Agenda – Council – November 25, 2021

Report – Executive Policy Committee – November 17, 2021

Item No. 14 Market Sounding and Analysis for a Private-Public Partnership (P3) for the North End Sewage Treatment Plant Upgrades – Biosolids

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On November 17, 2021, the Executive Policy Committee submitted the following to Council:

1. That the Province of Manitoba be called upon to submit its funding application for the Headworks and Biosolids Facilities projects to the Federal government as requested in October 2019.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing

Report – Executive Policy Committee – November 17, 2021

DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On November 17, 2021, the Executive Policy Committee passed the following motion:

WHEREAS in October 2019, the Winnipeg Public Service submitted the funding application for the Headworks and Biosolids Facilities projects to the Province of Manitoba, as they are administering the ICIP funding program on behalf of the Federal government under a bilateral agreement;

AND WHEREAS on March 30, 2021 the Province directed the City of Winnipeg to proceed with P3 market sounding;

AND WHEREAS Failure to access this grant funding of $368 million (or two-thirds of the $552 million project) would have significant environmental, customer and economic impact including:

- A consequential increase to residential customer sewer rates.
- Increased risk arising from environmental licence violations and sewage treatment failures and a delay in vital assistance to protect our rivers and lakes.
- Industrial growth will be stymied with no capacity for increased economic development in the next five to nine years.

AND WHEREAS the current deadline for ICIP funding applications is December 31, 2021.

THEREFORE BE IT RESOLVED that Council call on the Province of Manitoba to submit its funding application for the Headworks and Biosolids Facilities projects to the Federal government as requested in October 2019.

and submitted the matter to Council.

ADMINISTRATIVE REPORT

Title: **MARKET SOUNDING AND ANALYSIS FOR A PRIVATE-PUBLIC PARTNERSHIP (P3) FOR THE NORTH END SEWAGE TREATMENT PLANT UPGRADES – BIOSOLIDS**

Critical Path: Executive Policy Committee – Council

AUTHORIZATION

Author	Department Head	CFO	CAO
Moira L. Geer, CPA, CA, Director	Moira L. Geer, CPA, CA, Director, Water and Waste Deparment	C. Kloepfer	M. Jack

EXECUTIVE SUMMARY

This report is to provide an update on the private-public partnership (P3) market sounding undertaken by the City of Winnipeg as required by the Province of Manitoba (Province) to advance the Investing in Canada Infrastructure Program (ICIP) funding application for the NEWPCC Upgrade: Biosolids Facilities Project. As a result of this exercise, the market has indicated that a P3 Design-Build-Finance (or some variation thereof) procurement model for the Biosolids project may be preferred over the traditional design-bid-build model.

Executive Policy Committee directed the Public Service to undertake the P3 market sounding but to specifically exclude operations and maintenance. Deloitte LLP led market soundings on a Design Build Finance (DBF) procurement model with results indicating that there would be significant interest in a DBF procurement model. The market sounding results are attached as Appendix 2.

