

Minutes – Standing Policy Committee on Finance – December 7, 2017

REPORTS

Item No. 5 Biosolids – Alternative Disposal Delivery and Management System

STANDING COMMITTEE DECISION:

The Standing Policy Committee on Finance concurred in the recommendation of the Winnipeg Public Service that the financial status of the Biosolids – Alternative Disposal Delivery and Management System, be received as information.

Minutes – Standing Policy Committee on Finance – December 7, 2017

DECISION MAKING HISTORY:

Moved by Councillor Lukes,

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

Carried

ADMINISTRATIVE REPORT

Title: Biosolids – Alternative Disposal Delivery and Management System,
Project ID: 203110004B,
Quarterly Project Status Report No. 8
For the Period Ended August 31 2017

Critical Path: 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, Director, Water and Waste Department	M. Ruta	D. McNeil

EXECUTIVE SUMMARY

Project On Schedule: Yes No

Project On Adopted Budget: Yes No

Percent of Schedule Complete:

Percent of Adopted Budget Spent:

The Biosolids – Alternative Disposal Delivery and Management System is currently on schedule and within budget.

Two changes in scope for 619-2016 Biosolids Land Application were issued to conduct an odour assessment of biosolids storage options and to evaluate odour control measures for biosolids to support the approval of the Environment Act Licence application. The funds for these changes are included in the project's contingency.

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 Biosolids – Alternative Disposal Delivery and Management System, 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 \$21 million (2017) 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)

Piloting and Implementation Phase (Update from last report)

153-2012 Request For Proposal for Professional Consulting Services for a Leaf and Yard Waste Composting Facility and a Pilot Biosolids Composting Facility at BRRMF

- Design contract for the pilot biosolids composting facility.
- The values in Table 1 represent the portion of contract funded from the Biosolids – Alternative Disposal Delivery and Management System Account.
- The design and construction is complete, the remaining funds are for providing professional advice regarding compost operations for the duration of the pilot.

839-2012 Construction of the Brady Road Resource Management Facility Pilot Biosolids Composting Facility

- Contract for the construction of the pilot biosolids composting facility.
- The values in Table 1 represent the portion of contract funded from the Biosolids – Alternative Disposal Delivery and Management System Account.
- Construction is complete.
- Warranty repair work is underway.

89-2014 Professional Consulting Services for RFP Development and Recommendation for a Struvite Vendor

- Professional consulting services to procure a phosphorous recovery system.
- Completed.

92-2014 Supply of Woodchips

- Supply of woodchips for biosolids composting pilot.
- Completed.

92-2014 Extension 1

- Annual renewal as part of a multi-year contract for the supply of woodchips for the biosolids pilot composting operation.
- Completed.

92-2014 Extension 2

- Annual renewal as part of a multi-year contract for the supply of woodchips for the biosolids pilot composting operation.
- Completed.

473-2015 Laboratory testing for biosolids compost

- Contract to test biosolids compost generated from the pilot according to the Canadian Council of Ministers for the Environment (CCME) Guidelines for Compost Quality.
- This contract is ongoing until the end of the pilot in May 2018.

619-2016 Biosolids Land Application

- Contract for developing a land application program so that biosolids can be applied to farmland as fertilizer.
- The values in Table 1 represent the portion of contract funded from the Biosolids – Alternative Disposal Delivery and Management System Account.
- Public Engagement:
 - Completed in August 2017.
- Pilots:
 - Land application: The goal is to apply approximately 5000 wet tonnes of biosolids to approved farmland in the rural municipality of Macdonald in September, October, and November. The results of this pilot will be incorporated into an Environment Act Licence application.
 - Infield storage assessment: This pilot is being completed as an additional scope of work. Odour mitigation options will be piloted on stockpiled biosolids. Odour assessments will be conducted by representatives from the City, Manitoba Sustainable Development, and participating rural municipalities. The results of this pilot will support the approval of the Environment Act Licence application.
- Environment Act Licence application:
 - To be submitted after the pilots are completed.

