

**Minutes – Standing Policy Committee on Finance – May 10, 2022**

**REPORTS**

**Item No. 2        South End Sewage Treatment Plan (SEWPCC) Upgrading and Expansion**

**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 South End Sewage Treatment Plant (SEWPCC) Upgrading and Expansion, as contained in the report, as information.

**Minutes – Standing Policy Committee on Finance – May 10, 2022**

DECISION MAKING HISTORY:

Moved by Councillor Schreyer,

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

Carried

# ADMINISTRATIVE REPORT

**Title:** South End Sewage Treatment Plant (SEWPCC) Upgrading and Expansion,  
Project ID: 20320002EL, 2032000207, and 203210002B,  
Quarterly Project Status Report No. 31  
For the Period Ended February 28, 2022

**Critical Path:** Standing Policy Committee on Finance

## AUTHORIZATION

Author	Department Head	CFO	CAO
L. McCusker, P. Eng., Acting Manager of Engineering Services	Y. Cenerini, Acting Director, Water and Waste	C. Kloepfer	M. Jack

## EXECUTIVE SUMMARY

**Project On Schedule:** Yes  No

**Project On Adopted Budget:** Yes  No

**Percent of Schedule Complete:**

**Percent of Adopted Budget Spent:**

Construction is continuing in most areas of the SEWPCC.

For this reporting period, the C4 Contractor is behind based on key contractual schedule milestones that have been missed. The Department is concerned with the C4 Contractor's performance to date, and is working with the Contract Administrator to get a revised schedule from the C4 Contractor. The C4 Contractor's schedule and performance continues to be monitored by and is of concern to the Contract Administrator.

The Department has numerous concerns with the Contractor's lack of quality assurance and quality control on the project works. The Contract Administrator and Department have discussed these concerns with the Contractor, but, to date, there has been no significant improvement noted. Due to the C4 Contractor's lack of quality assurance and quality control (QA/QC) on the project works, the Engineer of Record and Contractor Administrator have now been filling this gap through additional pre-testing and inspections. These added steps have identified additional deficiencies and non-conformance work. The minimum Quality Control by the Contractor has resulted in significant re-work and schedule impacts.

The C4 Contractor has missed the contractual Total Performance date of January 20, 2022. A notice of default letter was sent on January 21, 2022.

An identified risk to the project is the lack of resources committed to the project by the C4 Contractor. In particular, the Commissioning Manager for the C4 Contractor has left the company. The Department has issued letters of default under the remedies of the contract with respect to the project staffing and resources.

In December 2020, a Notice of Alteration for the interim phosphorous control process at the SEWPCC was submitted to the Province. The Province did not approve the request and required additional reporting and the submission of a revised schedule to full completion. The City has been reporting project status to the Province on a monthly and quarterly basis.

In September 2021, following a meeting with the Province, the City requested an extension to the Notice of Alteration date from September 30, 2021 to November 30, 2021. This was approved by the Province.

In November 2021, following a meeting with the Province, the Department submitted a Notice of Alternation to the Province stating that, due to the C4 Contractor's performance preventing the completion of various critical pre-requisite works, seeding activities for the biological nutrient removal (BNR) process would not occur in 2021 and are anticipated to start in 2022.

In late December 2021, a power imbalance caused the protection controls to turn off for some pumps, which resulted in Integrated Fixed Film Activated Sludge (IFAS) media being released from the BNR system. The Engineer of Record investigated and recommended methods of IFAS media clean-up and recovery to the C4 Contractor. The C4 Contractor is currently cleaning up and recovering the media which was released to plant areas that were outside the BNR system. The Engineer of Record is also investigating the root cause of this event, and will provide recommended mitigation measures, in order to avoid IFAS media release events in the future.

A revised Notice of Alteration was submitted to the Province on February 25, 2022, notifying of the delay and requesting a revised interim compliance date of September 30, 2022 (from the approved date of July 31, 2022), and full licence compliance date of July 31, 2023 (from the approved date of January 31, 2023).

On April 14, 2022, the Province denied the request for the revised compliance dates (Appendix E).