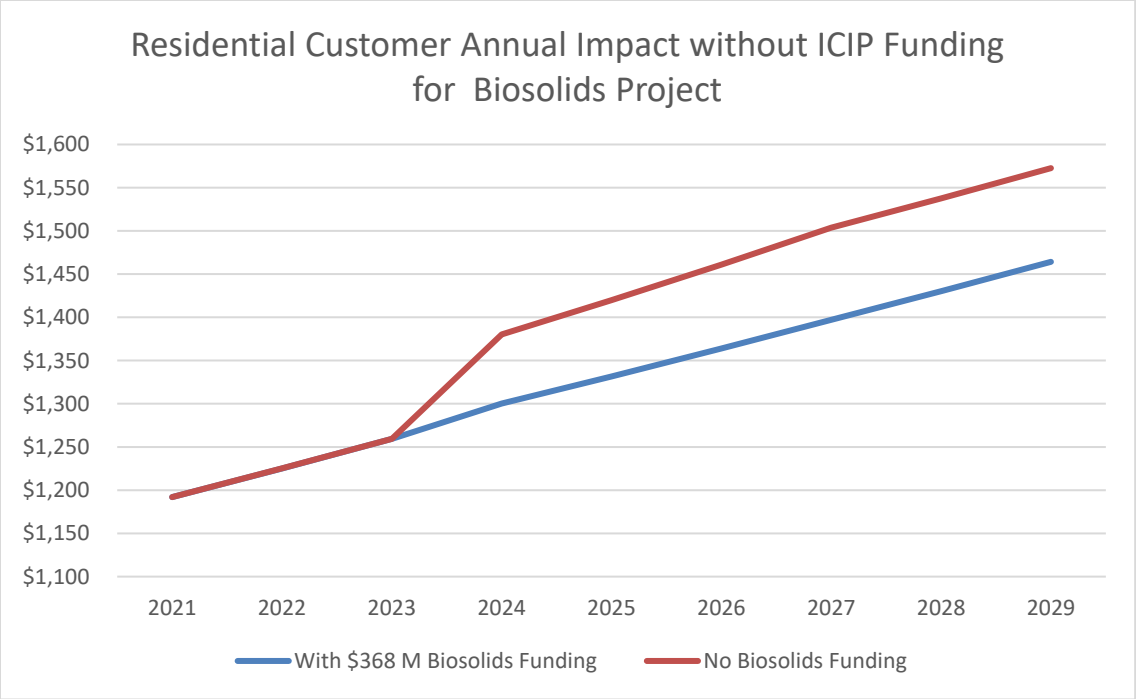
The Province did not support the City's position and conducted its own market sounding with a focus on the full scale P3 – Design Build Finance Operate and Maintain (DBFOM).

City and Provincial staff have met to review results of the market soundings with no clear path on next steps. The Chief Administrative Officer has requested confirmation of what additional information is needed to advance the ICIP grant application (Appendix 1).

The ICIP funding application for NEWPCC Upgrade: Biosolids Facilities Project has not yet been forwarded to the Government of Canada and the current deadline is December 31, 2021. Without this funding, there would be a significant negative impact on customers.

Failure to access this grant funding of $368 million (or two-thirds of the $552 million project) would have significant environmental, customer and economic impact.

- Rates would increase,
- Licence compliance would be delayed, and
- No significant industrial growth would happen in the next five to nine years.



RECOMMENDATIONS

That this report be received as information.

REASON FOR THE REPORT

On May 18, 2021 Executive Policy committee approved single source negotiations for a contract with Deloitte LLP to provide Professional Consulting Services to undertake a private-public partnership market sounding and analysis for the NEWPCC Upgrade: Biosolids Facilities and NEWPCC Upgrade: Nutrient Removal Facilities Projects, as required by the Province of Manitoba for the Investing in Canada Infrastructure Program (ICIP) Funding Application for the City of Winnipeg at an estimated cost not to exceed $400,000.00, GST and MRST extra as applicable and directed the Public Service to report back to Council on the results.

IMPLICATIONS OF THE RECOMMENDATIONS

There are no implications as the report is to be received as information.

HISTORY/DISCUSSION

On February 28, 2019, Council approved the North End Sewage Treatment Plant Biological Nutrient Removal Upgrade Project report recommending the NEWPCC Upgrade Project would be split into three separate capital projects to mitigate the risk associated with a single large, complex and lengthy project. The project was amended to: 1) NEWPCC Upgrade Project: Power Supply and Headworks Facilities; 2) NEWPCC Upgrade Project: Biosolids Facilities; 3) NEWPCC Upgrade Project: Nutrient Removal Facilities. Executing the upgrades as three separate capital projects would provide

opportunities to better manage the overall project scope and cost. This report highlighted that the existing Biosolids Facility would be nearing capacity in five to ten years.