Table 1 – Contracts

Contracts							
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 Total Completion	Estimated % Complete
153-2012	CH2M	RFP for Professional Consulting Services for a Leaf and Yard Waste Composting Facility and a Pilot Biosolids Composting Facility at BRRMF	\$ 445,800.00	\$ 32,981	May 24 2012		98%
839-2012	Maple Leaf Construction (formerly Mulder Construction)	Construction of the Brady Road Resource Management Facility Pilot Biosolids Composting Facility	6,217,809.51	366,959.49	1-May-13		98%
89-2014	AECOM	Professional Consulting Services for RFP Development and Recommendation for a Struvite Vendor	\$ 79,840.00	-	4-Mar-14	29-Mar-16	100%
92-2014	Rakowski Cartage	Supply of Woodchips	\$ 367,200.00	-	2-Jul-14	1-Jul-15	100%
92-2014 Ext 1	Rakowski Cartage	Supply of Woodchips	\$ 367,200.00		2-Jul-15	1-Jul-16	100%
92-2014 Ext 2	Rakowski Cartage	Supply of Woodchips	\$ 367,200.00		2-Jul-16	July 1, 2-17	100%
473-2015	A & L Canada Laboratories	Laboratory testing for biosolids compost	\$ 23,730.00		1-May-15		65%
619-2016	WSP Canada Group Limited	Land applying biosolids as a fertilizer to farmland	\$ 221,863.00	67,665.00	14-Dec-16		50%
			-	-			
		Total	\$ 8,090,643	\$ 467,605			

Schedule (Update from last report)

No change from last report

Table 2 – Milestones

	Deliverable	Original Targeted Completion Date	Revised Targeted Completion Date	Actual Completion Date	Estimated % Complete
1	Biosolids Master Plan submitted to MB Sustainable Development	2-Oct-14		29-Sep-14	100%
2	Biosolids Master Plan approved by MB Sustainable Development	2-Apr-14		10-Mar-16	100%
3	Compost Pilot	4-May-17	4-May-18		75%
4	Land Application Public Engagement	31-Aug-17		31-Aug-17	100%
5	Land Application Licence Submission	31-Dec-17			50%
6	Land Application Licence Approval	1-May-18			0%
7	Land Application Piloting Phase	10-Nov-17			50%
8	Land Application Transitions to Operations	10-Apr-18			0%
9	Compost Pilot Final Report and Recommendations	4-Oct-18			0%
10					

Risk (Update from last report)

Field storage of biosolids for the land application program is currently being evaluated as a risk. The City is currently evaluating odour mitigation methods and has invited participation from Manitoba Sustainable Development and participating rural municipalities.

Once the field storage assessment is complete the Environment Act Licence application will recommend a final field storage method for approval to Manitoba Sustainable Development. There will also be opportunity for public comment on the licence application after it is submitted to Manitoba Sustainable Development.

Table 3 – Significant Risks and Mitigations Strategies

Significant Risks and Mitigation Strategies	
Risk Statement and Explanation	Risk Mitigation Management Plan
New:	
Field storage of biosolids: The City and contractor are piloting options for in-field stockpiling of biosolids, including odour mitigation. There may be public concern regarding odour	Odour mitigation options are currently being evaluated and piloted. Representatives from the rural municipalities and Manitoba Sustainable Development have been invited to participate in odour assessments and give advice. The successful field storage option must be approved by Manitoba Sustainable Development before it is implemented
Ongoing:	
The phases of the Biosolids Master Plan 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 Biosolids Master Plan implementation	The Biosolids Master Plan 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 Biosolids Master Plan development. Components of the Biosolids Master Plan (e.g. land application) will have public engagement as part of their scope of work for communication and feedback
Mitigated:	

Financial (Update from last report)

For further information, refer to Appendix B – Financial Forecast

No changes from previous report. The project is on budget.

Funding (Update from last report)

No changes from previous report.

Table 4 – Project Funding Forecast and Receivable

Funding Source	Adopted Budget¹ (in millions)	Amended Budget^{2,3} (in millions)	Committed (in millions)
Class of Estimate	Class 5	Class 4	
City of Winnipeg	65.2	16.9	16.9
Province of Manitoba	-	-	-
Federal Government of Canada	-	-	-
Other Contributions	-	-	-
Total	\$ 65.2	\$ 16.9	\$ 16.9

¹ Components of the original budget were consolidated into the NEWPCC Nutrient Removal Upgrade Project resulting in a budget reduction.

² Report is based on the amended budget as the budget has not yet been refined to a class 3 estimate.

³ \$16.9 million is the adopted budget while the \$38 million is forecasted

Property Acquisition (Update from last report)

N/A

Stakeholder Engagements/Communications (Update from last report)

Participating Rural Municipalities (RMs) and staff from Manitoba Sustainable Development were invited to participate in a field storage assessment as part of the Biosolids Land Application project. The field storage assessment will be conducted in September, October, and November of 2017.

Subsequent Events after Report Period End Date

On September 19, 2017, Manitoba Sustainable Development sent a letter to the City of Winnipeg approving the Biosolids Land Application Program Pilot.

FINANCIAL IMPACT

Financial Impact Statement Date: [October 18, 2017](#)

Project Name:

Biosolids – Alternative Disposal Delivery and Management System,

Project ID: 203110004B,

Quarterly Project Status Report No. 8

For the Period Ended August 31 2017

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

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.

