

Minutes – Standing Policy Committee on Finance – September 12, 2022

REPORTS

Item No. 4 North End Sewage Treatment Plant (NEWPCC) Upgrade Projects

STANDING COMMITTEE DECISION:

The Standing Policy Committee on Finance concurred in the recommendation of the Winnipeg Public Service and received the financial status of the North End Sewage Treatment Plant (NEWPCC) Upgrade Projects, as contained in the report, as information.

Minutes – Standing Policy Committee on Finance – September 12, 2022

DECISION MAKING HISTORY:

Moved by Councillor Rollins,

That the recommendation of the Winnipeg Public Service be concurred in.

Carried

ADMINISTRATIVE REPORT

**Title: North End Sewage Treatment Plant (NEWPCC) Upgrade Projects,
Project ID: 2031001304, 2031001310, 203110013B and 203110028B,
Quarterly Project Status Report No. 29
For the Period Ended June 30, 2022**

Critical Path: Standing Policy Committee on Finance

AUTHORIZATION

Author	Department Head	CFO	CAO
C. D. Wiebe, P. Eng., CAMP, Manager of Engineering Services	Tim W. Shanks, M. Eng., P. Eng., Director of Water and Waste	C. Kloepfer	M. Geer, Acting CAO

EXECUTIVE SUMMARY

Project On Schedule: Yes No

Project On Adopted Budget: Yes No

Percent of Schedule Complete:

Percent of Adopted Budget Spent:

Headworks Facilities

On the Headworks Upgrade project, Red River Solutions (RRS) continues to develop and issue 60% and 90% design submissions for review as well as Issued for Construction (IFC) packages for various portions of work. Site works have commenced with the installation of the secant piles which provide shoring for the raw sewage pump station excavation and construction. The Province of Manitoba has reviewed and approved the disposal plans for impacted soils identified on site. Transportation of impacted soil to approved disposal sites is in progress.

A Job Open House was held by RRS on April 21, 2022, to encourage local tradespersons to work on the NEWPCC Headworks Facilities project. RRS held a chartering session with the City on April 28, 2022, to foster effective communication and encourage a positive working environment between all parties.

RRS issued two force majeure notices to the City relating to potential work delays associated with supply chain issues, increased costs due to fuel and freight prices associated with the ongoing Russia-Ukraine crisis, and for possible flooding in Winnipeg and Southern Manitoba. The impacts of these events on the project may be either incidental or direct. The City has requested information to support the direct impact of these events before the force majeure notices can be considered in accordance with the Design Build Agreement (DBA).

The independent payment certifier, Altus Group Limited (Altus), completed six milestone inspections as requested by RRS. Five out the six milestone certificates have been approved;

the City has made four of the milestone payments and the fifth milestone is in the process of being paid.

On April 28, 2022, Council approved the delegation of contract over-expenditures, up to a maximum cumulative amount \$10 million, to the Chief Administrative Officer.

Biosolids Facilities

The Biosolids Facility project finalized the enhanced preliminary design (EPD) reports. The reports include the EPD, a revised Class 3 construction cost estimate by AECOM, an independent Class 3 estimate from Hanscomb, and a Delivery Model Analysis report by Deloitte.

On May 10, 2022, the Province clarified that decisions related to the procurement strategy for the biosolids project reside with the City. They also confirmed funding support following federal approval of the ICIP business case.

DCS Project

The Distributed Control System (DCS) detailed design is ongoing. A tender package for the DCS migration fibre optic installation was issued on April 29, 2022, and closed May 27, 2022. A contract in the amount of \$1,333,196 was awarded on June 16, 2022, to Centec Electric & Controls Ltd.

Primary Clarifier Upgrades

The detailed design for the primary clarifiers is ongoing. The tender for the construction works is anticipated to be issued in the fall of 2022.

Power Supply Upgrades

The design build contractor on the Power Supply Upgrade project has not completed the final documentation for hand over to the City. The City is continuing to enforce liquidated damages as Total Completion dates have been missed.

Provincial Correspondence

On April 14, 2022, the Province of Manitoba acknowledged receipt of the City's February 15, 2022, Interim Phosphorous Reduction and NEWPCC Upgrade Plan Update, and the City's March 11, 2022, letter providing additional information related to the assessment of options to enhance interim phosphorous reduction.

The Province has requested that the City continue monthly and quarterly progress reports. The Province and the City have agreed to a date of December 31, 2023, to submit a detailed multi-year plan that includes a funding model to complete the full upgrade, including the nutrient removal facilities, and a procurement approach to have the upgrades completed by December 31, 2030.

This constructability review will evaluate opportunities to accelerate the final Nutrient Removal Facilities project to bring the NEWPCC into full compliance by 2030. It will also explore options to mitigate site constraints such as lay down areas, traffic flows, etc. to allow concurrent construction of all three projects within a continuously operating sewage treatment facility.

The Advisory Committee has reviewed this report and recommends that the report be sent to the Standing Policy Committee on Finance.

RECOMMENDATIONS

That the financial status of the North End Sewage Treatment Plant (NEWPCC) Upgrade Projects, as contained in this report, be received as information.

REASON FOR THE REPORT

The Asset Management Administrative Standard FM-004 requires all projects with a total estimated cost of \$25 million (2022) or more report quarterly to the Standing Policy Committee on Finance. This threshold is adjusted annually for construction inflation as part of the annual Capital Budget approval. The Standing Policy Committee on Finance may also request reporting on any capital project.

IMPLICATIONS OF THE RECOMMENDATIONS

No implications.

HISTORY/DISCUSSION

See Appendix C – Key Project Events (History)

(Update from last report)

On April 14, 2022, the Province of Manitoba acknowledged receipt of the City's February 15, 2022, Interim Phosphorous Reduction and NEWPCC Upgrade Plan Update, and the City's March 11, 2022, letter providing additional information related to the assessment of options to enhance interim phosphorous reduction.

In their response, the Province indicated the City did not provide sufficient information to determine if appropriate progress to complete the upgrades has been made. In addition to continued monthly and quarterly progress reports, the Province requested the submission of an updated multi-year plan by June 30, 2022, that included a funding model and procurement approach to complete the full upgrades by December 31, 2030.

The Province and the City have agreed to a date of December 31, 2023 to submit a detailed multi-year plan that includes a funding model to complete the full upgrade, including the nutrient removal facilities, and a procurement approach to have the upgrades completed by December 31, 2030.

NEWPCC Upgrade: Power Supply and Headworks Facilities

Power Supply Facility

Design Build Execution

- **RFP 40-2014:** KGS Group's (Owner's Advocate) Phase 2 work, for professional engineering services during construction, continues under a supplemental agreement to RFP 40-2014.
- **RFP 599-2015B:** The design build contract executed on April 16, 2018, with Black & McDonald Ltd is now substantially complete. Submission of project close-out documents are required for total completion to be achieved. Black & MacDonald Ltd continues to submit these documents and liquidated damages are being applied until total completion is achieved.

Headworks Facilities

Design

- **RFP 182-2015 - DCS Migration:** The Distributed Control System (DCS) migration project will result in three tender packages. AECOM is providing engineering consulting services for plant-wide migration of the existing DCS to a new process control system. AECOM issued a tender package for the DCS migration fibre optic on April 29, 2022. The tender closed May 27, 2022 and was awarded on June 16, 2022 to Centec Electric & Controls Ltd.

Detailed design is ongoing for the systems integrator process control system (PCS) package and for the PCS panel and installation package.

