

Minutes - Standing Policy Committee on Finance - October 13, 2016

REPORTS

**Item No. 10 Biosolids – Alternative Disposal Delivery and Management System
Financial Status Report No. 4 for the Period from August 1, 2015
to June 30, 2016**

STANDING COMMITTEE RECOMMENDATION:

The Standing Policy Committee on Finance concurred in the recommendation of the Winnipeg Public Service and received the report as information.

Minutes - Standing Policy Committee on Finance - October 13, 2016

DECISION MAKING HISTORY:

Moved by Councillor Gillingham

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

Carried

ADMINISTRATIVE REPORT

Title: BIOSOLIDS – ALTERNATIVE DISPOSAL DELIVERY AND MANAGEMENT SYSTEM FINANCIAL STATUS REPORT NO. 4 FOR THE PERIOD FROM AUGUST 1, 2015 TO JUNE 30, 2016

Critical Path: The Standing Policy Committee on Finance

AUTHORIZATION

Author	Department Head	CFO	CAO
G. K. Patton, P. Eng. Manager of Engineering Services	M. L. Geer, CPA, CA Acting Director, Water and Waste Department	M. Ruta	D. McNeil

RECOMMENDATIONS

That this report be received as information.

REASON FOR THE REPORT

Administrative Directive No. FM-004 requires quarterly reporting to the Standing Policy Committee on Finance.

EXECUTIVE SUMMARY

This report identifies the financial status and significant events for the Biosolids Alternative Disposal Delivery and Management System. This capital project is financed from the approved 2016 Capital Budget for Biosolids – Alternative Disposal Delivery and Management System.

The Project is currently on schedule and within budget.

IMPLICATIONS OF THE RECOMMENDATIONS

The Biosolids Master Plan (BMP) was approved by the Manitoba Sustainable Development Department (formerly known as Manitoba Conservation and Water Stewardship) on March 10, 2016.

The Water and Waste Department intends to implement the BMP according to the schedule approved by Manitoba Sustainable Development.

HISTORY / DISCUSSION

DISCUSSION:

1. THE PROJECT

Biosolids are the treated sludge and solid residuals left over from wastewater treatment. On June 16, 2011 the Water Protection Act (Act) was amended to including the following for the City's biosolids, which are generated at the North End Sewage Treatment Plant:

- Nutrients must be recovered and recycled to the maximum extent possible through application of the best available technologies.
- Biosolids and wastewater sludge remaining after the treatment process must be reused.

On October 2, 2012 Manitoba Conservation and Water Stewardship sent a letter to the City requiring that a Biosolids Master Plan that considered opportunities to recycle nutrients and beneficially reuse biosolids, be submitted by October 2, 2014. The City's current practice, landfilling, is not considered beneficial reuse.

On September 30, 2014, the Winnipeg Sewage Treatment Program (WSTP) submitted the City of Winnipeg Biosolids Master Plan. The plan focuses on nutrient recovery and reuse by focusing on disposal options that utilize nitrogen and phosphorous contained within the biosolids. These options include land application, soil manufacturing, and land reclamation. A new sludge digestion facility with nutrient recovery will produce a low-pathogen biosolids product. Construction of the new facility is part of the North End Sewage Treatment Plant Biological Nutrient Removal Upgrade.

The plan also proposed interim strategies for beneficial biosolids reuse before the new digestion facility is completed. The interim strategies are a biosolids composting pilot with landfill reclamation and seasonal land application.

The Adopted Budget to date for the Biosolids – Alternative Disposal Delivery and Management System includes the following Project Identification:

Project ID	Project Year	Adopted Budget
2031000400 ¹	2000	600,000
2031000403 ¹	2003	200,000
2031000404 ¹	2004	994,031
2031000407 ¹	2007	146,714
2031000411	2011	3,000,000
203210002B	2012 - 2016	11,963,286
Total Project Budget		\$16,904,031

¹ Does not appear in the Capital Expenditures Monthly Report as the funds have been expended and it is designated as a closed Project ID.

The Executive Project Sponsor is the Director of Water and Waste. The Project Manager is Michelle Paetkau, M.Sc, P. Eng.

2. MAJOR CAPITAL PROJECT STEERING COMMITTEE

Administrative policy for projects with capital cost exceeding \$20 million requires formation of Major Capital Project Steering Committee. This threshold was approved by Council on October 28, 2015. Any project reporting to Standing Policy Committee on Finance under the previous \$10 million threshold will continue to report. The Committee has been formed and its members are:

Doug McNeil, Chief Administrative Officer
Georges Chartier, Manager of Infrastructure Planning
Moiria Geer, Acting Director, Water and Waste
Lucy Szkwarek, Acting Manager of Finance and Administration, Water and Waste
Jackie Veilleux, Project Director Winnipeg Sewage Treatment Program, Water and Waste

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

3. RISKS AND RISK MITIGATION STRATEGIES

An ongoing risk management strategy has been implemented for the Biosolids Composting Pilot. It includes a proactive process of identifying, performing qualitative and quantitative risk analyses, response plan strategies and risk control.