SUBMITTED BY

Department: Water and Waste
Division: Engineering Services
Prepared by: M Paetkau P.Eng.
Date: November 1, 2017

Appendices

Appendix A – Key Project Facts

Appendix B – Financial Forecast

Appendix C – Key Project Events (History)

Appendix A – Key Project Facts

Appendix A – Key Project Facts	
Project Name	Biosolids – Alternative Disposal Delivery and Management System
Business Owner (Department)	Water and Waste Department
Project ID	203110004B
Project Sponsor	Geoff Patton, P.Eng
Department Responsible for Project Delivery	Water and Waste Department
Consultant Engineer (Company Name)	Various
Adopted Budget	\$65M
Class of Estimate (Adopted)	Class 5
Range of Estimate (Adopted)	-50% to +100% \$32.5M - \$130M
Amended Budget	\$17M
Class of Estimate (Amended)	Class 4
Range of Estimate (Amended)	-30% to +60% \$11.9M - \$27.2
<u>Project Scope</u>	
<p>The City has to implement a new biosolids management program as a result of the Water Protection Act. The City of Winnipeg has reviewed its land application practices of biosolids relative to regulation requirements, emerging requirements associated with nutrient management regulations, changes to quantity and quality from upgraded sewage treatment plants, and risk and criticality assessments done at all three plants.</p>	
<p>The current biosolids management program will need to be modified to satisfy the Regulation and will require significant capital investment and transition time to implement the required changes. A Biosolids Master Plan has identified potential options, costs, and timeframes to implement a new biosolids management program, which will comply with the Water Protection Act. Funds included are for engineering, design, and construction for the disposal of biosolids.</p>	
Major Capital Projects Advisory Committee Membership:	
<p>Doug McNeil, Chief Administrative Officer Georges Chartier, Chief Asset and Project Management Officer Moira Geer, Director of Water and Waste Lucy Szkwarek, Manager of Finance and Administration, Water and Waste Jackie Veilleux, Project Director Winnipeg Sewage Treatment Program</p>	

Appendix B – Financial Forecast

Appendix B - Project Biosolids – Alternative Disposal Delivery and Management System Financial Forecast* As at August 31, 2017

Project Component Deliverables	Budget (in 000's)			Actual Costs To August 31, 2017	Expenditure Forecast (in 000's)						Surplus (Deficit) From Amended Budget***	Variance Last Report	Change in Variance	
	Adopted Budget	Council Approved Change**	Amended Budget		Projected Costs									
					2017	2018	2019	2020	2021	2022				Total Forecasted Costs
Engineering, Design and Other	\$ 13,000	\$ (7,816)	\$ 5,184	\$ 4,071	\$ 168	\$ 329	\$ 880	\$ 880	\$ 440	\$ 400	\$ 7,168	\$ (1,984)	\$ -	\$ (1,984)
Construction	\$ 42,250	\$ (35,627)	\$ 6,623	\$ 6,512	\$ 111		\$ 1,600	\$ 4,400	\$ 3,800	\$ 8,049	\$ 24,472	\$ (17,849)	\$ -	\$ (17,849)
Pilot Biosolids Composting Operational Costs		\$ 1,952	\$ 1,952	\$ 1,245	\$ 503	\$ 204	\$ -			\$ -	\$ 1,952	\$ -	\$ -	\$ -
Contingency	\$ 9,953	\$ (6,808)	\$ 3,145	\$ 68						\$ 5,294	\$ 5,362	\$ (2,217)	\$ -	\$ (2,217)
Total Project Budget	\$ 65,203	\$ (48,299)	\$ 16,904	\$ 11,896	\$ 782	\$ 533	\$ 2,480	\$ 5,280	\$ 4,240	\$ 13,743	\$ 38,954	\$ (22,050)		
% of Project Budget Spent (Actual Costs to Date / Adopted & Amended Budget)	70%		70%											

* 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

** \$48.229 million reduction part of the 2016 consolidation with the NEWPCC Nutrient Removal Upgrade Project, as part of the 2016 Capital Budget process.

***Variance from Amended budget includes \$22,050,000 of forecast future budget. Please see Appendix C

Appendix C – Key Project Events (History)

Biosolids are the treated sludge and solid residuals leftover from wastewater treatment. On June 16, 2011, the Water Protection Act (Act) was amended to include the following for the City’s biosolids, which are generated at the North End Water Pollution Control Centre (NEWPCC):

- 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 NEWPCC 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 Biosolids Master Plan was approved by the Regulator on March 10, 2016.

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

Project ID	Project Year	Amended Budget
203110004B	2012 - 2017	11,963,286
Total Closed Project Budget ¹		\$4,940,745
Total Project Budget to Date		\$16,904,031
Forecast beyond 2017		\$22,050,000
Total Project Budget		\$38,954,031

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.