The Public Service is working diligently to manage project risks complete the upgrade as soon as possible. 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 South End Sewage Treatment Plant (SEWPCC) Upgrading and Expansion, 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)

**Construction** (Update from last report)

### **RFP 682-2012 (Professional Consulting Services)**

- The Consultant continues to provide required Contract Administration services and development of operational documents.
- The City is continuing to monitor Consultant performance issues.

### **RFP 871-2013 (Supply and Delivery of Free-Moving Media)**

- IFAS media delivery is being affected by the global shipping market. The Contractor continues to have difficulty in providing a firm shipping schedule as the global shipping market remains volatile.
- The Contract Administrator is continuously following up with the supply Contractor to ensure secured dates are communicated to all parties and to get a status on delivery dates.
- To date, 63 containers of IFAS media have been received on site, with approximately 17 containers remaining to be shipped from Korea.

### **RFP 873-2013 (Supply and Delivery of High Rate Clarification Equipment)**

- Commissioning services scheduled in 2022 are yet to be performed.

### **Bid Opportunity 333-2014 (Contract C1 – Site Preparation Works)**

- Legal Services has engaged external legal counsel to defend the City against the Contractor's claim.

### **Bid Opportunity 601-2015 (Contract C2 – High Rate Clarifier and Grit Removal Concrete and Miscellaneous Works)**

- Final as-built drawings are being completed by the Consultant.

### **Bid Opportunity 976-2016 (Contract C4 – Sitewide Mechanical, Electrical, Concrete and Site Works)**

- Construction is continuing in most areas of the plant. The C4 Contractor is currently working on cleaning up deficiencies noted during testing within the two new secondary clarifier areas, as well as working on submittal of the required contractual

documentation needed for handover of these secondary clarifiers. The C4 Contractor also continued working on completion of the upgraded Headworks Facilities.

- The Contractor continues working on deficiencies for a number of areas such as the headworks, chemical, and electrical areas, which were identified during testing. Once deficiencies are addressed, the C4 Contractor can prepare for overall testing activities for the respective areas.
- The C4 Contractor has also continued working on completing all construction activities of the new BNR process area. The C4 Contractor did commence some initial pre-testing activities within the BNR process area in preparation for seeding. Activities included loading of IFAS media in to the BNR tanks, HVAC testing for the BNR area was completed.
- Commissioning of the BNR has been delayed to June 2022 due to the media release event. Prior to the media release event, the BNR was ready to commission. The media recovery by the Contractor is ongoing with completion anticipated prior to this year's spring flood. To avoid commissioning during the flood period, where high plant inflows and cold, diluted primary effluent is experienced, commissioning will be delayed to June 2022 when flows have decreased.
- The C4 Contractor's construction, instrument and control programming, and testing continue to be behind schedule for a number of contract interim milestones.
- The C4 Contractor's QA/QC continues to be of concern to the Department and Contract Administrator. As a result, additional resources from the Engineer of Record and the Contract Administrator have been utilized and will continue to provide oversight.
- The Commissioning Manager for the C4 Contractor's side has left from this role. Currently this role is being filled on an interim basis by the C4 Contractor's Construction Manager and Project Superintendent. The Department and Contract Administrator are concerned, as this role is important for appropriate planning and coordination of project works, as well as the successful commissioning of works, and requires full-time personnel to fill the role.
- One of the main Electrical Superintendents for the C4 Contractor has left from this role. Currently the role will be filled by the C4 Contractor's Electrical Production Superintendent. The Department and Contract Administrator are concerned with the C4 Contractor's lack of resources on the project.
- COVID 19 impacts and steps taken to mitigate:
  - Social Distancing: maintaining social distancing with work groups on site. Limiting onsite staff to essential workers
  - Isolation of Contractor from City Wastewater Operation Staff to protect staff
  - Wastewater staff training through video conferencing
  - Reduce Contract Administrator and Consultant staff onsite, with the addition of extra trailers to maintain social distancing
- As of February 28, 2022, the C4 Contractor has initiated a total of 719 appeals. The majority of these appeals challenge the determined valuation of individual progress certificate line items.

- External legal counsel continues to assist with C4 contractual issues and implementation of contract remedies.