On September 26, 2019, Council approved a 2019 Capital Budget of $552,712,000 for the NEWPCC Upgrade: Biosolids Facilities project, subject to final written confirmation of Federal and Provincial funding satisfactory to the Chief Financial Officer. This report approved the Public Service to submit the NEWPCC Upgrade: Headworks and NEWPCC Upgrade: Biosolids Facilities projects, among others, for Provincial and Federal funding under the ICIP program.

In October 2019, the Public Service submitted the funding application for the Headworks and Biosolids Facilities projects to the Province of Manitoba, as they are administering the ICIP funding program on behalf of the Federal government under a bilateral agreement.

On January 30, 2020, Council approved $15,334,000 for the NEWPCC Upgrade: Biosolids Facilities project budget to secure engineering services within the 2020 to 2023 Water and Sewer Rate report to undertake detailed engineering to proceed with a design-bid-build. This engineering work has not yet started, as the Province has requested that the City undertake a review of a P3 project procurement methodology, which is ongoing.

On September 30, 2020, City Council approved the transfer of $321.24 million of Federal funding under ICIP from the Public Transit Infrastructure to the Green Infrastructure Stream to fund the Federal government's portion for the Headworks and Biosolids Facilities projects.

On December 17, 2020, City Council approved the Biosolids Capacity Report that highlighted the City's remaining biosolids capacity of 90,000 population equivalent that could be consumed within the next five to nine years. This limitation impacts development in both the City and the Winnipeg Metro Region.

On March 25, 2021, Council approved the Update on North End Sewage Treatment Plant (NEWPCC) Upgrade: Headworks and Biosolids Facilities Projects recommending not to proceed with detailed design and to request that the Province of Manitoba confirm the procurement methodology for the NEWPCC Upgrade: Biosolids Facilities Project.

On March 30, 2021 the Province directed the City of Winnipeg to proceed with P3 market sounding with a specific focus on Design Build Finance Operate Maintain (DBFOM) methodology in addition to other forms of P3.

On May 18, 2021 Executive Policy Committee approved a single source negotiation to award a contract to Deloitte LLP to conduct a market sounding for the private-public partnership for the Biosolids project as directed by the Province of Manitoba.

Executive Policy also mandated that the current Operation and Maintenance of Winnipeg's sewage treatment utility shall remain public and that the Operation and Maintenance not be included as part of the P3 market sounding.

Market Sounding Results

The Deloitte LLP team along with the Public Service conducted a market sounding to seek the input and interest of potential bidders on the pending procurement (without operations and maintenance) for NEWPCC Upgrade: Biosolids and Biological Nutrient Removal projects.

The target audience included design-builders, general contractors, engineering firms and financiers. The team conducted interviews with twelve potential bidders and the results were as follows:

Category	Key Findings
Market interest and capacity	• There is **significant interest** in the Projects' scope, with size being a potential constraint. • A **bundled procurement** approach was **not preferred**.
Project scope and delivery model	• No significant **scope concerns** were noted. • Allowing **flexibility in design** will encourage innovation. • The **DBF model was acceptable** to the Participants, though some suggested other **alternative delivery models with early contractor involvement** such **as Progressive Design-Build ("PDB")** and **Construction Management / Design-Assist**. • There was some high-level interest expressed for a **DBFOM model**. However, as the focus of the Market Sounding was a DBF model, such interest was **not based on discussion of key operational aspects** of the City's current collective agreements and complexities related to integration of the NEWPCC into the City's overall wastewater collection and treatment.
Project risks	• The City should **retain the risk for prescribed processes** or vendors/suppliers (e.g., technology). • **Key cited risks** included: passed down and unknown risks from existing facilities, process guarantees, geotechnical / environmental, existing facilities, permitting, and unknown utilities.
Procurement process	• **Separate procurements** would promote the **most competition**. • **RFP open period** timelines provided (6 to 9 months) were generally considered reasonable. • Ample **technical information** in the RFQ stage is important. • Having a **"Project Champion"** from City's leadership is important to justify procurement participation. • **Veolia contract** information and clarity is important for bidders.