A project risk register is being kept for the final biosolids treatment option(s) throughout the Biosolids Alternative Disposal Delivery and Management Program and will be updated by formal analyses.

Critical risks associated with the BMP include:

Biosolids Risk Matrix¹	
Risk Statement and Explanation	Mitigation
The phases of the BMP are linked to other large infrastructure projects, such as the North End Sewage Treatment Plant upgrade and the South End Sewage Treatment Plant upgrade. Delays in their schedule may impact the BMP implementation	The BMP is being implemented in phases for flexibility and adaptability. There is regular coordination and communication between project managers. Manitoba Sustainable Development will be notified if there are impacts to the implementation schedule
There may be high public interest in biosolids, their products, and their disposal options.	A public engagement program was implemented as part of the BMP development. Future components of the BMP (e.g. land application) will have public engagement as part of their scope of work for communication and feedback

¹Risk Matrix is arranged vertically from higher to lower assessed risk

4. CHANGES FROM LAST REPORT

The Biosolids Master Plan (BMP) was approved by Manitoba Sustainable Development on March 10, 2016. In accordance with the Water Protection Act the BMP focuses on

sustainable reuse of biosolids, with an emphasis on nutrient recovery and reuse. The BMP included:

- Construction of a new digestion facility as part of the NEWPCC – Nutrient Removal/Upgrade project
 - A nutrient recovery facility will recover additional nitrogen and phosphorous for use in fertilizers
- Development of a land application program to apply the biosolids as a fertilizer to farmland
- The two year biosolids compost pilot, which commenced in May 2015
- Sludge Dewatering for the South End Sewage Treatment Plant (SEWPCC)
- Soil manufacturing will be considered after the digestion upgrades have been completed

New Digestion Facility

This project is now reported as part of the NEWPCC – Nutrient Removal/Upgrade project.

Land Application Program

In accordance with the BMP a Request for Information (RFI 1112-2015) was issued to vendors who apply the biosolids to farmland as fertilizer. Based on RFI responses, the City will issue a Request for Proposal for seasonal land application of the biosolids. The vendor will conduct public engagement as part of their contract. Manitoba Sustainable Development does not allow biosolids to be applied in winter (November to April) due to spring runoff concerns.

The City will not consider winter biosolids storage options until after the new digestion facility has been completed. Funds associated with a winter biosolids storage facility have not been included in the Capital Budget. Depending on the results of the summer land application program a business case for this work will be developed.

Manitoba Sustainable Development has requested the land application plan be developed for implementation in 2017. The Land Application Program is an operating program; funds for this program will be included in the 2017 Budget process for consideration of Council.

Biosolids Compost Pilot

The compost pilot has been operating for one year, with a goal of composting 20% biosolids. Due to operating issues the facility was inoperable from January to May 2016. An ongoing review to improve the composting procedure is currently underway. In the 2015 operating period the facility composted approximately 10% of the City's biosolids. The finished compost is being used within the landfill.

Sludge Dewatering for the South End Sewage Treatment Plant (SEWPCC)

The SEWPCC will have a facility to thicken the sludge from 6% thickness to 15-20% thickness to reduce hauling costs to the NEWPCC. This project will be initiated after the SEWPCC Upgrading and Expansion Project has been completed. Funds for this work are included in the five-year capital budget forecast.

5. ISSUES/RISKS REQUIRING FURTHER ATTENTION COST

The estimates for this work, as described within the Biosolids Master Plan are based on a Class 5 cost estimate with an expected accuracy range of between -50% and + 100%, as defined by the Association for the Advancement of Cost Engineering (AACE) International.

Cost estimates will be refined further after the Regulator has issued a biosolids licence.

It is AACE International accepted practice that cost estimates are adjusted as design progresses.

6. SCHEDULE

Updates on the BMP are reported annually to Manitoba Sustainable Development. The timeframe for the BMP components are as follows:

- The digestion and nutrient recovery facility as part of the NEWPCC – Nutrient Removal/Upgrade project
- A land application program in 2017
- A biosolids compost report by the end of 2017
- SEWPCC sludge dewatering is dependent on the completion of the SEWPCC upgrades

7. FINANCIAL ANALYSIS

The status of current Requests for Proposal and Bid Opportunities are as follows:

