

REGIONAL DISTRICT OF NANAIMO

**SPECIAL BOARD MEETING
TUESDAY, APRIL 11, 2017
7:00 PM**

(RDN Board Chambers)
This meeting will be recorded

A G E N D A

PAGES

- 1. CALL TO ORDER**
- 2. APPROVAL OF THE AGENDA**
- 3. DELEGATIONS – AGENDA ITEMS**
- 4. CORRESPONDENCE**
- 5. REPORTS**

3-11

5.1 Greater Nanaimo Pollution Control Centre Secondary Treatment Upgrade Tender Award.

(All Directors – Weighted Vote)

- 1. That the Board award NAC Constructors Ltd. a contract for the Greater Nanaimo Pollution Control Center Secondary Treatment Upgrade in the amount of \$67,990,000.*
- 2. That the Board authorize staff to negotiate a revised fee with AECOM for engineering services for the Greater Nanaimo Pollution Control Center Secondary Treatment Upgrade project not to exceed a total contract value of \$6.5 million.*

(Nanaimo, Lantzville – Weighted Vote)

- 3. That the Board authorize staff to manage the project within the identified \$81,729,127 total project budget including identified contingency funds through an amendment to the “Regional District of Nanaimo Officers Appointment and Delegation Bylaw No. 1661, 2012”.*

(All Directors – One Vote – 2/3 Majority)

4. *That “Regional District of Nanaimo Officers Appointment and Delegation Amendment Bylaw No. 1661.03, 2017” be introduced and read three times.*
5. *That “Regional District of Nanaimo Officers Appointment and Delegation Amendment Bylaw No. 1661.03, 2017” be adopted.*

(All Directors – Weighted Vote)

6. *That Regional District of Nanaimo “Southern Community Sewer Local Service Secondary Treatment Capital Improvements Loan Authorization Bylaw No. 1756, 2017”, be introduced and read three times and be forwarded to the Inspector of Municipalities for approval.*

(All Directors – One Vote)

7. *That the Board support submission of a 2017 Gas Tax Strategic Priorities Fund application for the Greater Nanaimo Pollution Control Center Secondary Treatment Upgrade project.*

6. **DELEGATIONS – ITEMS NOT ON AGENDA**
7. **BUSINESS ARISING FROM DELEGATIONS**
8. **NEW BUSINESS**
9. **IN CAMERA**
10. **ADJOURNMENT**

TO: Regional District of Nanaimo Board **MEETING:** April 11, 2017

FROM: Maurice Mauch
Manager, Engineering Services **FILE:** 5330-20-GNPCC-Sec Upgrade

SUBJECT: Greater Nanaimo Pollution Control Centre Secondary Treatment Upgrade Tender Award

RECOMMENDATIONS

1. That the Board award NAC Constructors Ltd. a contract for the Greater Nanaimo Pollution Control Center Secondary Treatment Upgrade in the amount of \$67,990,000.
2. That the Board authorize staff to negotiate a revised fee with AECOM for engineering services for the Greater Nanaimo Pollution Control Center Secondary Treatment Upgrade project not to exceed a total contract value of \$6.5 million.
3. That the Board authorize staff to manage the project within the identified \$81,729,127 total project budget including identified contingency funds through an amendment to the "Regional District of Nanaimo Officers Appointment and Delegation Bylaw No. 1661, 2012".
4. That "Regional District of Nanaimo Officers Appointment and Delegation Amendment Bylaw No. 1661.03, 2017" be introduced and read three times.
5. That "Regional District of Nanaimo Officers Appointment and Delegation Amendment Bylaw No. 1661.03, 2017" be adopted.
6. That Regional District of Nanaimo "Southern Community Sewer Local Service Secondary Treatment Capital Improvements Loan Authorization Bylaw No. 1756, 2017", be introduced and read three times and be forwarded to the Inspector of Municipalities for approval.
7. That the Board support submission of a 2017 Gas Tax Strategic Priorities Fund application for the Greater Nanaimo Pollution Control Center Secondary Treatment Upgrade project.

SUMMARY

The Greater Nanaimo Pollution Control Center (GNPCC) Secondary Treatment Upgrade Project is required to accommodate growth in the service area and to meet Federal and Provincial regulatory, and Liquid Waste Management Plan requirements.

Design of the GNPCC Secondary Treatment Upgrade was completed by AECOM in November 2016, tender documents were provided to seven (7) prequalified contractors November 28, 2016. The tender closed February 15, 2017. Four (4) tenders were received; the low bid was submitted by NAC Constructors Ltd. (NAC).

AECOM reviewed the tenders, deemed them compliant with respect to the tender submission requirements, and recommended that the project be awarded to NAC for \$67,990,000.