Category	Key Findings
Construction term and scope	• The **proposed construction periods** (over 5 years) for each project is **reasonable** given the size and complexity of the Projects. ○ For the Nutrient Removal Facilities, given the constraints of the project, workarounds and tie-ins with existing NEWPCC operations, etc., a relatively long construction period was considered logical. • Participants cited that the suggested **collaborative approaches (e.g., PDB)** could shorten the construction period.
Construction period payments	• Some participants preferred **milestone payments** while others preferred **monthly construction period payments**, both with a 50% holdback to be paid through a substantial completion payment.
Financing capacity	• There is **sufficient capacity and interest** in the Canadian debt market to provide financing for the two Projects. • Lenders would look for a **customary risk profile** for a DBF delivery model. • No concerns were noted on ability and capacity of contractors to meet the standard performance security requirements for the Projects.
Honorarium	• Pursuit costs are sizable and hence participants would prefer an honorarium of approximately **1% - 2% of the capital cost**. • Larger honorariums allow for **meaningful effort** and innovation in design, as well as more **accurate pricing** with lower contingencies.

Deloitte LLP's advice on a P3 procurement on Biosolids and BNR has been consistent:

- Critical to the DBFOM model is the Operations and Maintenance (OM) which is provided by water/wastewater OM contractors.
- With regard to the Canadian market of OM providers, there are a limited number and Canadian OM providers have not operated at the scale of NEWPCC.
- There have been no wastewater DBFOMs (P3s) of this scale in Canada. Typically for a DBFOM procurement, the objective would be to identify four to five bid teams - the project would need up to five credible OM leads to create an optimal competitive environment.
- The City's market sounding showed that there are sufficient interested construction contractors for competitive DBFs to be conducted for Biosolids and Nutrient Removal as separate projects.

The market sounding indicated that the market may prefer a P3 Design-Build-Finance (or some variation thereof) for procurement of the Biosolids project as opposed to a traditional procurement model. The detailed Market Sounding Results can be found in Appendix 2.

Operations and maintenance were excluded from the market sounding as directed by Executive Policy Committee.

While operations were not included in the review, the City entered into an innovative performance-based contract with Veolia in 2011 that will ensure the optimization of both capital and operations. The commercial terms of the agreement mimic a DBFOM P3 model as Veolia is compensated for capital and operating cost savings that are realized as a result of their advice and summarized on the City of Winnipeg website (https://winnipeg.ca/waterandwaste/sewage/wstp/default.stm#tab-links).

Veolia is an embedded expert that brings global expertise in sewage treatment plant upgrades and operations and is a world leader in both water and wastewater treatment:

- $30.4B revenues
- 178,780 employees
- 98M people supplied with drinking water
- 67M people connected to wastewater systems
- 3,548 drinking water production plants managed
- 2,835 wastewater treatment plants managed

ENVIRONMENTAL IMPACT

The NEWPCC Upgrade was deliberately split into three separate projects to manage scope and complexity. These three projects must occur sequentially due to integration of new processes and requirement for biological (versus chemical) nutrient removal as codified in the *Save Lake Winnipeg Act*.

As planned in this phased approach, and as soon as funding has been resolved, the Public Service will undertake a constructability review to determine how NEWPCC Upgrade: Headworks, NEWPCC Upgrade: Biosolids Facilities, and NEWPCC Upgrade: Nutrient Removal projects can overlap in order to expedite schedule (e.g. separate projects could run concurrently due to the lengthy construction period of each). The review will also assess project stacking and what level of construction activity the constrained NEWPCC footprint can accommodate.