- **RFP 785-2020:** AECOM is continuing with detailed design for the primary clarification facility upgrades.

Construction

- **Tender No.92-2022:** A contract for NEWPCC DCS Migration - Fibre Supply and Installation was awarded to Centec Electric & Controls Ltd in the amount of \$1,333,196.00 on June 16, 2022.

Design Build Execution

- **RFP 182-2015 Headworks Phase 2:** AECOM is continuing to provide owner's advocate services during the design build of the NEWPCC Upgrade: Headworks Facilities Project.
- **RFP 659-2018B:** On April 28, 2022, Council delegated a maximum cumulative amount of \$10 million to the Chief Administrative Officer, for the NEWPCC Upgrade: Headworks Facilities project, provided the contract value plus the over-expenditure does not exceed Council's approved budget for the project.

RRS is continuing to submit design submission packages at 60%, 90%, and IFC for various portions of work.

RRS has completed daylighting of the interceptors, monitoring of water levels in the interceptors, and rock grouting at raw sewage pump station area. Permits were issued by the Planning, Property & Development Department for the junction chambers, raw sewage pump station, overflow channel and electrical duct bank.

Construction of secant piles for the raw sewage pump station has begun. The guide wall installation for the secant piles is complete and 59% of piles have been poured. Driven pile installation began on June 17 and will continue until late fall. Work has started on the installation of the electrical duct bank. Disposal locations for the impacted soil have been identified as GFL or Prairie Green, depending on the level of contaminant. Disposal plans have been reviewed and approved by the Province. Transportation of impacted soil to disposal sites is in progress.

On March 10, RRS issued a force majeure notice to the City relating to potential work delays associated with supply chain issues, increased costs due to fuel and freight prices associated with the ongoing Russia-Ukraine crisis. The impacts of these events on the project may be either incidental or direct. The City has requested evidence to support the direct impact before the force majeure notice can be considered in accordance with the Design Build Agreement (DBA).

RRS held a Job Open House on April 21, 2022, at the Red River Community Center to encourage local tradespersons to work on the NEWPCC Headworks Facilities Upgrade Project.

RRS held a chartering session with the City on April 28, 2022, to foster effective communication and encourage a positive working environment between all parties working on the project.

On April 29, 2022, RRS issued a second force majeure notice to the City. The notice indicated possible delays due to flooding in Winnipeg and Southern Manitoba. The City indicated that, although there was flooding in the Province, there was no river or overland flooding at the NEWPCC site. The City has requested evidence to support the direct impact before the force majeure notice can be considered in accordance with the Design Build Agreement (DBA).

RRS applied for inspections of six milestones to the Independent Certifier on May 14, 2022, and June 16, 2022, respectively.

- **RFP 64-2021:** Altus Group Limited (Altus), the Independent Certifier for the Headworks Facilities Design Build Project, completed six milestones inspections for work carried out by RRS. Five out of the six milestone certificates have been approved, the City has made four of the milestone payments, the fifth milestone payment is in the process of being paid.

On May 18, 2022, the City issued a notice to Altus, as per the DBA, that RRS had been late on numerous submittals. Altus determined that \$60,000.00 of payment adjustments were applicable. The City is in the process of determining if the payment adjustments meet the original intent of the payment adjustment definition in the Design Build Agreement.

NEWPCC Upgrade: Biosolids Facilities

On June 28, 2022, the Standing Policy Committee on Water and Waste, Riverbank Management and the Environment concurred in the recommendation of the Winnipeg Public Service, as amended, and recommended to Council:

1. That the revised cost estimate for the NEWPCC Upgrade: Biosolids Facilities Capital Budget be referred to the 2024-2027 Multi-Year Budget Process.
 2. That the \$15,334,000.00 2019 Capital Budget for the NEWPCC Upgrade: Biosolids Facilities, approved on January 30, 2020, as part of the 2020-2023 Water and Sewer Rate Report, be funded from the Environmental Projects Reserve rather than external debt.
- **RFP 182-2015 – Biosolids Preliminary Design:** AECOM has submitted the final enhanced preliminary design report and a Class 3 Construction Cost Estimate.
 - **RFP 182-2015 – Biosolids Procurement:** A contract over-expenditure report for AECOM to carry out procurement services for the NEWPCC Upgrade: Biosolids Facilities project was approved by Standing Policy Committee Water and Waste Riverbank Management and

Environment on June 28, 2022.

- **RFP 786-2021:** Hanscomb has submitted the final Class 3 Construction Cost Estimate as an independent cost estimator.
- **RFP 385-2021:** Deloitte LLP has submitted the final Delivery Model Analysis report that recommends a procurement model for the Biosolids Facility Project.

Notice of Alteration (NOA) for NEWPCC

- The City continues to submit monthly and quarterly progress reports to the Province. The quarterly reports are posted publicly.

Table 1 – Contracts

NEWPCC Upgrade Project: Power Supply & Headworks Facilities							
Contracts Table							
Bid Opportunity #	Company Name	Description	Original Contract Award Value (GST & MRST extra as applicable)	Total Approved Over-Expenditures (Over-Expenditure amount only)	Date of Award	Date of Completion	Estimated % Complete
Power Supply Facility							
40-2014 (Phase 1)	KGS Group Inc	Professional Engineering Consulting Services for the NEWPCC Power Supply Upgrade – Phase 1	\$ 1,180,110	\$ 94,602	7-Nov-2014	29-Jun-2018	100
40-2014 (Phase 2)	KGS Group Inc	Professional Engineering Consulting Services for the NEWPCC Power Supply Upgrade – Phase 2	\$ 1,376,613	\$ -	3-May-2018	-	95
10-2015	Knowles Consultancy Services Inc	Fairness Advisor for the NEWPCC Power Supply Upgrade Project	\$ 37,620	\$ 44,260	8-May-2015	5-Mar-2019	100
599-2015 A ¹	Pre-qualified parties are Black & McDonald Limited Wescan Electrical Mechanical Services	Request for Qualifications for Design Build of the City of Winnipeg's North End Sewage Treatment Plant Power Supply Upgrade Project	N/A	N/A	N/A	-	100
599-2015 B ²	Black & McDonald Limited	Request for Proposal for Design Build of the City of Winnipeg's North End Sewage Treatment Plant Power Supply Upgrade Project	\$ 34,961,209	\$ 996,940	16-Apr-2018	-	95
816-2015	Hanscomb Limited	Cost Consultant for the NEWPCC Power Supply Upgrade Project	\$ 45,040	\$ -	16-Dec-2015	2-Aug-17	100
773-2016	MB Hydro	Professional Consulting Services For Load Interconnection Facilities Study For The North End Sewage Treatment Plant (NEWPCC)	\$ 88,299	\$ -	7-Nov-2016	10-Jan-18	100
136-2017	Blakes Cassels & Graydon LLP	External Legal Counsel - NEWPCC Power Supply Project	\$ 95,575	\$ -	14-Dec-2016	-	100
42-2018	MB Hydro	Manitoba Hydro Works Associated with the North End Sewage Treatment Plant (NEWPCC) Biological Nutrient Removal Upgrade Project	\$ 2,531,527	\$ 249,556	29-Mar-2018	8-Feb-2022	100

