

**REPORTS**

**Minute No. 30            South End Water Pollution Control Centre (SEWPCC) Upgrading and Expansion Financial Status Report No. 1 for the period ending from May 1, 2013 to November 30, 2013**

**STANDING COMMITTEE RECOMMENDATION:**

The Standing Policy Committee on Finance laid over the matter to its meeting on April 10, 2014 and recommended to the Winnipeg Public Service that this report, and every future report pertaining to the North End, South End or West End Water Pollution Control Centre, include:

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

## **Minutes – Standing Policy Committee on Finance – March 13, 2014**

### **DECISION MAKING HISTORY:**

Moved by Councillor Wyatt,

That the Winnipeg Public Service report back to the April 10, 2014 Standing Policy Committee Meeting on this matter and that the report, and every future report pertaining to the North End, South End or West End Water Pollution Control Centre, include the following:

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

Carried

# ADMINISTRATIVE REPORT

**Title:** SOUTH END WATER POLLUTION CONTROL CENTRE (SEWPCC)  
UPGRADING AND EXPANSION FINANCIAL STATUS REPORT NO. 1  
FOR THE PERIOD FROM MAY 1, 2013 TO NOVEMBER 30, 2013

**Critical Path:** THE STANDING POLICY COMMITTEE ON FINANCE

## AUTHORIZATION

| Author  | Department Head   | CFO          | CAO               |
|---|---|--------------|-------------------|
| G. K. Patton, P. Eng.<br>Manager of Engineering<br>Services | Diane P. Sacher, P. Eng.,<br>Director of Water and<br>Waste | M. Ruta, CFO | D. Joshi<br>A/CAO |

## RECOMMENDATIONS

That this report be received as information.

## REASON FOR THE REPORT

At its meeting held on December 16, 1999, City Council adopted a policy whereby all capital projects with a total estimated cost of \$10 million or more be submitted by the associated Civic Department to the Standing Committee on Fiscal Issues (now the Standing Policy Committee on Finance) for review and recommendation prior to any bid solicitation being issued.

Administrative Directive No. FM-004 requires quarterly reporting to the Standing Committee on Fiscal Issues (now the Standing Policy Committee on Finance).

## IMPLICATIONS OF THE RECOMMENDATIONS

- Previous project cost estimates were based on different regulatory requirements than those of the current licence. Current Capital budget forecasting has provided for cost increases but will not be finalized until detailed design is completed.
- The recent increase in the Manitoba Retail Sales Tax rate from 7% to 8% together with Manitoba Retail Sales Tax Act clarifications affecting Engineering Design Services is anticipated to have an additional cost impact to the project in excess of \$2.2 Million.
- The current Licence requires the plant to meet more stringent discharge effluent requirements by December 31, 2015 despite the fact that the province approved the City's submitted plan which included a completion date of October 31, 2016. The Department has notified the Province of this discrepancy. The Department has also notified the Regulator that this is not achievable and requested a revised estimated construction completion date of October 31, 2016 consistent with the City's submitted and approved engineering plan.

## HISTORY

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.

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.
- 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.

## **DISCUSSION:**

### **1. PROJECT EVOLUTION**

The SEWPCC expansion and nutrient removal project is being undertaken to address growth in the catchment and effluent nutrient removal as mandated by the Province of Manitoba. The first project financial status report was submitted to Standing Policy Committee on Finance at the November 8, 2005 meeting and financial status reporting continued until report #9 which was tabled on January 15, 2009. In those first three years, the project undertook plant capacity evaluation work, expansion of the plant outfall capacity and enhanced flood protection for the SEWPCC.

In November, 2008 when City Council's directed the Public Service to secure a strategic partner, the work on the SEWPCC project was held in abeyance, pending the outcome of the complex procurement process, which culminated in the signing of a consulting services agreement with Veolia in April 2011.

Throughout 2012 the City was engaged in project definition, process selection, and development of terms of reference and the competitive process for professional detailed engineering services. On May 2, 2013, as an outcome of City of Winnipeg Request for Proposal 682-2012, CH2M Hill Canada Ltd. was awarded the assignment to perform the required Professional Consulting Services for SEWPCC Upgrading/Expansion Project. The scope of the services includes project definition design, preliminary design, detailed design, contract administration and additional services. Now that significant engineering work is underway, financial reporting has recommenced.