To ensure sufficient engineering oversight is provided during construction of the project, Regional District of Nanaimo (RDN) staff recommend the Board authorize staff to negotiate a revised fee for

engineering services, with the total revised AECOM contract not to exceed \$6.5 million. The revised AECOM contract will be brought to the Board for approval in May 2017.

Staff are requesting that additional authority be provided to the Chief Administrative Officer and the Director of Finance by amending “Regional District of Nanaimo Officers Appointment and Delegation Bylaw No. 1661, 2012” to allow for consultant and contractor change orders to be approved up to the available contingency, specific to this project only. Amending the delegation bylaw in this way will ensure that project management staff will be able to obtain the necessary approvals required so the project proceeds expeditiously, while retaining appropriate oversight for the total budget and contingency amount.

Staff are also requesting that this project be prioritized for submission to the 2017 Gas Tax Strategic Priorities Fund grant program given its size and impact on the community.

BACKGROUND

The GNPCC was constructed in 1973 to provide primary treatment to wastewater in the Southern Communities. The GNPCC Secondary Treatment Upgrade is required in order to accommodate growth in the service area and to meet Federal and Provincial, regulatory and Liquid Waste Management Plan requirements.

Construction Tender Results:

Design of the GNPCC Secondary Treatment Upgrade was completed by AECOM in November 2016, tender documents were provided to seven (7) prequalified contractors November 28 2016.

The tender closed February 15, 2017, four (4) tenders were received; the following is a summary of the tender results.

• Graham Infrastructure LP	\$74,529,280
• Kenaidan Contracting Ltd.	\$74,277,000
• Maple Reinders Inc.	\$72,536,000
• NAC Constructors Ltd.	\$67,990,000

AECOM’s pre tender estimate of \$72,033,000 (excluding GST and contingency) was in the middle of the range of tender prices received, and as such, AECOM considers the tenders to be competitive and reflective of current market conditions. NAC provided the low tender; they have completed numerous infrastructure and waste water projects of similar size and are fully qualified to complete this project.

AECOM reviewed the tenders, deemed them compliant with respect to the tender submission requirements, and recommended that the project be awarded to NAC for \$67,990,000.

The five (5) year Capital Plan has \$81,729,127 approved for this project. With award of the construction project to NAC, the remaining project contingency would be \$5.1 million, or 6.2% of the overall project budget.

Engineering Design and Construction Services Contract

In March 2015, AECOM was awarded the contract for design and construction services of the GNPCC Secondary Treatment Upgrade Project for \$4,679,115. In order to establish a consistent basis for comparison of bids, the RFP process was based on a predesign estimate of the scope and cost of the

project, and an estimated 24 month construction period. It is normal practice, and was fully expected, that during the design process there would be scope additions and deletions required to successfully complete the upgrades to the facility. These scope changes can affect both engineering and construction costs.

Design Component:

The detailed design, specifications, contract documents and tendering phase of the project are now complete, with \$3.4 million expended to date for AECOM. This represents 5% of the tendered project construction cost which is consistent with industry standard¹, and within benchmarks set with recent wastewater projects in British Columbia.

Initial geotechnical field investigations by AECOM identified deep soils susceptible to liquefaction in a seismic event. Ground improvements required to address these conditions had the potential to increase the project cost by several million dollars. Additional geotechnical field work, soil analysis, seismic modeling, and design was undertaken to provide the most economical, yet seismically robust ground improvement regime. The negotiated cost of the additional geotechnical and design work was approximately \$195,000, that additional design work reduced the anticipated construction cost of ground improvements by an estimated \$1,250,000.

The design process included constructability and external value engineering reviews, and input from operations staff. Where appropriate, the identified issues were assessed as part of the design work. A net increase in design fees of \$114,000 were negotiated to address a number of required items including: confined space access; dewatering and solids screening upgrades; digester upgrades; effluent reuse to reduce potable water use; revised site and utility design components.

Construction Services Component:

The construction contract is a standard Canadian Construction Documents Committee fixed price contract with three parties: Owner (RDN); Consultant (AECOM), and Contractor. Under the contract, the consultant (AECOM) has the authority to act on behalf of the owner, with responsibility for contract administration, inspection of the drawings and work for conformity and progress, responding to questions regarding the design. The AECOM construction management team includes: project management; discipline leads for civil, structural, mechanical, electrical, instrumentation, controls, etc; and full time onsite field staff.

In light of industry standards, and changes identified to the scope, cost, and length of construction since the initial award of the design contract in 2015, RDN staff conclude that AECOM's current scope of work for construction services is insufficient to ensure the RDN's interests are protected through the construction phase of the project. More specifically:

- The duration of the construction period has increased 25% since design award, due primarily to extensive ground improvements identified during the design process, required to address seismic and site construction constraints. This change warrants a commensurate 25% increase in engineering construction services project management, inspection, and field engineering.
- The original construction services scope contemplated one full time field engineer/inspector. RDN staff and AECOM believe this is insufficient to effectively monitor and inspect construction activities, and staff recommend additional field inspection resources.