Table 1 – Contracts

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
682-2012	CH2M Hill Canada Ltd.	Professional Consulting Services for SEWPCC Upgrading and	\$ 25,350,419	\$ 21,733,179	2013-04-29		92
57-2016	Associated Engineering (Sask) Ltd.	Professional Consulting Services for an independent review and alternative schedule analysis	\$ 92,360	\$ -	2016-01-28	2017-02-28	100
871-2013	Veolia Water Technologies Canada Ltd.	Procurement of Free-Floating Media and Associated Appurtenances	\$ 7,750,588	\$ 1,978,546	2014-12-11		64
873-2013	Veolia Water Technologies Canada Ltd.	Procurement of High Rate Clarification Equipment	\$ 2,052,500	\$ 107,300	2014-07-10		80
333-2014	PCL Constructors Canada Ltd.	Contract 1 - Site Preparation Works	\$ 22,646,510	\$ -	2014-09-04		98
353-2014	Hanscomb Ltd.	Construction Cost Consulting Services for SEWPCC Upgrading and Expansion	\$ 50,700	\$ -	2014-09-04	2015-08-06	100
572-2014	B&B Rentals Inc.	Provision for the Purchase or Lease of a Trailer for Office Space	\$ 184,000	\$ -	2014-09-04	2015-03-18	100
1067-2014	Manitoba Hydro	Manitoba Hydro Load Interconnection Study	\$ 60,000	\$ -	2014-11-14	2015-10-31	100
343-2015	Praxair Canada	Relocation of Lox Tank	\$ 62,715	\$ -	2015-06-03	2015-08-28	100
498-2015	Western Waste Management	Asbestos Abatement	\$ 24,950	\$ -	2015-08-13	2015-11-09	100
601-2015	Graham	Contract 2 - High Rate Clarifier and	\$ 9,549,100	\$ -	2015-10-20		98
899-2015	NAC Constructors Ltd..	Contract 3 - Bioreactors, Blower Building and Secondary Clarifiers Structural Concrete & Miscellaneous Work	\$ 39,756,000	\$ -	2016-05-03	2019-07-31	100
797-2016	Manitoba Hydro	Relocation of existing primary electrical service cables	\$ 71,754	\$ -	2016-09-07	2017-01-16	100
976-2016	NAC Constructors Ltd.	Contract 4 - Siteme Mechanical, Electrical, Concrete and site Works	\$ 179,997,000		2017-10-04		72
1089-2015	Manitoba Hydro	Manitoba Hydro Works Associated with the South End Sewage Treatment Plant (SEWPCC) Nutrient Removal/Expansion Project	\$ 1,827,280	\$ 7,499	2018-01-15	2020-02-05	100
1056-2019	Duboff Edwards Haight & Schachter Law Corporation	External legal services related to the SEWPCC Project	\$ 750,000	\$ -	2019-11-07		23
<b>Total</b>			<b>\$ 290,225,876</b>	<b>\$ 23,826,524</b>			

**Upcoming Procurements:**

Description	Anticipated Award Date

**Schedule** (Update from last report)

N/A

Table 2 – Milestones

Deliverable		Original Targeted Completion Date	Revised Targeted Completion Date	Actual Completion Date	Estimated % Complete
1	Project Definition Report	2013 Q4	2014 Q2	2014 Q2	100%
2	Preliminary Design Report	2014 Q2	2014 Q4	2014 Q4	100%
3	Detailed Design	2014 Q4	2017 Q3	2017 Q3	100%
4	Construction of Site Preparation and Piling (Contract 2)	2014 Q2	2016 Q1	2016 Q1	100%
5	Construction of High Rate Clarifier and Grit Removal Structural and Misc. Works (Contract 2)	2016 Q3	2017 Q1	2017 Q1	100%
6	Construction of Major Concrete Works (Contract 4)	2017 Q4	2018 Q3	2018 Q3	100%
7	Construction of Remaining Works (Contract 4)	2021 Q4	2023 Q2		72%
8	Commissioning of interim BNR configuration	2016 Q4	2022 Q3		72%
9	Commissioning of all project components <sup>1</sup>	2021 Q3	2023 Q3		0%
10	<small><sup>1</sup> Manitoba Sustainable Development Notice of Alteration dated September 12, 2017 - City of Winnipeg South End Water Pollution Control Centre (SEWPCC) - Environment Act Licence No. 2716 RR identifies that the construction and commissioning of the upgraded wastewater treatment plant shall be completed before December 31, 2021.</small>				