Headworks Facilities							
182-2015	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade – Phase 1	\$ 16,015,439	\$ 354,746	6-Jan-2016	-	97
182-2015 (Phase 2 Headworks)	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade – Phase 2 (Headworks)	\$ 7,992,827	\$ -	8-Oct-2020	-	15
182-2015 (DCS Migration)	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade – DCS Migration	\$ 2,698,331	\$ -	8-Oct-2020	-	16
866-2016	Cambi Inc.	Pre-Selection and Design Services for Thermal Hydrolysis Process System for the North End Sewage Treatment Plant	\$ 75,000	\$ -	15-Jun-2017	1-Nov-2018	100
9-2017	P1 Consulting Inc	Request for Proposal for a Fairness Advisor for the North End Sewage Treatment Plant Upgrade Project	\$ 82,880	\$ -	2-May-2017	-	100
102-2017	Blakes Cassels & Graydon LLP	External Legal Counsel - NEWPCC Upgrade Project	\$ 358,800	\$ -	23-Nov-2017	-	99
225-2018	Hanscomb Limited	Professional Cost Consulting Services contract for the NEWPCC Upgrade Project	\$ 98,800	\$ -	27-Apr-2018	20-Jul-2018	100
586-2018	Chabot Enterprises Ltd	NEWPCC - Upgrade Site Preparation Works	\$ 1,395,578	\$ -	15-Aug-2018	13-Nov-2019	100
659-2018 A ¹	Prequalified proponents are Aecon/Oscar JV (Red River Solutions) & Graham/PCL JV	Request for Qualifications for Design Build of NEWPCC Upgrade: Headworks Facilities	N/A	N/A	N/A	-	100
659-2018 B ²	Red River Solutions	Request for Proposals for Design Build of NEWPCC Upgrade: Headworks Facilities	\$ 271,611,000	N/A	11-Jun-2021	-	16
S-1192	AECOM Canada Ltd	Professional Consulting Services for City of Winnipeg Interim Phosphorus Removal Options Evaluation	\$ 30,118	\$ -	17-Dec-2018	18-Jul-2019	100
68-2019	Westower Communications Ltd	Installation of a 120 Meter Guyed Radio Tower & Design & Installation of Associated Site Works	\$ 401,762	\$ 133,715	22-May-2019	20-Dec-2021	100
249-2019	Turner & Townsend	Validation of Cost Estimate Classifications for NEWPCC Upgrade Project	\$ 253,852	\$ -	10-May-2019	31-Oct-2019	100
502-2019	Dillon Consulting Ltd	Professional Consulting Services for Development of the Consultant Portions of a Design Build Template	\$ 72,193	\$ -	13-May-2019	27-Aug-2021	100
200-2020 ³	Harris Holdings Ltd	Award of Contract for Installation of Underground Traffic Signals Services & Associated Works	\$ 34,377	\$ -	1-Jun-2020	22-Nov-2021	100
785-2020	AECOM Canada Ltd	Professional Engineering Consulting Services for Design and Contract Administration of the NEWPCC Primary Clarification Upgrades	\$ 2,166,775	\$ -	7-Jun-2021	-	20
805-2020	Deloitte LLP	Professional Consulting Services for NEWPCC Funding and Deal Support Structuring Services	\$ 52,250	\$ -	4-Nov-2020	22-Feb-2021	100
64-2021 ⁴	Altus Group Limited	Professional Consulting Services for independent certifier services of the NEWPCC Upgrade: Headworks Facilities project	\$ 274,350	\$ -	21-Jul-2021	-	3
65-2021 ⁴	Colliers Project Leaders Inc	Professional Consulting Services for Referee Services of the NEWPCC Upgrade: Headworks Facilities project	\$ 24,800	\$ -	19-Jul-2021	-	0
92-2022	Centec Electric & Controls Ltd	NEWPCC DCS Migration - Fibre Supply and Installation	\$ 1,333,196	\$ -	16-Jun-2022		0
Total			\$ 345,288,321	\$ 1,873,819			

¹This is the first stage of two stage process and the contract value will be determined in the second stage

²The Original Contract Award Value includes MRST.

³The majority of this contract is related to Public Works Department. Only the amount related to Water and Waste Department is indicated.

⁴This is a triparty agreement with cost shared equally between the design builder and the City. Only the amount related to City is indicated.

Upcoming Procurements:

Description	Anticipated Award Date

NEWPCC Upgrade: Biosolids Facilities Project							
Contracts Table							
Bid Opportunity #	Company Name	Description	Original Contract Award Value (GST & MRST extra as applicable)	Total Approved Over-Expenditures (Over-Expenditure amount only)	Date of Award	Date of Completion	Estimated % Complete
506-2014	Ostara Nutrient Recovery Technologies Inc	Supply and Delivery of a Struvite Recovery System	TBD	\$ -	23-Jul-2015	-	-
S-1192	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade: Biosolids - Climate Lens Assessment	\$ 39,921.00	\$ -	27-Jan-2021	27-May-2021	100
182-2015 (Phase 1 - Biosolids)	AECOM Canada Ltd	Professional Engineering Consulting Services for NEWPCC Upgrade – Phase 1 (Biosolids)	\$ 1,316,735	\$ -	25-May-2021	11-Mar-2022	100
S-1192 AECOM 01	AECOM Canada Ltd	NEWPCC Biosolids - Pre-design Support	\$ 20,000	\$ -	27-Jan-2021	-	20
S-1192 Deloitte	Deloitte LLP	NEWPCC Upgrade Biosolids - Initial Market Sounding Support Services	\$ 47,680	\$ -	11-Jun-2021	29-Jun-2021	100
386-2021	Deloitte LLP	Professional Consulting Services for NEWPCC Upgrade Project - Detailed P3 (Design Build Finance) Delivery Options Analysis	\$ 311,680	\$ -	10-Jun-2021	14-Apr-2022	100
766-2021	Hanscomb Limited	Professional Cost Consulting Services contract for the NEWPCC Biosolids Facilities Project	\$ 72,700	\$ -	2-Dec-2021	17-Mar-2022	100
Total			\$ 1,808,716	\$ -			

NEWPCC Upgrade Project 3: Nutrient Removal Facilities	
Contracts Table - Not applicable at this time	

Schedule (Update from last report)

N/A

Table 2 – Milestones

Milestones					
Deliverable	Original Targeted Completion Date	Revised Targeted Completion Date	Actual Completion Date	Estimated % Complete	
NEWPCC Upgrade Project 1: Power Supply & Headworks Facilities					
Power Supply Facility					
1	Project Definition Report ¹	2015 Q3	2015 Q4	2015 Q4	100
2	Preliminary Design Report	2016 Q1	2016 Q4	2017 Q1	100
3	Cost Report ²	2017 Q1	2017 Q2	2017 Q3	100
4	Design Build RFP	2016 Q2	2017 Q1	2017 Q1	100
5	Design Builder Contract Award	2017 Q2	2018 Q2	2018 Q2	100
6	Design Build Substantial Completion	2020 Q2	2020 Q4	2020 Q4	100
7	Design Build Final Completion	2020 Q4	2021 Q2	-	95
Headworks Facilities					
1	Project Definition Report ¹	2017 Q2	2017 Q2	2017 Q2	100
2	Preliminary Design Report	2018 Q1	2018 Q3	2018 Q3	100
3	Cost Report ²	2018 Q3	2018 Q3	2018 Q3	100
4	Design Build RFP	2020 Q1	2020 Q1	2020 Q1	100
5	Design Builder Contract Award	2020 Q4	2021 Q2	2021 Q2	100
6	Design Build Substantial Completion	2025 Q4	2025 Q2	-	-
7	Design Build Final Completion	2026 Q4	2025 Q3	-	-
8	DCS Migration Substantial Completion	2027 Q4	-	-	-
9	Primary Clarification Substantial Completion	2023 Q4	-	-	-
NEWPCC Upgrade Project 2: Biosolids Facilities Project					
TBD					
NEWPCC Upgrade Project 3: Nutrient Removal Facilities Project					
Project not Initiated - Dependent on Funding					

¹ Owner's Advocate Class 5 Estimate

² Cost Consultant Class 3 Estimate

Risk (Update from last report)

NEWPCC Upgrade: Power Supply and Headworks Facilities

N/A

NEWPCC Upgrade: Biosolids Facilities

The approval of the Biosolids Facilities project is delayed due to the Province's direction to review the procurement strategy prior. This in turn delayed the Investing in Canada Infrastructure Program (ICIP) application submittal from the Province to the Federal Government. This poses a risk to the issuance of the procurement document.