¹ Budget Guidelines for Consulting Engineering Services, 2009: Consulting Engineers of British Columbia, Association of Professional Engineers and Geoscientists of British Columbia

- The capital cost and scope of the construction project has increased due to a number of factors, including inflation, value of the Canadian dollar, scope revisions, site constraints, integration with existing facility, and geotechnical considerations due to the presence of liquefiable soils.

RDN staff requested a proposal from AECOM for the revised engineering and construction services scope, based on the changes identified above. AECOM has proposed a revised construction services fee of 4.5% of the construction contract value, which compares favorably to the current BC industry standard of over 5%.

RDN staff recommend the Board authorize staff to negotiate a revised fee for consultant construction services, with the total revised AECOM contract amount not to exceed \$6.5 million, and bring a revised AECOM contract amount to the Board for approval in May 2017. This will bring total engineering fees to a maximum of 9.6% of the construction cost. This compares favorably to industry standards and recent BC project benchmarks of 10% to 15% for wastewater projects.

Contract Administration:

The RDN's finance purchasing policy requires varying levels of approval for project changes and requires board approval for cumulative changes over \$150,000 above the approved contract value. Given the nature and size of the project (\$81.7 million overall budget), it is expected that there will be ongoing additions and deletions to the project that will exceed \$150,000. It is anticipated that once the \$150,000 ceiling is reached, the approval process for field construction changes under the current policy will lead to project delays and cost over runs due to the length of time required to obtain Board approvals.

The GNPCC Secondary Treatment Upgrade Project budget currently retains a \$5.1 million project contingency within the approved budget. This represents 6.2% of the overall project budget of \$81.7 million. Staff are requesting that additional authority be provided to the Chief Administrative Officer and the Director of Finance to approve consultant and contractor change orders up to the limit of \$5.1 million contingency available in the approved budget. This will require amending the "Regional District of Nanaimo Officers Appointment and Delegation Bylaw No. 1661, 2012", specific to this project only. Amending the delegation bylaw in this way will ensure the project management staff can obtain the necessary approvals required so the project proceeds expeditiously, but retains appropriate oversight for the total budget and contingency amount. Staff will provide regular project reports to the Board that contain detailed contract progress and updated project financial information.

ALTERNATIVES

1. Award the Contract for the GNPCC Secondary Treatment Upgrade to NAC in the amount of \$67,990,000 with a total approved project budget of \$81,729,127 including continuing the project consultant agreement with AECOM.

This will allow the project to proceed within approved budget, and to complete the project within regulatory timelines.

2. Do not award the contract for the GNPCC Secondary Treatment Upgrade to NAC, and provide alternate direction to staff.

Not awarding this project will mean that the RDN will incur additional project costs and will not meet regulatory requirements for effluent quality within the provincially approved timelines.

FINANCIAL IMPLICATIONS

The 2017 to 2021 Financial Plan includes funding from three sources for the Secondary Treatment upgrade project \$81,729,127 budget: Reserve and Development Cost Charge (DCC) funding of \$29 million; existing grant funding of \$1.1 million; and up to \$48 million in borrowing in accordance with the approved Liquid Waste Management Plan (LWMP). The project cost allocation is 40% DCC's and 60% existing users and reserves. The current DCC balance available for the project is \$3.3 million. The DCC plan for Southern Community Wastewater includes the use of future DCC's to service the debt principal payments on project borrowing.

For 2017, as the project was not successful in obtaining grant funding under the Clean Water & Wastewater Fund, staff request approval of a loan authorization bylaw for up to \$48 million for 2017/18 to be forwarded to the Minister as required for review at this time. Discussions have been undertaken with the Ministry of Community, Sport and Cultural Development to ensure all requirements for approval of the loan authorization bylaw are in place prior to submission. UBCM recently announced an intake for the Strategic Priorities Fund under the Gas Tax funding programs. This program allows for each local government to submit two infrastructure grant applications and one capacity building application. Given the size of this project and impact on the community, staff are requesting that it be prioritized for application to this program. After final results of grant applications are known, it may be possible to amend the amount of borrowing required for the project.

STRATEGIC PLAN IMPLICATIONS

The GNPCC Secondary Treatment Upgrade project is identified in the LWMP as a priority. Completion of the construction will achieve the goal, meet legislative requirements and fulfill our commitment. Completion of this project is contained in the 2016-2020 Board Strategic Plan.

Wastewater treatment is one of the RDNs core services and the GNPCC is a key asset, it is integral to meeting the service needs of the Region. Completion of the GNPCC Secondary Treatment Upgrade project will meet the strategic priorities of protecting and enhancing our environment, and funding infrastructure in support of our core services.