The Public Service has reconstituted a Major Capital Steering Committee and for purposes of FM-004 is considering this to be the first financial status report. The SEWPCC project, since its inception, has changed considerably. The project had to be redefined as a result of changing Environment Act License requirements, expanding population in the south end of the City, technological advances and implementation of the consulting services contract with Veolia.

### **2. MAJOR CAPITAL PROJECT STEERING COMMITTEE**

Administrative policy for projects with capital cost exceeding \$10 million requires formation of Major Capital Project Steering Committee. The Committee has been formed and its members are:

Deepak Joshi, Interim Acting Chief Administrative Officer  
Michael Ruta, Chief Financial Officer  
Diane Sacher, Director of Water & Waste  
Maira Geer, Manager of Finance and Administration, Water & Waste  
Jackie Veilleux, Project Director Winnipeg Sewage Treatment Program, Water & Waste

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

### **3. DESCRIPTION OF PROJECT**

The Project objective is to upgrade and expand the SEWPCC to meet Manitoba Regulatory Licence 2716 RR while accommodating year 2031 forecasted influent flows and loads. The expansion of the SEWPCC treatment capacity is required to accommodate population growth in the service area of the SEWPCC. The current plant is operating close to its average dry weather flow capacity of 60 ML/d and needs to be expanded to 75.4 ML/d to meet the 2031 design year population and flow projections. The Project design will also consider future regulatory trends and long term planning to year 2061 to facilitate effective process or facility modifications should they be required.

During performance of the Project works, impact to the current facility treatment capability is to be minimized to the greatest extent possible. The expanded and upgraded facility is to have an economical whole life cost and be an efficient and safe workplace for operational personnel.

Biological nutrient removal (BNR) with integrated fixed film activated sludge (IFAS) has been selected as the principal treatment process to be employed.

The delivery method for the project is design, bid, build (DBB) with construction management. It is planned that the Winnipeg Sewage Treatment Program partnership (City of Winnipeg and Veolia) will act as the construction manager and undertake lead contract administration duties.

### **4. RISKS AND RISK MITIGATION STRATEGIES**

Currently the project is in the early stages of design. 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 Winnipeg Sewage Treatment Program, the design consultant and key City stakeholders at the following project milestones:

- End of Project Definition design stage
- End of Preliminary Design phase
- At 60% and 90% completion of Detailed Design
- Prior to the start of construction and quarterly during construction
- Prior to the start of and at the end of commissioning

A project risk register will be kept throughout the project and will be updated by the formal analyses. The project will also incorporate structured Hazard and Operability Analysis and Value Engineering Analysis.

### **5. CURRENT PROJECT STATUS**

Project definition design, which defines the major project components and validates that the selected treatment processes can meet the project objectives, is 90% complete. CH2M Hill has submitted their draft project definition report. The Winnipeg Sewage Treatment Program (the Program) has identified the need for additional analysis with respect to the secondary treatment and disinfection processes and has taken these under further review. Two City of Winnipeg Requests for Proposal, one for the provision of High Rate Clarifier Equipment and the second for the provision of IFAS media and associated components are to be issued as part of the project definition design phase. Key design information to be provided by the successful suppliers will be used by CH2M Hill in the preliminary and

detailed designs. The associated documents for the solicitation of cost and equipment performance have been issued by CH2M Hill to the City and are currently undergoing review by the Program and Materials Management.

CH2M Hill commenced work on specific preliminary design tasks in November 2013.

## **6. ISSUES/RISKS REQUIRING FURTHER ATTENTION**

### **Cost Risk**

An earlier Conceptual Design Report prepared by Stantec Consulting Ltd. in 2009 identified an opinion of probable cost for the project of \$211,279,000. This was an AACE International Class 4 estimate, with an expected accuracy range of between -15% and + 50% and was based on regulatory requirements in place at the time.

Since then:

- the Regulator has issued a new Licence with more stringent requirements
- a new schedule is applicable

At this time the cost impact of meeting the new Regulatory Licence requirements has not been quantified. However as the requirements are more stringent than the previously costed design, it is anticipated that the new design will have a higher cost. CH2M Hill has been directed to provide a cost estimate for the project at the completion of the project definition stage and another one at the end of the preliminary design phase. These estimates will be used as a basis for future budget assessments.

Inflation impacts are evident and assessed values have been input into the future capital budget process.