Council approval of the biosolid's project is contingent on Provincial and Federal funding. The Province required the City to undertake a P3 procurement strategy review prior to forwarding the biosolid's Investing in Canada Infrastructure Program (ICIP) application to the Federal Government. Subsequent to the completion of the procurement strategy review, the Province clarified that the procurement model decision resides with the City. The work related to the market analysis and ICIP approval have delayed the initiation of the project.

Table 3 – Significant Risks and Mitigations Strategies

NEWPCC Upgrade: Power Supply and Headworks Facilities Project	
Significant Risks and Mitigation Strategies	
Power Supply Facility	
Risk Statement and Explanation	Risk Mitigation Management Plan
<u>New</u>	
None	
<u>Ongoing:</u>	
None	
<u>Closed:</u>	
COVID-19 Impacts	This risk is now closed and additional costs associated with the COVID pandemic has been paid
As part of construction activities, the power in an area believed to be de-energized could be energized resulting in a potential shock or arc flash and associated injury and equipment damage.	This risk is now closed as construction is complete.
Manitoba Hydro may not have the required power available within the required timeframe.	This risk is now closed. The plant is running on the distribution from MB Hydro.
The Design Builder is not familiar with the existing equipment labelling, some of which may be confusing due to historical issues and thus there is a possibility of incorrect switching or electrical lock-out resulting in a potential shock or arc flash and associated injury and equipment damage.	The risk is now closed. All electrical switching is complete.
Plant load transfer is required to commission new electrical system. Planned power outages and loss of redundancy periods are required for each plant process area, which increases the risk of process upset.	This risk is closed. New distribution has been commissioned..
Safety issues could occur as a result of increased traffic on the NEWPCC site.	This risk is closed. Construction is complete and the contractor's presence on site is minimal
Old electrical equipment and building parts may contain asbestos.	This risk is closed. Construction that may have disturbed existing asbestos has been completed.
Safety issues could occur as a result of coring through concrete wall / floor / ceiling during equipment installation. Utilities at NEWPCC are not always marked in drawings.	This risk is closed. Construction that necessitated coring through concrete has been completed.
There may be unknown geotechnical conditions that impact the project schedule and cost.	This risk is closed as subsurface works is complete.
The UV facility transformer must be de-energized during the Manitoba Hydro construction period. No power redundancy for the UV facility for a 4 week period.	This risk is closed as Manitoba Hydro construction is complete.

NEWPCC Upgrade: Power Supply and Headworks Facilities Project	
Significant Risks and Mitigation Strategies	
Headworks Facilities	
Risk Statement and Explanation	Risk Mitigation Management Plan
New	
None	
Ongoing:	
Impacted soils were discovered by RRS during soil stripping and early excavating work. More impacted soils may be uncovered during next phases of excavation.	Disposal locations for impacted soils have been identified as GFL or Prairie Green depending on the level of contaminant. Disposal plans have been reviewed and approved by the Province. Transportation of impacted soil to disposal sites is in progress. Site delineation plan and Phase 2 environmental soil sampling testing will be conducted for any future impacted soils discovery. The project team will investigate the lowest cost options for soil disposal
Bid prices for other contracts within the Headworks Facilities budget may be higher due to existing market conditions as result of the pandemic	Scope reduction options will be evaluated and included in the tender documents prior to issuing tender documents to the public
Due to existing COVID pandemic conditions, there is potential for restrictions resulting in reduced access to site or restrictions on short notice	Construction contracts will include appropriate pandemic and City Protocols. Supplier tenders and equipment pre-purchasing will be evaluated.
Due to multiple construction activities occurring at NEWPCC and construction work occurring in a congested site, limited site access and schedule conflicts/delays may occur affecting tie-ins and shutdowns during construction	There is regular communications between project managers and consultants to ensure regular coordination of projects at NEWPCC
NEWPCC is a continuously operating sewage treatment plant, the design builder may cause unintended shut downs or disruptions resulting in failure to meet the Environment Act Licence.	Project requirements include details on how the design builder coordinates with the City prior to tying in to the existing plant. Payment adjustments are included in the contract if it occurs.
Tariffs may be imposed on equipment procured internationally resulting in increased project costs.	Project requirements include tariffs within the definition of change in law which would be treated as a relief event if it occurs.
There could be excess noise, dust and light during construction as a result of the project.	The project requirements include construction requirements related to noise, the design builder is also required to have a community impact mitigation plan to avoid such issues.
Due to construction occurring around existing infrastructure, destabilization or damage to existing structures may occur resulting in increased costs and potential schedule delays	Project requirements include detailed requirements for working around existing infrastructures.
Accidents may occur on an active project construction site resulting in injuries and damaged property causing project delays and reduction in productivity.	Project requirements includes details on safety measures and the design builder is required to be COR certified.
There may be unknown conditions that may be associated with reusing existing facilities.	The DB agreement to include mechanism to deal with unforeseen conditions of existing facilities. Proponents will also be provided access to the site for due diligence and examination.
Unknown existing conditions related to geotechnical, environmental and hazardous material may be encountered during construction causing schedule delays and additional costs.	Geotechnical investigations and environmental impact assessments are being carried out prior to construction to minimize unknowns. It is also anticipated that contracting with a single entity responsible for construction risks would minimize impact.
Mitigated:	
Assumptions made on the grit quantities in the sludge may not be appropriate resulting in damage to grit sensitive equipment and under sizing of sludge facilities.	The grit characterization study of the raw sewage was carried out. This report will be included as a background document in the Design Build agreement for the prequalified proponents.
The existing automation system requires migration to an updated automation system as it is at end of life. Due to the age, there may be unforeseen circumstances resulting in quality issues, schedule delays and operational impacts.	This risk is best handled by the City; as a result, the scope was separated as a stand alone design bid build project. This risk also requires knowledgeable and qualified personnel. As part of Phase 2 of their existing contract, the design consultant will carry out the work due to their qualifications and extensive knowledge and experience on the existing automation system.
Closed:	
The Public Service submitted funding application for NEWPCC Headworks DB project for the Federal and Provincial funding under the Investing in Canada Infrastructure Program based on Council approval. Delay of the funding agreement or an agreement in principle may result in loss of a construction season causing increase in project costs and schedule delays.	This risk is now closed as the ICIP funding was approved and the design build agreement was executed before the proposal validity period.
The Project may be affected due to project costs now estimated to be \$1.8 billion.	A Class 3 cost estimate was carried out after preliminary design to validate the budget. An independent cost consultant was also retained to provide a Class 3 estimate.
No existing legislation on odour release threshold causing potential impact and complaints from neighbors resulting in post - construction renovations or changes in operation at additional cost.	A field study with dispersion modelling has been carried out. Since this risk is mainly applicable to the NEWPCC Upgrade: Nutrient Removal Project it will be identified at the start of that project.