The expansion will to allow the RDN to provide secondary wastewater treatment with capacity projected to be sufficient for the service area until the year 2035. The project will ensure that the RDN has the ability to meet the Provincial and Federal Governments wastewater effluent regulations.



Maurice Mauch
mmauch@rdn.bc.ca
March 15, 2017

Reviewed by:

- R. Alexander, General Manager, Regional and Community Utilities
- W. Idema, Director of Finance
- P. Carlyle, Chief Administrative Officer

Attachments

1. Southern Community Sewer Local Service Secondary Treatment Capital Improvements Loan Authorization Bylaw No. 1756, 2017

2. Regional District of Nanaimo Officers Appointment and Delegation Amendment Bylaw No. 1661.03, 2017

REGIONAL DISTRICT OF NANAIMO

BYLAW NO. 1756

**A BYLAW TO AUTHORIZE THE BORROWING OF
FORTY EIGHT MILLION DOLLARS (\$48,000,000)
FOR THE SOUTHERN COMMUNITY SEWER LOCAL SERVICE**

WHEREAS the Board of the Regional District of Nanaimo (the "Regional District") established the Southern Community Sewer Local Service pursuant to Bylaw No. 888, cited as "Regional District of Nanaimo Southern Community Sewer Local Service Conversion Bylaw No. 888, 1993" for the purpose of collection, conveyance, treatment and disposal of sewage;

AND WHEREAS the Regional District wishes to undertake and carry out secondary treatment capital improvement and upgrades requirements to the Greater Nanaimo Pollution Control Centre (the "Works");

AND WHEREAS the Regional District Liquid Waste Management Plan has been approved by the Minister under section 24(5) of the *Environmental Management Act* and the borrowing authority to implement the Liquid Waste Management Plan does not require approval of the electors;

AND WHEREAS the estimated cost of the Works, including expenses incidental thereto, is the sum of Forty Eight Million Dollars (\$48,000,000);

AND WHEREAS the financing is to be undertaken by the Municipal Finance Authority of British Columbia pursuant to proposed agreements between the Authority and the Regional District;

NOW THEREFORE the Board of the Regional District of Nanaimo in open meeting assembled enacts as follows:

1. This bylaw may be cited for all purposes as the "Southern Community Sewer Local Service Secondary Treatment Capital Improvements Loan Authorization Bylaw No. 1756, 2017".
2. The Regional District is hereby empowered and authorized to borrow funds to undertake and carry out or cause to be carried out the secondary treatment capital improvement and upgrades requirements to the sewage collection, treatment and disposal system of the Greater Nanaimo Pollution Control Centre.
3. The total amount to be borrowed under the authority of this bylaw shall not exceed Forty Eight Million Dollars (\$48,000,000).
4. The maximum term for which debentures may be issued to secure the debt created by this bylaw is 20 years.
5. The borrowing authorized relates to the Southern Community Sewer Local Service established pursuant to Bylaw No. 888, cited as "Regional District of Nanaimo Southern Community Sewer Local Service Conversion Bylaw No. 888, 1993".

Introduced and read three times this _____ day of _____, 2017.

Received the approval of the Inspector of Municipalities this _____ day of _____, 2017.

Adopted this _____ day of _____, 2017.

CHAIRPERSON

CORPORATE OFFICER

REGIONAL DISTRICT OF NANAIMO

BYLAW NO. 1661.03

**A BYLAW TO AMEND REGIONAL DISTRICT OF NANAIMO
OFFICERS APPOINTMENT AND DELEGATION BYLAW**

WHEREAS the Regional District of Nanaimo wishes to amend “Regional District of Nanaimo Officers Appointment and Delegation Bylaw No. 1661, 2012”;

NOW THEREFORE, the Board of the Regional District of Nanaimo, in open meeting assembled, enacts as follows:

1. Citation

This Bylaw may be cited as “Regional District of Nanaimo Officers Appointment and Delegation Amendment Bylaw No. 1661.03, 2017”.

2. Amendments

“Regional District of Nanaimo Officers Appointment and Delegation Bylaw No. 1661, 2012” is amended as follows:

1. By adding a new subsection (3) to Section 9 (Purchasing Authority Delegation) as follows:

(3) Despite subsection (1)(c), construction or consultant change orders for amounts within the budgeted \$5,116,667 project contingency specific to the Secondary Treatment Upgrade Project at the Greater Nanaimo Pollution Control Centre may be authorized by the Chief Administrative Officer and Director of Finance without additional Board approval.

This subsection is only in effect until the earlier of December 31, 2019 or until the project is deemed to be substantially complete.

Introduced and read three times this __ day of _____, 2017.

Adopted this ____ day of _____, 2017.