NOTE: Above dates represent Substantial Completion

**Risk** (Update from last report)

The C4 Contractor continues to be tracking behind schedule. Substandard testing, lack of an appropriate QA/QC program, and documentation continues to be a risk. The Contract Administrator has implemented daily commissioning meetings with the C4 Contractor to assist in ensuring activities required to move forward in commissioning and testing are being carried out by the C4 Contractor; any issues being faced in progressing the required activities forward are discussed during these meetings. The schedule continues to be monitored, as it impacts licence conditions and project budget is under review.

The IFAS media Contractor continues to have issues providing a firm shipping schedule, as the global shipping market continues to be volatile. To date, approximately 79% of the media has been delivered to site. There is sufficient media to start the BNR system. The remaining 17 containers are anticipated to arrive before June 2022.



Table 3 – Significant Risks and Mitigations Strategies

<b>Significant Risks and Mitigation Strategies</b>	
<b>Risk Statement and Explanation</b>	<b>Risk Mitigation Management Plan</b>
<b><u>New:</u></b>	
<b><u>Ongoing:</u></b>	
C4 contractor progress tracking behind schedule	The WSTP is reviewing each monthly schedule submission, providing commentary and meeting with the Contractor to rectify baseline issues. A review of previous schedule submissions, including four week look ahead and baseline, is being undertaken to assess the validity and continuity of the schedule.
C4 contractor testing and commissioning planning documentation typically substandard and/or incomplete	Daily testing/commissioning planning meetings are being held with the contractor
Actual Contract 4 construction performance takes longer than planned.	Key construction milestone dates with linked liquidated damages incorporated into Contract 4.
Process issues at the SEWPCC have delayed some scheduled construction activities.	Ongoing communication with Wastewater Services to facilitate construction activities when opportunity is available. Reschedule construction activities when possible.
COVID-19 Impact on construction schedule	Contract Administrator and Contractor are working to manage the impact.
1.0 mg/L Phosphorus Licence compliance date of December 31, 2020	Review with the Provincial Regulator
IFAS media delivery is being affected by COVID-19 impacts on the global shipping market. The Contractor has started the process to ship media overseas, but is running into difficulty securing shipping spots on vessels, and hence not being able to provide a firm shipping schedule. Due to the global pandemic, the shipping market has seen unpredictable market fluctuations, causing shipping prices to increase by more than 310%. Media is required for BNR seeding and start up.	The Department and Contract Administrator are currently in discussions with the supply Contractor on shipping of the media, as well both the Contractor and Contract Administrator are providing updates on shipping rate increases. Engineer of Record has reviewed the modelling and has determined that the BNR can be started with a minimum of 33% of the media in the BNR tanks. Currently approximately 65% of the media is on site.
<b><u>Mitigated:</u></b>	
Rushed design to meet schedule resulting in a lower design quality and higher frequency of contract change orders.	Detailed review of the 100% design and bid opportunity document was performed using both internal and external resources.

**Financial** (Update from last report)

For further information, refer to Appendix B – Financial Forecast

The impact of additional schedule delay and increased material and shipping costs are under review and revised project costs are being finalized.

**Funding** (Update from last report)

N/A

Table 4 – Project Funding Forecast

<b>Funding Forecast and Receivable</b>			
<b>Funding Source</b>	<b>Adopted Budget (in millions)</b>	<b>Amended Budget <sup>1</sup> (in millions)</b>	<b>Committed (in millions)</b>
<b>Class of Estimate</b>	<b>Class 3</b>		
<b>City of Winnipeg Total</b>	<b>298.18</b>	<b>292.68</b>	<b>292.68</b>
Retained Earnings	75.82	75.82	75.82
External Debt	222.36	200.36	200.36
Environmental Projects Reserve <sup>1</sup>		16.50	16.50
<b>Province of Manitoba</b>	<b>6.08</b>	<b>17.08</b>	<b>17.08</b>
<b>Federal Government of Canada</b>	<b>31.34</b>	<b>42.34</b>	<b>42.34</b>
<b>Total</b>	<b>\$ 335.60</b>	<b>\$ 352.10</b>	<b>\$ 352.10</b>

<sup>1</sup> On May 27, 2021 Council approved a budget increase of \$16.5 million.