Financial (Update from last report)

N/A

For further information, refer to Appendix B – Financial Forecast.

Funding (Update from last report)

On May 10, 2022, the Province of Manitoba clarified in a letter, that the use of a P3 procurement model for procurement of the Biosolids Facilities project is the City's decision. They also confirmed their funding support.

Table 4 – Project Funding Forecast

Funding Forecast				
Funding Source	Adopted Budget (in millions)	Amended Budget ¹ (in millions)	Committed (in millions)	Conditional Budget (in millions)
Class of Estimate	Class 5	Class 3	Class 3	Class 3
North End Sewage Treatment Plant (NEWPCC) Biological Nutrient Removal Upgrade Project City of Winnipeg Total	795.59			
Retained Earnings	87.64			
External Debt	690.29			
Environmental Projects Reserve	17.66			
NEWPCC Upgrade: Power Supply and Headworks Facilities Project 1 Total ¹		473.38	473.38	
Retained Earnings		87.64	87.64	
External Debt ⁵		114.90	114.90	
Environmental Projects Reserve ^{4, 5}		57.97	57.97	
Federal Government ^{4, 6}		116.11	116.11	
Provincial Government ^{4, 6}		96.75	96.75	
NEWPCC Upgrade: Biosolids Facility Project 2 Total ²		15.33	15.33	552.71
External Debt ³		15.33	15.33	184.46
Federal Government				200.87
Provincial Government				167.38
Total	795.59	488.71	488.71	552.71

The funding forecast should match The Capital Budget Detail Sheet.

- 1 On February 28, 2019 Council approved the existing project be amended to consist of three projects. Project one being Power Supply and Headworks Facilities only. With projects two and three pending Council approval.
- 2 On September 26, 2019 Council approved Project 2 conditional upon Federal\Provincial Funding. Total contains \$15.33 million for engineering. That an application for Federal\Provincial funding be submitted for Project 1.
- 3 On January 30, 2020 Council approved \$15.33 million budget for Project 2 to proceed with engineering services.
- 4 In a letter dated April 1, 2021, the Province confirmed that funding for Headworks Project would be reduced to \$96.749 million from \$100.300 million (Province) and to \$116.111 million from \$120.373 million (Federal), resulting in an increase of \$7.813 million to the City's share of costs.
- 5 On May 27, 2021 Council approved a budget increase of \$65 million funded by \$32.5 million debt and \$32.5 million Environmental Projects Reserve.
- 6 On July 23, 2021 Federal and Provincial ICIP funding of \$212.86 million was announced for the Headworks Project 3 - NEWPCC Upgrade: Nutrient Removal Facilities - \$828 million is, pending Council approval.

Property Acquisition (Update from last report)

N/A

Stakeholder Engagements/Communications (Update from last report)

N/A

Subsequent Events after Report Period End Date

On July 13, 2022, the Public Service reports were discussed at Executive Policy Committee (EPC) indicating that the Class 3 cost estimate for the NEWPCC Upgrade: Biosolids Facilities project has increased. The increase is due to existing market conditions, delays in the approval of ICIP funding application as well as the new regulatory requirement to meet 1 mg/l interim phosphorus in the new Biosolids Facility. The report also recommended a Design-Build-Finance procurement model for the Biosolids Facilities project as indicated in the Delivery Model Analysis by Deloitte. EPC voted and changed the Delivery model to a design build (DB) procurement model. Council has approved the DB procurement model.

On July 21, 2022, Council concurred with the recommendation of EPC and approved a DB procurement strategy for Biosolids.

On August 16, 2022, the federal, provincial and municipal governments announced Investing in Canada Infrastructure Program funding for the Biosolids Facilities.

NEWPCC Interim Phosphorus Project Update

Detailed design was completed and indicated the need to modify dosing points to maximize phosphorus removal while minimizing sludge production. The change in design, combined with current market volatility, resulted in a Class 1 cost estimate of \$17 million, \$6.5 million above the approved Capital Budget. The Public Service presented a report to Council on July 21, 2022, requesting a budget revision of \$6.5 million. The project was tendered on June 13, 2022, subject to approved funding.

FINANCIAL IMPACT

Financial Impact Statement

Date: August 23, 2022

Project Names:

**North End Sewage Treatment Plant (NEWPCC) Upgrade Projects,
Project IDs: 2031001304, 2031001310, 203110013B and 203110028B,
Quarterly Project Status Report No. 29
For the Period Ended June 30, 2022**

COMMENTS:

Financial forecast for the NEWPCC Upgrade Projects can be found in Appendix B.

Original signed by D.Capp, for

Lucy Szkwarek, CPA, CGA
Manager of Finance and Administration

CONSULTATION

This Report has been prepared in consultation with:

N/A

OURWINNIPEG POLICY ALIGNMENT

01-3 Prosperity Direction 1: Provide efficient and focused civic administration and governance. This report supports demonstration of accountability through service performance measurement and reporting.

02-2 Environment: The NEWPCC Upgrade Projects will reduce the environmental impact of our citizens on the Red River and the downstream lakes and rivers. They are in collaboration with the Regulatory Licence requirements issued by the Province of Manitoba.

WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

NEWPCC Upgrade Project 1: Power Supply and Headworks Facilities

N/A

NEWPCC Upgrade Project 2: Biosolids Facilities

NEWPCC Upgrade: Biosolids Facilities Project aligns with the Strategic Opportunity #6 Waste Reduction and Diversion found on page 51 of the Climate Action Plan approved by Council on September 20, 2018; Key Directions 6.3 and 6.4.

The Water Protection Act requires the City to reuse the wastewater biosolids, and to recover the nutrients from the biosolids to the maximum extent possible. The intent is for the facility to produce a Class A Biosolids which can be reused resulting in diversion of Biosolids from the landfill.

WINNIPEG POVERTY REDUCTION STRATEGY ALIGNMENT

On February 24, 2022, Council directed that bidders for the Biosolids Facilities Project include the following their submissions:

- Specific commitments to engage skilled labour including targets for employment of Indigenous peoples and other under-represented groups within the Manitoba market
- Proposed plans and partnerships with organizations to promote employment and training initiatives for Indigenous and other under-represented groups within the Manitoba market

This aligns with Goal 1 - Equity and a Culture of Caring are Demonstrated through Strategy Implementation and Systems Change; Topic- Community Benefits in City Projects; of the Winnipeg Poverty Reduction strategy Implementation Plan.