As per the Program Agreement between the City and Veolia, the preliminary design documents will be submitted to an independent third party cost consultant for costing of the project construction. This cost will form part of the Capital Project Target Cost identified in the Program Agreement and be used for gainshare/painshare allocation between the Program partners.

The recent increase in the Manitoba Retail Sales Tax rate from 7% to 8% together with Manitoba Retail Sales Tax Act clarifications affecting Engineering Design Services is anticipated to have an additional cost impact to the project in excess of \$2.2 Million.

### **Schedule**

As previously noted the SEWPCC Licence No. 2716 RR received on April 18, 2012 requires the plant to meet more stringent discharge effluent requirements on and after December 31, 2015. On May 2, 2012 in a letter to the Regulator, the Department advised that as per the plan it submitted to the Regulator, the December 31, 2015 date was not achievable and requested that the construction completion date of October 31, 2016 be reflected in the licence, consistent with the submitted and approved plan. The project schedule is under discussion with the Regulator.

The Consultant Services proposal received from CH2M Hill contained a schedule for the Project wherein the essential Project components required to meet effluent compliance are planned to be designed and constructed to meet the October 31, 2016 timeline.

Planned key schedule milestones are:

| Milestone Description                             | Timeline      |
|---|---------------|
| Complete Project Definition Report                | December 2013 |
| Complete Preliminary Design Report                | April 2014    |
| Start Detailed Design                             | April 2014    |
| Start Construction of Site Preparation and Piling | October 2014  |
| Start Construction of BNR Bioreactor              | May 2015      |
| Complete Commissioning of essential components    | October 2016  |

The Project schedule will be refined and updated as the design progresses.

### **Canadian Strategic Infrastructure Funding (CSIF)**

This Agreement stipulates that Canada and Manitoba agree to pay a contribution to the City of Winnipeg towards the total Eligible Costs of the defined Project at the three wastewater treatment facilities. The Project components consist of the NEWPCC Centrate treatment facility, the WEWPCC biological nutrient reduction facility, and the SEWPCC biological nutrient reduction facility. Costs incurred prior to November 28th, 2005, which was the date of federal ministerial approval, are ineligible for cost sharing.

In this program Canada's contribution will be up to a maximum of \$42 million and Manitoba's contribution was up to a maximum of \$25 million toward Eligible Costs incurred.

The NEWPCC Centrate treatment facility and WEWPCC biological nutrient reduction facility projects are now complete. As a result Manitoba has fulfilled its total commitment of \$25 million and Canada has fulfilled \$10 million of the \$42 million committed for these projects.

SEWPCC biological nutrient reduction facility is the only component remaining eligible for funding and is eligible for the remaining Canada commitment of \$31.34 million.

### **Green Infrastructure Fund (GIF)**

The federal and provincial governments have confirmed their funding commitments of \$11 million each towards the Wet Weather Flow components of the SEWPCC project. The City of Winnipeg will work with each level of government to finalize the contribution agreements in a timely manner.

## **7. WINNPEG SEWAGE TREATMENT PROGRAM (WSTP)**

Under the WSTP Veolia is to provide advice to the City of Winnipeg in the design and construction of the SEWPCC project. As indicated in the WSTP Annual Report (tabled at City Council on June 26, 2013), Veolia is delivering value to the City of Winnipeg. In this project, the City of Winnipeg is benefitting from:

- Savings from reduced rates in consulting services
- Provision of expert advice on BNR upgrade and expansion
- Share in the risks of the capital project delivery.



## 8. FINANCIAL ANALYSIS

Financial analysis of tenders is not yet applicable. The following Requests For Proposal are currently being prepared for issue through Materials Management;

| RFP      | Description   | Tender Price |
|----------|---|--------------|
| 871-2013 | Procurement of Free-Floating Media and Associated Appurtenances | TBD          |
| 873-2013 | Procurement of High Rate Clarification Equipment                | TBD          |

Future major tender packages anticipated are:

- 1) Site Preparation and Piling
- 2A) Essential Components North
- 2B) Essential Components South
- 3) Existing Works/Electrical Instrumentation & Control and Misc. Upgrades.

The content and final number of major tender packages will be solidified as the design progresses and more detailed implementation plans are developed.