Request for Proposal or Bid Opportunity	Description	Current Status	Contract Value (GST and MRST extra as applicable)
153-2012	RFP for Professional Consulting Services for a Leaf and Yard Waste Composting Facility and a Pilot Biosolids Composting Facility at BRRMF	Awarded	\$478,781 ¹
839-2012	Construction of the BRRMF Leaf and Yard Waste and Pilot Biosolids Composting Facility	Awarded	\$6,584,769 ¹
89-2014	Professional Consulting Services for RFP Development and Recommendation for a Struvite Vendor	Completed	\$79,840
92-2014	Award of Contract for Supply and Delivery of Wood Chips for the Biosolids Compost Facility	Awarded	\$367,200
92-2014 ext 1 (time period)	Award of Contract for Supply and Delivery of Wood Chips for the Biosolids Compost Facility	Awarded	\$367,200

Request for Proposal or Bid Opportunity	Description	Current Status	Contract Value (GST and MRST extra as applicable)
extension)			
92-2014 ext 2 (time period extension)	Award of Contract for Supply and Delivery of Wood Chips for the Biosolids Compost Facility	Awarded	\$367,200
473-2015	A & L Canada Laboratories	Awarded	\$23,730

¹Represents portion of contract funded from the Biosolids – Alternative Disposal Delivery and Management System Account
Future Major Bid Opportunities: N/A

Project funding

The approved capital and projected budget are as follows:

YEAR	CAPITAL PROGRAM	ACTUAL + PROJECTED CASH FLOWS	CUMULATIVE CAPITAL BUDGET REMAINING
As of September 2016	16,904,031	11,311,905	5,592,126
2017		1,050,000	4,542,126
2018	22,050,000	550,000	26,042,126
2019		3,100,000	22,942,126
2020		6,600,000	16,342,126
2021	1,000,000	6,550,000	10,792,126
Beyond 2021		10,792,126	-
Total	39,954,031	39,954,031	

The project will be funded using a combination of cash, and environmental projects reserve. Each of these sources are internally funded by rates as forecasted in the Council approved rate report.

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

8. OTHER

Winnipeg Sewage Treatment Program (WSTP)

Under the WSTP Veolia is to provide advice to the City of Winnipeg in the development of the Biosolids – Alternative Delivery and Management System. As indicated in the WSTP Annual Report (proposed to be tabled at Standing Policy Committee on Water and Waste, Riverbank Management and the Environment meeting September 8, 2016), Veolia is delivering value to the City of Winnipeg. In this project, the City of Winnipeg is benefitting from:

- Provision of expert advice on sludge and biosolids treatment technologies
- Share in the risks of the capital project delivery

FINANCIAL IMPACT

Financial Impact Statement

Date:

July 27, 2016

Project Name:

**BIOSOLIDS – ALTERNATIVE DISPOSAL DELIVERY AND MANAGEMENT SYSTEM
FINANCIAL STATUS REPORT NO. 4 FOR THE PERIOD FROM AUGUST 1, 2015 TO
JUNE 30, 2016**

COMMENTS:

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

*"Original signed by L. Szkwarek, CPA, CGA
Lucy Szkwarek, CPA, CGA
Acting Manager of Finance and Administration*

CONSULTATION

In preparing this report there was consultation with:

N/A

OURWINNIPEG POLICY ALIGNMENT

This report is in accordance with the OurWinnipeg policies through environmental compliance.

OurWinnipeg Reference: Environment

SUBMITTED BY

Department: Water and Waste
Division: Engineering Services
Prepared by: M. Paetkau, P.Eng.
Date: August 29, 2016
File No.: S-928

c: Major Capital Project Steering Committee (email)

ATTACHMENTS:

Appendix 1: Costs for Biosolids - Alternative Disposal Delivery and Management System

Biosolids - Alternative Disposal Delivery and Management System
WATER AND WASTE DEPARTMENT - ENGINEERING DIVISION
APPENDIX 1
As of July 18, 2016

Components	COSTS				PROJECTED COSTS TO COMPLETE						TOTAL	VARIANCE	NOTE	
	Approved Budget To Date ¹	Costs Incurred up to last report	Costs submitted this report	Total Costs Incurred to Date	2016	2017	2018	2019	2020	2021	Total Costs Remaining to Complete	Total Project Cost	Variance from Budget (Unfavourable)	
PROFESSIONAL SERVICES	7,817,808	3,963,808	2,000	3,965,808	2,000	50,000	550,000	1,100,000	1,100,000	550,000	500,000	7,817,808	0	²
CONSTRUCTION	30,183,358	6,391,232		6,391,232	0	0	0	2,000,000	5,500,000	6,000,000	10,292,126	30,183,358	0	
Pilot Composting Operational Costs	1,952,865	25,000	427,865	452,865	500,000	1,000,000						1,952,865		
TOTALS	39,954,031	10,380,040	429,865	10,809,905	502,000	1,050,000	550,000	3,100,000	6,600,000	6,550,000	10,792,126	39,954,031	0	

Percentage Complete

27%

¹ Total budget of \$39,954,031 Million includes 2016 Budget requirements for the Biosolids Alternative Disposal Delivery Program; 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, overhead and administration charges