SUBMITTED BY

Department: Water and Waste

Division: Engineering Services

Prepared by: Colin Javra, P. Eng., Project Director Winnipeg Sewage Treatment Program

Date: August 24, 2022

File No. S-972

Appendices

Appendix A – Key Project Facts

Appendix B – Financial Forecast

Appendix C – Key Project Events (History)

Appendix D – Funding

Appendix A – Key Project Facts

Project Name	NEWPCC Upgrade Project: Power Supply & Headworks Facilities
Business Owner (Department)	Water and Waste Department
Project ID	2031001304, 2031001310 and 203110013B
Project Sponsor	
	Director of Water and Waste
Department Responsible for Project Delivery	Water and Waste Department
Consultant Engineer (Company Name)	KGS Group Consulting Engineers and AECOM Canada Ltd.
Adopted Budget	
	\$795.95 million
Class of Estimate (Adopted)	Class 5
Range of Estimate (Adopted)	-50% to +100% \$397.80 million to \$1,591.18 million.
Amended Budget	
	\$473.38 million
Class of Estimate (Amended)	Class 3
Range of Estimate (Amended)	-20% to +30% \$378.70 million to \$ 615.39 million
<u>Project Scope</u>	
<p>The Power Supply and Headworks Facilities projects will address end-of-life equipment at the front end of the plant and upgrade the power supply to provide adequate power capacity for the NEWPCC Upgrade Projects. The Project design will accommodate expected influent flows and loads to 2037 and take into account future regulatory trends and long-term planning to year 2067.</p>	
Major Capital Projects Advisory Committee Membership:	
<ul style="list-style-type: none"> - Tim Shanks, Director of Water and Waste Department (Chair) - Michael Jack, Chief Administrative Officer - Moira Geer, Deputy Chief Administrative Officer - Catherine Kloepfer, Chief Financial Officer - Geoffrey Patton, Director of Assets and Project Management - Lucy Szkwarek, Manager of Finance and Administration, Water and Waste - Colin Javra, Project Director, Winnipeg Sewage Treatment Program, Water and Waste 	

Project Name	NEWPCC Upgrade: Biosolids Facilities Project	
Business Owner (Department)	Water and Waste Department	
Project ID	203110028B	
Project Sponsor		
Project Sponsor	Director of Water and Waste	
Department Responsible for Project Delivery	Water and Waste Department	
Consultant Engineer (Company Name)	AECOM Canada Ltd.	
Adopted Budget		
Class of Estimate (Adopted)	On September 26, 2019 Council approved a budget of \$552.71 million conditional on government funding. \$15.334 million was approved by Council on January 30, 2020 out of the \$552.71 million to commence engineering services.	
Range of Estimate (Adopted)		
Amended Budget		
Class of Estimate (Amended)		
Range of Estimate (Amended)		
Project Scope		
The Biosolids Facilities project will address end of life equipment and regulatory requirements regarding the recovery of nutrients and maximize biosolids reuse. It will add new facilities to treat the sludge from City of Winnipeg's three sewage treatment plants and replace end-of-life equipment.		
Major Capital Projects Advisory Committee Membership:		
<ul style="list-style-type: none"> - Tim Shanks, Director of Water and Waste Department (Chair) - Michael Jack, Chief Administrative Officer - Moira Geer, Deputy Chief Administrative Officer - Catherine Kloepfer, Chief Financial Officer - Geoffrey Patton, Director of Assets and Project Management - Lucy Szkwarek, Manager of Finance and Administration, Water and Waste - Colin Javra, Project Director, Winnipeg Sewage Treatment Program, Water and Waste 		

Project Name	NEWPCC Upgrade: Nutrient Removal Facilities Project
Business Owner (Department)	Water and Waste Department
Project ID	TBD
Project Sponsor	
Director of Water and Waste	
Department Responsible for Project Delivery	Water and Waste Department
Consultant Engineer (Company Name)	TBD
Adopted Budget	
Class of Estimate (Adopted)	Funding Dependent
Range of Estimate (Adopted)	
Amended Budget	
Class of Estimate (Amended)	
Range of Estimate (Amended)	
<u>Project Scope</u>	
<p>The Nutrient Removal Facilities project will address end of life equipment and regulatory requirements regarding the new effluent limits for nitrogen and phosphorous. It will add mostly all new facilities including new wet weather treatment capability; and replace end-of-life equipment.</p>	
Major Capital Projects Advisory Committee Membership:	
TBD	

Appendix B – Financial Forecast

Appendix B - North End Sewage Treatment Plant (NEWPCC) Upgrade Projects Financial Forecast
As at June 30, 2022

Project Component Deliverables	Budget (in 000's)			Actual Costs To June 30, 2022	Expenditure Forecast (in 000's)					Total Forecasted Costs	Surplus (Deficit) From Amended Budget	Variance Last Report	Change in Variance
	Adopted Budget	Council Approved Change	Amended Budget ¹		Projected Costs								
					2022	2023	2024	2025	2026 and Beyond				
Power Supply & Headworks Facilities Project²													
Engineering, Design and Other	\$ 57,196	\$ (2,959)	\$ 54,237	\$ 30,391	\$ 3,580	\$ 3,947	\$ 3,953	\$ 3,443	\$ 8,923	\$ 54,237	\$ -	\$ -	\$ -
Construction	\$ 621,011	\$ (263,149)	\$ 357,862	\$ 76,110	\$ 75,620	\$ 98,428	\$ 68,414	\$ 24,233	\$ 15,705	\$ 358,510	\$ (648)	\$ (648)	\$ -
Land Acquisition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Internal Financing/Overhead Costs	\$ -	\$ 17,493	\$ 17,493	\$ 2,335	\$ 2,769	\$ 3,071	\$ 2,171	\$ 830	\$ 6,317	\$ 17,493	\$ -	\$ -	\$ -
Contingency	\$ 117,383	\$ (73,595)	\$ 43,788	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 43,140	\$ 43,140	\$ 648	\$ 648	\$ -
Subtotal	\$ 795,590	\$ (322,210)	\$ 473,380	\$ 108,836	\$ 81,969	\$ 105,446	\$ 74,538	\$ 28,506	\$ 74,085	\$ 473,380	\$ -	\$ -	\$ -
Biosolids Facilities Project - Conditional Budget³													
Engineering, Design and Other	\$ -	\$ 15,334	\$ 30,967	\$ 1,165	\$ 533	\$ 2,272	\$ 2,250	\$ 2,250	\$ 22,497	\$ 30,967	\$ -	\$ -	\$ -
Construction	\$ -	\$ -	\$ 377,967	\$ -	\$ -	\$ -	\$ -	\$ 75,000	\$ 302,967	\$ 377,967	\$ -	\$ -	\$ -
Land Acquisition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Internal Financing/Overhead Costs	\$ -	\$ -	\$ 43,161	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 43,161	\$ 43,161	\$ -	\$ -	\$ -
Contingency	\$ -	\$ -	\$ 100,617	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100,617	\$ 100,617	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ 15,334	\$ 552,712	\$ 1,165	\$ 533	\$ 2,272	\$ 2,250	\$ 77,250	\$ 469,242	\$ 552,712	\$ -	\$ -	\$ -
Nutrient Removal Facilities Project - Funding Dependent⁴													
Engineering, Design and Other	\$ -	\$ -	\$ 34,973	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34,973	\$ 34,973	\$ -	\$ -	\$ -
Construction	\$ -	\$ -	\$ 536,250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 536,250	\$ 536,250	\$ -	\$ -	\$ -
Land Acquisition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Internal Financing/Overhead Costs	\$ -	\$ -	\$ 143,252	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 143,252	\$ 143,252	\$ -	\$ -	\$ -
Contingency	\$ -	\$ -	\$ 113,582	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 113,582	\$ 113,582	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ -	\$ 828,057	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 828,057	\$ 828,057	\$ -	\$ -	\$ -
Total Project Budget		\$ (306,876)	\$ 1,854,149	\$ 110,001	\$ 82,502	\$ 107,718	\$ 76,788	\$ 105,756	\$ 1,371,384	\$ 1,854,149	\$ -	\$ -	\$ -

% of Project Budget Spent ⁵	
Power Supply & Headworks Facilities	23%
Biosolids Facilities	TBD
Nutrient Removal Facilities	TBD

Power Supply & Headworks Facilities Amount in '000's			
Project ID	Project Year	Amended Budget	Costs to Date
2031001304 ⁶	2004	\$214	\$214
2031001310 ⁶	2010	\$305	\$305
203110013B	2012 – 2021	\$472,861	\$108,317
Total Project Budget		\$473,380	\$108,836

¹ Amended budget and actual costs to date have been agreed to the City's general ledger and Monthly Capital Expenditures Report and include closed budget years

² On May 27, 2021, Council Approved a budget increase of \$65M

³ On September 26, 2019 Council approved NEWPCC Upgrade Biosolids Facility \$552.71M conditional on government funding
On January 31, 2020 \$15.334M was approved for Engineering Services

⁴ Budget has not been approved

⁵ Actual costs to date / Amended budget

⁶ Does not appear in the Capital Expenditures Monthly Report as the funds have been expended and it is designated as a closed Project ID.