**Property Acquisition** (Update from last report)

N/A

**Stakeholder Engagements/Communications** (Update from last report)

N/A

**Subsequent Events after Report Period End Date**

The Contract continues having difficulty securing spots on shipping vessels and market shipping prices remain unpredictable.

On April 14, 2022, the Province of Manitoba advised the City that the SEWPCC Notice of Alteration (NOA) request, submitted February 25, 2022, has been denied (see Appendix E).

The City is required to:

- Complete the upgrades and comply with phosphorous and total nitrogen limits, specified in Clause 28 of Licence No.2716 RR, under the existing timeline by January 31, 2023;
- Continue to submit monthly and quarterly progress reports; and
- Identify and describe all measures taken to prevent further delays as part of the monthly and quarterly progress reports.

**FINANCIAL IMPACT**

**Financial Impact Statement**

**Date:** **March 28, 2022**

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**Project Name:**

**South End Sewage Treatment Plant (SEWPCC) Upgrading and Expansion,  
Project ID: 20320002EL, 2032000207 and 203210002B,  
Quarterly Project Status Report No. 31  
For the Period Ended February 28, 2022**

**COMMENTS:**

Financial forecast for the SEWPCC Upgrade and Expansion project can be found in Appendix B.



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Lucy Szkwarek, CPA, CGA  
Manager of Finance and Administration

## CONSULTATION

This Report has been prepared in consultation with:

- Legal Services (as to legal issues)

## 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 SEWPCC Upgrade and Expansion will reduce the environmental impact of our citizens on the Red River and the downstream lakes and rivers. It is in collaboration with the Regulatory Licence requirements issued by the Province of Manitoba.

## WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

N/A

## WINNIPEG POVERTY REDUCTION STRATEGY ALIGNMENT

N/A

## SUBMITTED BY

**Department:** Water and Waste  
**Division:** Engineering Services  
**Prepared by:** Reetu Dewitt, P. Eng.  
**Date:** March 30, 2022  
**File No.** 020-17-08-25-01, S-926

## Appendices

Appendix A – Key Project Facts  
Appendix B – Financial Forecast  
Appendix C – Key Project Events (History)  
Appendix D – Funding  
Appendix E – Letter from the Province of Manitoba

## Appendix A – Key Project Facts

<b>Appendix A - Key Project Facts</b>	
<b>Project Name</b>	South End Sewage Treatment Plant (SEWPCC) Upgrading and Expansion
<b>Business Owner (Department)</b>	Water and Waste
<b>Project ID</b>	20320002EL, 2032000207 and 203210002B
<b>Project Sponsor</b>	Director of Water and Waste
<b>Department Responsible for Project Delivery</b>	Water and Waste
<b>Consultant Engineer (Company Name)</b>	CH2M Hill Canada Ltd.
<b>Adopted Budget</b>	\$335,600,000
<b>Class of Estimate (Adopted)</b>	3
<b>Range of Estimate (Adopted)</b>	-20% to +30% \$268,500,000 to \$436,300,000.
<b>Amended Budget</b>	\$352,100,000
<b>Class of Estimate (Amended)</b>	3
<b>Range of Estimate (Amended)</b>	-20% to +30% \$281,700,000 to \$457,700,000.
<b><u>Project Scope</u></b>	
<p>The project is to expand the capacity of the SEWPCC for expected 2031 flows and upgrade the process to meet new effluent limits for nitrogen and phosphorous. The project design is based on the lowest life cycle cost (Net Present Value, or NPV). In addition, the plant must operate continuously during the work and meet current effluent limits to the greatest extent possible.</p>	
<b>Major Capital Projects Advisory Committee Membership:</b>	
<p>Michael Jack, Chief Administrative Officer            Cynthia Wiebe, Acting Director of Water and Waste            Geoff Patton, Director of Assets and Project Management            Lucy Szkwarek, Manager of Finance and Administration, Water and Waste            Catherine Kloepfer, Chief Financial Officer            Colin Java, Project Director Winnipeg Sewage Treatment Program</p>	