### Project funding

The approved capital and current projected budget are as follows:

| YEAR       | CAPITAL PROGRAM          | ACTUAL + PROJECTED CASH FLOWS | CUMULATIVE CAPITAL BUDGET REMAINING |
|------------|--------------------------|-------------------------------|-------------------------------------|
| Up to 2013 | 203,250,000 <sup>1</sup> | 14,011,469                    | 189,238,531                         |
| 2014       | 44,000,000 <sup>2</sup>  | 15,675,365                    | 217,563,166                         |
| 2015       | 13,000,000 <sup>2</sup>  | 118,511,667                   | 112,051,499                         |
| 2016       | 12,500,000 <sup>2</sup>  | 92,786,377                    | 31,765,121                          |
| 2017       |                          | 31,765,121                    | 0                                   |
| Total      | 272,750,000              | 272,750,000                   |                                     |

<sup>1</sup>Capital Budget approved by Council

<sup>2</sup>Capital Program requirements currently included in the 2013 - 2018 Capital Budget Estimates

A summary of the budget to forecast comparison is contained in Appendix 1.

Project funding sources are as follows:

This project will receive \$31.34 million in Canadian Strategic Infrastructure funding. The balance of \$241.41 million will be funded using a combination of cash, Environmental Projects reserve and debt funding. Each these sources are internally funded by rates as forecast in the Council approved rate report.

## FINANCIAL IMPACT

As this report is submitted for informational purposes only, there is no financial impact associated with this recommendation.

*Original Signed by*  
Moira L. Geer, C.A.  
Manager of Finance and Administration

## CONSULTATION

In preparing this report there was consultation with:

## SUBMITTED BY

Water and Waste Department  
Division; Engineering  
Prepared by: N. A. Harrington, P. Eng.  
Date: February 11, 2014  
File No. 020-17-08-25-01 and S-926

c:

M. Geer C.A., Water and Waste Department (email)  
G. Patton P. Eng., Water and Waste Department (email)  
J. Veilleux P. Eng., Water and Waste Department (email)  
N. Harrington P. Eng., Water and Waste Department (email)

**SEWPCC UPGRADING/EXPANSION PROJECT  
WATER AND WASTE DEPARTMENT - ENGINEERING DIVISION  
APPENDIX 1  
As at November 30 , 2013**

| Components                     | COSTS                |                                      |                                  |                             |  | PROJECTED COSTS TO COMPLETE |                   |                    |                   |                                   | TOTAL              | VARIANCE                              | NOTE |
|--------------------------------|----------------------|--------------------------------------|----------------------------------|-----------------------------|--|-----------------------------|-------------------|--------------------|-------------------|-----------------------------------|--------------------|---------------------------------------|------|
|                                | Total Budgeted Costs | Approved Budget To Date <sup>1</sup> | Costs Incurred up to last report | Costs submitted this report | Total Costs Incurred to Date (per G/L) 30-Nov-13 | 2013                        | 2014              | 2015               | 2016              | Total Costs Remaining to Complete | Total Project Cost | Variance from Budget ( Unfavourable ) |      |
| <b>A PROFESSIONAL SERVICES</b> | 41,111,226           | 41,111,226                           | 0                                | 8,547,654                   | 8,547,654  | 381,243                     | 7,420,365         | 13,434,667         | 8,605,377         | 2,721,919                         | 41,111,226         | 0                                     | 2    |
| <b>B CONSTRUCTION</b>          | 231,638,774          | 162,138,774                          | 0                                | 5,082,572                   | 5,082,572  | 0                           | 8,255,000         | 105,077,000        | 84,181,000        | 29,043,202                        | 231,638,774        | 0                                     | 3    |
| <b>TOTALS</b>                  | <b>272,750,000</b>   | <b>203,250,000</b>                   | <b>0</b>                         | <b>13,630,226</b>           | <b>13,630,226</b>                                | <b>381,243</b>              | <b>15,675,365</b> | <b>118,511,667</b> | <b>92,786,377</b> | <b>31,765,121</b>                 | <b>272,750,000</b> | <b>0</b>                              |      |

Percentage Complete

5%

1 Council has approved a total budget of \$203.25 Million for the SEWPCC Upgrade/Expansion Project; Distribution of costs to Components A) and B) was done by the Water and Waste Department.

2 Professional Services include Professional Engineering Services, other expert design and cost review, CSIF Funding Audits, Municipal Corporate Utility Model review, overhead and administration charges

3 Total Budgeted Costs include \$69.5 Million for escalation