Appendix C – Key Project Events (History)

THE PROJECT

The goal of this project is to upgrade the North End Sewage Treatment Plant (NEWPCC) to meet new Regulatory Licence requirements regarding the maximization of nutrient removal and biosolids reuse and new effluent limits for nitrogen and phosphorous. The upgrade will also add wet weather treatment capability; add a new facility to treat the sludge from all three plants; and replace end-of-life equipment. The Project design will accommodate expected influent flows and loads to 2037. It will also consider future regulatory trends and long-term planning to the year 2067 to facilitate effective process or facility modifications should they be required.

A new power sub-station is required at the NEWPCC to accommodate the additional power demand of the upgrades at the facility. The power supply upgrade was delivered as a separate project from the main NEWPCC upgrade to allow for early procurement of long-lead items, such as transformers, to ensure that the electrical power upgrade is available for the new processes when needed.

The delivery method for NEWPCC Power Supply and Headworks Facilities Upgrade Projects is largely design build (DB) with a small scope being procured as design bid build (DBB).

The upgraded facility will have an economical whole-life cost and be an efficient and safe workplace for operational personnel. In addition, the plant must operate continuously during the work and continue to meet current effluent limits. The impact of construction and commissioning to the capacity of the treatment facility will be minimized as much as possible.

In 2003 Clean Environment Commission Hearings on the City's wastewater collection and treatment systems, Manitoba Conservation and Water Stewardship (now Manitoba Sustainable Development, the Regulator) notified the City that it intended to issue a licence for the NEWPCC that would require control of nutrients discharged to the Red River.

On May 16, 2007, Council authorized the Chief Administrative Officer to finalize the terms and conditions of a contribution agreement with the Government of Canada and the Province of Manitoba for funding of Wastewater Treatment Plant upgrades under the Canada Strategic Infrastructure Fund (CSIF).

On November 19, 2008, City Council authorized the Winnipeg Public Service to:

- Begin the procurement of a strategic partner that could bring private sector experience to the design, construction, finance, and potentially the operation of the North and South End Sewage Treatment Plants as well as potential operation of the West End Sewage Treatment Plant
- Authorize the Chief Administrative Officer to approve and issue the Request for Expressions of Interest followed by a Request for Qualifications and the Request for Proposals

On May 6, 2009 the Environment Act Licence (EAL) No. 2684 RRR was issued for the NEWPCC.

On May 19, 2010 Council:

- Directed the Chief Administrative Officer to approve and issue a Letter of Notification to Veolia in order to immediately begin design and construction of the South and North End Sewage Treatment Plant upgrades and expansion and biosolids handling facility
- Delegated the authority to the Chief Administrative Officer to “approve contract awards for upcoming South and North End Sewage Treatment Plant capital projects where the value of each contract does not exceed \$30 million and there are sufficient funds in a budget approved by Council

On June 16, 2011, the Save Lake Winnipeg Act amending sections of the Water Protection Act (Act) came into effect. Section 4.2(3) of the amended Act required the City to submit a plan that details how the City will comply with subsections 4.2(1) and (2).

The NEWPCC Upgrading Plan was submitted to the Regulator in compliance with Section 4.2(3) of the amended Water Protection Act on June 15, 2012. The Regulator approved the Upgrading Plan on October 2, 2012. The Department submitted the NEWPCC Master Plan and the revised NEWPCC Master Plan on September 27, 2013 and April 28, 2014 respectively. The Master Plan was approved by the Regulator on May 29, 2014.

In the Regulator’s Licence alteration Letter dated December 30, 2014, the project completion date was specified as December 2019. However, the Regulator was notified on June 23, 2016 that the project schedule was not achievable. Manitoba Sustainable Development acknowledged receipt of this notice on August 16, 2016 and indicated they had “no concerns at this time.” Regular schedule updates and progress reports continue to be submitted to Manitoba Sustainable Development on a quarterly basis.

In the second quarter of 2017, the Department reported that an updated conceptual design project cost estimate was received from the design consultant. This new information indicated costs over a billion dollars, much higher than the currently approved budget of \$795.59 million (Class 5 estimate).

The Adopted Budget, \$795.59 million, was based on a Class 5 cost estimate which has an Association for the Advancement of Cost Engineering (AACE) expected accuracy range of -50% and + 100% or \$397.80 million to \$1,591.18 million.

On February 28, 2019, Council approved the recommendation to split the planned NEWPCC Upgrade Project into three distinct projects and execute them based on process criticality and available funding. The recommendation to Council requested approval to proceed with the project scope for Power Supply and Headworks Facilities. Other levels of Government funding for the remaining projects to complete the plant upgrade are required.

The three capital projects and Class 3 cost estimates (including interest charges) to complete the NEWPCC Upgrade are identified as:

1. NEWPCC Upgrade: Power Supply and Headworks Facilities - \$473 million
2. NEWPCC Upgrade: Biosolids Facilities - \$553 million
3. NEWPCC Upgrade: Nutrient Removal Facilities - \$828 million

The total budget to upgrade NEWPCC is approximately \$1.854 billion; based on a class 3 cost estimate which has an AACE expected accuracy range of -20% and +30% or \$1.48 billion to \$2.41 billion. This amount includes an estimated \$155 million in interest charges to be capitalized during the construction period. The total budget was updated from \$1.789 billion to \$1.854 billion as a result of the budget amendment increase of \$65 million for the NEWPCC Upgrade: Power Supply and Headworks Facilities Capital Budget. The budget increase was approved by Council on May 27, 2021.

On December 5, 2019, a response was received from Manitoba Conservation and Climate, Environmental Approvals Branch with regards to the Notice of Alteration (NOA) for NEWPCC submitted by the City July 30, 2019. The response indicated that the NOA was not approved and that the City will be out of compliance with the Environmental Act Licence 2684 RRR and with the phosphorus compliance plan pursuant to the Water Protection Act in January 1, 2020. In the absence of an approved phosphorus compliance plan, the City was required to participate in two project committees namely; the Project Steering Committee and Project Advisory Committee.

On September 26, 2019, Council approved a 2019 capital project budget of \$552.712 million, for NEWPCC Upgrade: Biosolids Facilities, subject to final written confirmation of federal and provincial funding satisfactory to the Chief Financial Officer.

On January 30, 2020, Council approved \$15.334 million from the Biosolids Facilities Budget to commence engineering services.

On February 19, 2020, Minister Squires sent a letter to the Mayor indicating that additional funding of \$21.8 million is an initial payment to be allocated to the NEWPCC Upgrade Project under any potential ICIP arrangements, along with the previous allocation of \$34.4 million for a total of \$56.2 million.

On September 20, 2020 Council approved that the City agree to transfer \$321.24 million of Federal Government's funding under the ICIP from the Public Transit Infrastructure Stream to the Green Infrastructure Stream to fund the Federal Government's funding portion for the NEWPCC Upgrade: Headworks Facilities Project and the NEWPCC Upgrade: Biosolids Facilities Project as per the Province of Manitoba's requirement, subject to certain conditions.