## Appendix B – Financial Forecast

### Appendix B - Project SEWPCC Upgrading and Expansion Financial Forecast As at February 28, 2022

Project Component Deliverables	Budget (in 000's)			Actual Costs To Feb. 28, 2022 <sup>2</sup>	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*		Projected Costs							
					2021	2022	2023	2024 and Beyond				
Engineering, Design and Other	\$ 45,351	\$ -	\$ 45,351	\$ 58,407	\$ 608	\$ 4,750	\$ 692	\$ -	\$ 64,457	\$ (19,106)	\$ (19,107)	\$ 1
Construction	\$ 257,242	\$ -	\$ 257,242	\$ 222,033	\$ 2	\$ 52,182	\$ 7,317	\$ -	\$ 281,534	\$ (24,292)	\$ (22,463)	\$ (1,829)
Land Acquisition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Internal Financing/Overhead Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contingency	\$ 33,007	\$ 16,500	\$ 49,507	\$ -	\$ -	\$ 6,109	\$ -	\$ -	\$ 6,109	\$ 43,398	\$ 41,570	\$ 1,828
<b>Total Project Budget</b>	<b>\$ 335,600</b>	<b>\$ 16,500</b>	<b>\$ 352,100</b>	<b>\$ 280,440</b>	<b>\$ 610</b>	<b>\$ 63,041</b>	<b>\$ 8,009</b>	<b>\$ -</b>	<b>\$ 352,100</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

<b>% of Project Budget Spent</b> (Actual Costs to Date / Adopted & Amended Budget)					
	84%			80%	

<sup>1</sup> Total budget of \$352.10 Million for the SEWPCC Upgrading and Expansion Project and Distribution of costs for Components was done by the Water and Waste Department. On May 27, 2021 Council approved a budget increase of \$16.5 Million, thereby revising the previous total budget of \$335.60 Million to the current \$352.10 Million. These are estimates and will be revised as the project progresses.

<sup>2</sup> Adopted and Amended budget, and actual costs to date have been agreed to the City's general ledger and Monthly Capital Expenditures Report, actual cost variance equals spending from closed budget years of \$10.918M. See below.

Project ID	Project Year	Adopted Budget	Costs to Date
20320002EL <sup>1</sup>	2002	\$222,752	\$222,752
2032000207 <sup>1</sup>	2007	\$10,695,000	\$10,695,000
203210002B	2012-2021	\$341,182,248	\$269,522,013
<b>Total Project Budget</b>		<b>\$352,100,000</b>	<b>\$280,439,765</b>

<sup>1</sup> 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)

### HISTORY

#### 1. THE PROJECT

The goal of this project is to expand the capacity of the SEWPCC for expected 2031 flows and upgrade the process to meet new effluent limits for nitrogen and phosphorous. The project design is based on the lowest life cycle cost (Net Present Value, or NPV). In addition, the plant must operate continuously during the work and meet current effluent limits to the greatest extent possible.

As a result of the 2003 Clean Environment Commission Hearings on the City's wastewater collection and treatment systems, Manitoba Conservation and Water Stewardship (the Regulator) notified the City that it intended to issue a licence for the South End Water Pollution Control Centre (SEWPCC) that would require control of nutrients discharged to the Red River.

Between 2001 to 2010, Council has approved \$203,250,000.00 for the Nutrient Removal Upgrade/Expansion at the SEWPCC.

On January 9, 2006, the Chief Financial Officer concurred with the recommendation to authorize an assignment to Stantec Consulting Ltd. for preliminary and conceptual engineering services related to the South End Water Pollution Control Centre upgrading and expansion at an estimated cost of \$3,250,000.00.

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.