ECONOMIC IMPACT

The City of Winnipeg's remaining biosolids capacity is estimated to be between five and nine years. However, if one large industrial user 'ties-in' to the system, it is possible that capacity may be reduced even quicker. Even if procurement and construction of the new biosolids facility were approved immediately, the facility would not commence operations for another seven and a half to eight years. Consequently, it is reasonable to say that the City of Winnipeg may deplete remaining capacity for several years before a new facility begins operations. If that scenario occurs, the City could operate the biosolids treatment facility at maximum capacity; however, the City would be exposed to increased risk arising from environmental licence violations and sewage treatment failures.

Given these constraints and risks, the City is facing a potential suspension on growth within the residential and non-residential industries in the near term. Because of this, the City may recommend halting development of the most intense biosolids users, such as those in the agricultural and agri-food industries.

There will be an economic and financial impact of delaying the expansion of City's biosolids capacity. A precise estimate of these impacts is unknown given that these impacts are contingent on future opportunities. Yet, by studying residential, non-residential, agricultural industry, and financial and economic statistics, the City can provide a range of potential impacts. In no particular order these are:

1. A proportion of the annual $1.2 Billion in residential development may not occur;
2. A proportion of the annual $1.4 Billion in non-residential; and in particular, agricultural growth, may not occur;
3. Agri-food industry investments, likely on the order of $100 million in capital investment and 100 jobs, may not occur;
4. Prices of existing housing supply may accelerate faster than usual;
5. Prices of existing industrial supply may accelerate faster than usual;
6. Individuals and companies may substitute surrounding regions for Winnipeg (locally/nationally/internationally);
7. Intangibles, such as business and consumer confidence; and
8. City revenues increases may be reduced by an amount between $160,000 to $88 million.

It is important to note that some of the growth which otherwise would have taken place within City limits may be diverted to surrounding regions. This assumes those regions aren't under a waste water service-sharing agreement with the City, have their own capacity and that those locations are practical substitutes.

On a lesser scale, should the ICIP funding for biosolids not materialize, economic development could be stymied by inordinate rate increases that would not make Winnipeg a competitive city. This would negatively impact Winnipeg and Manitoba's economy.

Overall, the limited biosolids capacity of roughly five to nine years of residential growth could be a deterrent for industry seeking to locate in Winnipeg.

The full economic analysis is attached in Appendix 3.

FINANCIAL IMPACT

Financial Impact Statement

Date: November 10, 2021

Project Name:

PRIVATE-PUBLIC PARTNERSHIP (P3) MARKET SOUNDING AND ANALYSIS FOR THE NORTH END SEWAGE TREATMENT PLANT UPGRADES – BIOSOLIDS AND NUTRIENT REMOVAL FACILITIES

COMMENTS:

There is no Financial Impact associated with the recommendation of this report, as it is to be received as information. Of note, failure to access the ICIP funding for Biosolids would add $368 million in capital cost to be fully borne by customers.

L Szkwarek

Lucy Szkwarek, CPA, CGA
Manager of Finance and Administration

CONSULTATION

This Report has been prepared in consultation with:

N/A

OURWINNIPEG POLICY ALIGNMENT

This report is in accordance with the OurWinnipeg policies through:

OurWinnipeg Reference:
01-3 Prosperity
02-1 Sustainability
02-2 Environment

WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

This report is in accordance with the Winnipeg Climate Action Plan:

N/A

SUBMITTED BY

Department: Water and Waste Department
Division: Director's Office
Prepared by: Moira L. Geer, CPA, CA, Director
Date: November 13, 2021
File No: 010-01-11-03-04

ATTACHMENTS:

Appendix 1: November 12, 2021 Letter to Deputy Minister Sinclair and Deputy Minister Gray
Appendix 2: NEWPCC Biosolids and Nutrient Removal Facilities Project Market Sounding Report
Appendix 3: The Economic and Financial Impact of Delaying the Expansion of Civic Biosolids Capacity