The design build of the NEWPCC Power Supply Project was substantially completed in Q4 2020.

On March 25, 2021, Council adopted that:

- The Government of Canada and the Province of Manitoba be requested to provide confirmation of approval of ICIP for the NEWPCC Upgrade Projects: Headworks Facility Project and Biosolids Facility Project
- The Province of Manitoba be requested to confirm the City's recommended procurement methodology for the Biosolids Facility Project

- The Public Service be directed not to proceed with detailed engineering design for the Biosolids Facility design-bid-build project, in the amount of \$15.334 million, as approved by Council on January 30, 2020, until such time as the confirmation requested in recommendations 1 and 2 have been received

In a letter dated April 1, 2021, the Province confirmed that funding for the Headworks Project will be reduced to \$96.749 million from \$100.300 million (Province) and to \$116.111 million from \$120.373 million (Federal). This means that the City's share of costs will increase by \$7.813 million as a result of the owner advocate costs incurred.

On May 18, 2021, the Executive Policy Committee concurred in the recommendation of the Public Service, as amended, 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
- That a single source contract be approved with Deloitte LLP of up to \$400 thousand to conduct a market sounding for a Design, Build and Financing P3 for the Biosolids and Nutrient Removal facilities projects of the NEWPCC upgrades
- That the Public Service report back to Council on the results of the market sounding and analysis

On May 27, 2021, Council approved

- Red River Solutions, an Aecon Oscar Renda Joint Venture, as the Preferred Proponent for the Design Build of the NEWPCC Upgrade: Headworks Facilities Project
- A budget amendment increase of \$65 million for the NEWPCC Upgrade: Power Supply and Headworks Facilities Capital Budget, to be funded 50/50 through utility rates and debt financing
- Review of the AACE Class 3 cost estimates for Biosolids and Nutrient Removal Facilities projects and refer any increases to the 2022 capital budget process; and to update the ten-year water and sewer financial plan and report back to Council in October 2021

On May 31, 2021, the NEWPCC Upgrade: Headworks Facilities was approved for Federal and Provincial funding under the ICIP – Green Infrastructure – Environmental Quality Sub-stream, with Federal contributions up to \$116.111 million and Provincial Contributions up to \$96.750 million. Accordingly, the agreement for the design build of the NEWPCC Upgrade: Headworks Facilities was executed with RRS on June 11, 2021

On July 23, 2021, a formal press release regarding the approval of funding through the ICIP application for the NEWPCC Upgrade: Headworks Facilities was carried out at the NEWPCC. All three levels of government were in attendance.

A joint news release by the Province of Manitoba and the City was issued on November 24, 2021 regarding the advancement of the City's funding application to the Federal Government of Canada for the NEWPCC Upgrade: Biosolids Facilities Project through the ICIP.

On February 24, 2022, Council approved that future tenders for the NEWPCC Upgrade Projects require bidders to include the following as part of their bid submissions:

- Specific information on its intended partnerships or self-directed plans to secure a skilled project labour workforce.
- Estimated numbers of and classifications of skilled tradespersons to be employed.
- Specific commitments to engage skilled labour including targets for employment of Indigenous peoples and other under-represented groups within the Manitoba market.
- Proposed plans and partnerships with organizations to promote employment and training initiatives for Indigenous and other under-represented groups within the Manitoba market.

RISKS AND RISK MITIGATION STRATEGIES

There are risks associated with the cost and schedule for a project that is this large and complex especially at the early stages. In addition, the final bid amounts for projects are unknown until the project agreement is finalized with the Design Builder.

In consultation with our engineering advisors, it was necessary to make estimates about the pace of engineering design and the pace of construction. Any delays typically result in increases in cost.

An ongoing risk management strategy has been implemented for both the NEWPCC Upgrade Power Supply and Headworks Facilities Projects. It includes a proactive process of identifying risks, performing qualitative and quantitative risk analyses, creating response plan strategies, and ongoing monitoring. The risk management process is an active part of the management of the projects. The projects will also incorporate structured Hazard and Operability Analysis and a Construction Hazard Assessment Implication Review. Since detailed design and construction will be carried out through a DB contract, the Winnipeg Sewage Treatment Program (WSTP) will be identifying and transferring as much risk as reasonable to the Design Builder.

The Risk Registers for each of the Projects contain cost and schedule risks associated with design, procurement, construction, operation, and unknown events. The Risk Register is reviewed and updated regularly by the WSTP.

Appendix D - Funding

North End Sewage Treatment Plant (NEWPCC) and Winnipeg Sewage Treatment Program (WSTP)

1) Funding for the NEWPCC is as follows:

NEWPCC Nutrient Removal Facilities (in \$millions)	Total Cost	Funded to Date		Funding Pending		Total Funding		City Share of Costs
		Canada	Manitoba	Canada	Manitoba	Canada	Manitoba	
Provincial Funding								
Power Supply and Headworks Facilities	\$ 473.38			\$ 116.11	\$ 96.75	\$ 116.11	\$ 96.75	\$ 260.52
Funding Dependent								
Biosolids Facilities	552.71			200.87	167.38	200.87	167.38	184.46
Nutrient Removal Facilities	828.06							
Estimated Program Costs	\$ 1,854.15	\$ -	\$ -	\$ 316.98	\$ 264.13	\$ 316.98	\$ 264.13	\$ 444.98

2) Funding for the Winnipeg Sewage Treatment Programs is as follows:

WSTP All Projects (in \$millions)	Total Cost	Funded to Date		Funding Pending		Total Funding		City Share of Costs
		Canada	Manitoba	Canada	Manitoba ⁴	Canada	Manitoba	
WEWPCC Biological Nutrient Removal ¹	\$ 33.23	\$ 5.07	\$ 8.19			\$ 5.07	\$ 8.19	\$ 19.97
NEWPCC Centrate and UV Disinfection ¹	52.08	5.59	14.54			5.59	14.54	31.95
SEWPCC Nutrient Removal/Expansion	352.10	37.04	15.98	5.30	1.10	42.34	17.08	292.68
NEWPCC Power Supply and Headworks ²	473.38			116.11	96.75	116.11	96.75	260.52
NEWPCC Biosolids ³	552.71			200.87	167.38	200.87	167.38	184.46
NEWPCC Nutrient Removal ⁵	828.06					-	-	-
Estimated Program Costs	\$ 2,291.56	\$ 47.70	\$ 38.71	\$ 322.28	\$ 265.23	\$ 369.98	\$ 303.94	\$ 789.58

¹ WEWPCC Biological Nutrient Removal and NEWPCC Centrate and UV Disinfection have been completed.

² On July 23, 2021 the Federal and Provincial governments announced \$212.86 million in Investment in Canada Infrastructure Program (ICIP) funding for the NEWPCC Upgrade Power Supply and Headworks project. \$116.11 million in Federal and \$96.75 million in Provincial funding.

³ On September 26, 2019 City Council approved the NEWPCC Upgrade Biosolids project, conditional on Federal and Provincial government funding under the Investment in Canada Infrastructure Program (ICIP). The City is waiting for ICIP application approval.

⁴ The Provincial government has made funding commitments to date totaling \$85.85 million towards the Biosolids projects. Provincial funding received is held in reserve until the ICIP application is approved and project expenditures have occurred.

⁵ NEWPCC Upgrade Nutrient Removal project has not been approved.