In late 2007, the Winnipeg Public Service was directed to initiate an assessment of alternate project delivery methods for the SEWPCC upgrade and expansion. Consequently, the assignment to Stantec was suspended after the conclusion of the conceptual and preliminary engineering work.

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 Water Sewage Treatment Plant, and;
- 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 June 19, 2009 the Regulator issued a revised Environment Act Licence No. 2716 R for the SEWPCC.

On November 25, 2009, the Chief Financial Officer approved an award to Taillieu Construction Ltd. for SEWPCC Installation of Outfall Pipe, Effluent Sampling Facility and Associated Works, Contract No. 2 at an estimated cost of \$4,884,450.00.

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; and
- 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 September 6, 2011, the City submitted to the Regulator, an engineering plan for the upgrading and expansion of the SEWPCC in accordance with Environment Act Licence No. 2716 R.

On April 18, 2012, the Regulator issued a revised Environment Act Licence No. 2716 RR for the SEWPCC effective May 1, 2012.

On October 5, 2012, the City submitted to the Regulator a revision to the engineering plan wherein the main treatment process was revised from Biological Aerated Filter to a Fixed-film Activated Sludge process.

On April 25, 2013, the Chief Administrative Officer approved a recommendation to award a contract to CH2M Hill Canada Ltd. to provide Professional Consulting Services for SEWPCC Upgrading/Expansion Project at an estimated cost of \$25,350,419.00.

On March 13, 2014, the Standing Policy Committee on Finance recommended that the South End Water Pollution Control Centre Financial Status reports and future reports pertaining to the North End, South End or West End Water Pollution Control Centre, include:

- the total amount of federal and provincial funding received to date as well as the balance of outstanding for Winnipeg ratepayers;
- clarification of the cost estimates as a result of the regulatory requirements that have changed and the potential impact on the final budget; and
- a summary of the entire program in terms of funding from all levels of government.

Environment Act Licence No. 2716 RR

On November 5, 2015 the City received a letter from the Province granting a Licence compliance extension to December 31, 2016, noting that consideration of further extensions will be subject to the City providing quarterly status reports and consultation with the Clean Environment Commission.

To comply with the Provincial Licence requirements the City hired Associated Engineering to conduct an Alternative Analysis Review. This report is an independent review of the SEWPCC construction schedule, evaluating ways to accelerate the schedule and/or mitigate delays. The City and Associated Engineering met with the Clean Environment Commission multiple times to review the scope and findings of the report.



The factors contributing to the revised date include:

- contract detailed design is trending later than the original schedule;
- critical low wastewater flow construction window will delay completion by 12 months;
- there was no schedule contingency in the original project critical path; and
- there was no allocation in the schedule for project risk due to winter construction and unforeseen situations.

The Alternative Analysis Review was submitted to Manitoba Sustainable Development on October 20, 2016.

A letter dated September 12, 2017 was received from Manitoba Sustainable Development – Environmental Approval Branch providing conditional approval of the City’s Notice of Alteration - City of Winnipeg South End Water Pollution Control Centre (SEWPCC) - Environment Act Licence No. 2716 RR project completion date. The approval indicates that construction and commissioning of the upgraded wastewater treatment plant is to be completed before December 31, 2021.

RFP 871-2013 (Supply and Delivery of Free-Moving Media)

- IFAS media remains to be delivered to site, scheduled in 2020.

RFP 873-2013 (Supply and Delivery of High Rate Clarification Equipment)

- Delivery of HRC equipment to the site has been made.
- Commissioning services scheduled in 2020 remain to be performed.

Bid Opportunity 333-2014 (Contract C1 – Site Preparation Works)

- Contract achieved Total Performance February 17, 2016.
- Legal Services has filed a Statement of Defence in response to the Subcontractor’s Statement of Claim.

Bid Opportunity 601-2015 (Contract C2 – High Rate Clarifier and Grit Removal Concrete and Miscellaneous Works)

- Contract achieved Total Performance March 10, 2017.
- The Contractor has appealed the assessment of liquidated damages for failure to meet the contract dates for Substantial and Total Performance.
- The Contractor has not responded to the CFO’s letter of April 28, 2018 concerning their appeal.

