns were installed to densify the soil for improved seismic performance. With installation of the stone columns complete, Acciona proceeded with preloading the site and on November 27, 2018 the Engineer of Record authorized the release of the initial preload from the most western portion of the site. Acciona is currently moving the preload material from the initial preload area and will progressively treat the site from west to east. By releasing the preload, deep excavations and construction of the permanent facility can begin on the western portion of the site in 2019. With respect to the project timeline, Acciona is contracted to deliver the project on the timeline approved by the Board.

North Shore Conveyance Partners (NSCP) has submitted its 90% design for the Conveyance Project. NSCP has almost completed the construction of the temporary construction road through the Squamish Nation. NSCP has mobilized to site and is currently active with the installation of the secant piled walls needed to support the excavation for the new First Narrows Pump Station under the Lions Gate Bridge.

#### **PROJECT BUDGET**

On February 28, 2014, the GVS&DD Board approved proceeding with a Design-Build-Finance procurement strategy for the NSWWTP. At that time, the proposed Lions Gate Secondary Wastewater Treatment Plant program had an estimated capital cost of \$700 M (2018 dollars); no grant funding had been secured for the project.

Table 1 provides a summary of the estimated costs of the program in 2014. The table also shows the current approved budget for the entire program to completion. The costs of the project are offset by Senior Government grant contributions that were successfully secured by the Federal government in 2016 and the Provincial government in 2017. The Government of Canada will reimburse the GVS&DD 33% of the eligible project costs up to a maximum of \$212,300,000. The Province of British Columbia has provided the GVS&DD \$193,000,000 or 31.1% of the eligible costs for the NSWWTP, which includes the outfall component of the Conveyance project.

**Table 1: Summary of original estimated costs and approved budget**

	<b>2014 Program Estimate</b>	<b>Project Budget</b>
Project Initiation and Definition	\$20,000,000	\$20,000,000
<b>NSWWTP Program</b>		
NSWWTP	\$620,000,000	\$541,600,000
Conveyance	\$60,000,000	\$148,900,000
Decommissioning	\$20,000,000	\$20,500,000
District Energy System		\$16,900,000
<b>Total NSWWTP Program</b>	<b>\$700,000,000</b>	<b>\$727,900,000</b>
Contingency	Included above	\$30,000,000
<b>Total Project Costs</b>	<b>\$720,000,000</b>	<b>\$777,900,000</b>
Province of British Columbia	\$193,000,000	
Government of Canada	\$212,300,000	
<b>GVS&amp;DD Net Project Amount</b>	<b>\$ 314,700,000</b>	<b>\$372,600,000</b>

The approved budget for the NSWWTP project is \$777.9 million. This includes \$30 million contingency to account for unforeseen items associated with the NSWWTP and Conveyance projects. The updated project costs have been assessed with respect to the GVS&DD Board endorsed 5 year financial plan.

## **ALTERNATIVES**

This is an information report. No alternatives are presented.

## **FINANCIAL IMPLICATIONS**

As both the plant construction contract and conveyance works contract are design build projects, the contractors for these two projects are required to complete the projects on the basis of the fixed price contractual terms within the overall budget as set out above.

## **SUMMARY/CONCLUSION**

As identified in Metro Vancouver's *Integrated Liquid Waste and Resource Management Plan* (ILWRMP) approved by the BC Ministry of Environment in May 2011, and consistent with the federally mandated Wastewater Systems Effluent Regulations, the Lions Gate Wastewater Treatment Plant is to be upgraded to secondary treatment no later than December 31, 2020.

In 2017, the GVS&DD entered into a contract with Acciona Wastewater Solutions to design, build and provide construction financing for the NSWWTP and in July 2018 entered into a contract with North Shore Conveyance Partners to design, build and provide construction financing for the Conveyance project. Preliminary planning work is expected to commence on the decommissioning of the existing LGWWTP in 2019.

The approved budget for the NSWWTP project is \$777.9 million, which is partially offset by \$405.3 million Senior Government grant contributions.

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