Bid Opportunity 899-2015 (Contract C3 – Bioreactors, Blower Building and Secondary Clarifiers Structural Concrete & Miscellaneous Work)

- The Contractor achieved Total Performance as of March 6, 2019.
- The Contractor filed 21 appeals on contract 3. An agreement was reached with the Contractor for all C3 appeals and within the contract award value.

Materials Management Reference 1089-2015 (Single Source Negotiation for Manitoba Hydro Works Associated with the South End Sewage Treatment Plant (SEWPCC) Nutrient Removal/Expansion Project)

•This contract is complete.

## **RISKS AND RISK MITIGATION STRATEGIES**

The project has proceeded on a fast-track basis with construction contracts proceeding completion of the design. The detailed design is now complete with the largest and last construction contract, Contract 4 tendered. The cost estimate for Contract 4 (C4), which has an identified accuracy range of -10% to + 10%, is higher than the project allocation for this work. The adopted project budget of \$335.6 million was based on a Class 3 cost estimate which had an AACE expected accuracy range of -20% to +30% or \$268.5 million to \$436.3 million. On May 27, 2021 Council approved a budget increase of \$16.5 Million, thereby approving an amended budget of \$352.1 Million.

An ongoing risk management strategy has been implemented for the project encompassing a proactive process of identifying and assessing project risk, defining appropriate risk handling strategies and plans, and monitoring those actions to completion.

Formal risk and opportunity analyses of the project are scheduled to be performed by the WSTP, the design consultant and key City stakeholders at the following project milestones:

- End of Project Definition design stage – this analysis has been completed
- End of Preliminary Design phase – this analysis has been completed
- At 60% and 90% completion of Detailed Design – these analyses have been completed
- Prior to the start of construction and quarterly during construction – Ongoing
- Prior to the start of, and again at the end of, commissioning

A project risk register is being kept throughout the project and is updated by the above formal analysis.

## Appendix D – Funding

### South End Sewage Treatment Plant (SEWPCC) and Winnipeg Sewage Treatment Program (WSTP)

1) Funding for the SEWPCC is as follows:

SEWPCC Nutrient Removal/Upgrade (in \$millions)	Total Cost	Funded to Date		Funding Pending		Total Funding		City Share of Costs
		Canada	Manitoba	Canada	Manitoba	Canada	Manitoba	
Environment Act Licence Driven Funding								
CSIF BNR	\$ 147.0	\$ 27.14	\$ 6.08	\$ 4.20	\$ -	\$ 31.34	\$ 6.08	\$ 109.58
GIF Wet Weather Flow	60.0	9.90	9.90	1.10	1.10	11.00	11.00	38.00
Other	145.1							145.10
<b>Estimated Program Costs</b>	<b>\$ 352.1</b>	<b>\$ 37.04</b>	<b>\$ 15.98</b>	<b>\$ 5.30</b>	<b>\$ 1.10</b>	<b>\$ 42.34</b>	<b>\$ 17.08</b>	<b>\$ 292.68</b>

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 <sup>4</sup>	Canada	Manitoba	
WEWPCC Biological Nutrient Removal <sup>1</sup>	\$ 33.23	\$ 5.07	\$ 8.19			\$ 5.07	\$ 8.19	\$ 19.97
NEWPCC Centrate and UV Disinfection <sup>1</sup>	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 <sup>2</sup>	473.38			116.11	96.75	116.11	96.75	260.52
NEWPCC Biosolids <sup>3</sup>	552.71			200.87	167.38	200.87	167.38	184.46
NEWPCC Nutrient Removal <sup>5</sup>	828.06					-	-	-
<b>Estimated Program Costs</b>	<b>\$ 2,291.56</b>	<b>\$ 47.70</b>	<b>\$ 38.71</b>	<b>\$ 322.28</b>	<b>\$ 265.23</b>	<b>\$ 369.98</b>	<b>\$ 303.94</b>	<b>\$ 789.58</b>

<sup>1</sup> WEWPCC Biological Nutrient Removal and NEWPCC Centrate and UV Disinfection have been completed.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> 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.

<sup>5</sup> NEWPCC Upgrade Nutrient Removal project has not been approved.