Agenda – Council – April 25, 2019

Report – Standing Policy Committee on Water and Waste, Riverbank Management and the Environment – April 3, 2019

Item No. 2 Low Carbon Economy Fund Grant Agreement for the Brady Road Resource Management Facility Landfill Gas Expansion and Dual-Purpose Well Upgrade Project

STANDING COMMITTEE RECOMMENDATION:

On April 16, 2019, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Water and Waste, Riverbank Management and the Environment and submitted the following to Council:

1. That the City receive a grant of $1,302,991 from the Low Carbon Economy Fund to support the expansion and upgrade of the landfill gas collection system at the Brady Road Resource Management Facility.

2. That a 2019 Capital Budget for the Brady Road Resource Management Facility - Landfill Gas Capture of $3,720,000 be established with the following funding sources:

   A. $1,302,991 from the Low Carbon Economy Fund.

   B. $2,417,009 from the Landfill Rehabilitation Reserve - Account Distribution No. 445 181000 200753 2062000219.

3. That establishment of the 2019 budget and funding be conditional on receipt of the Low Carbon Economy funding.

4. That the City enter into, execute, and deliver a funding agreement with the Government of Canada, Environment and Climate Change Canada, and such other agreements as determined necessary by the Director of Legal Services and City Solicitor to implement the intent of the foregoing (the "Ancillary Agreements").

5. That authority be delegated to the Chief Financial Officer to negotiate and approve the terms and conditions of the funding agreement with the Government of Canada, Environment and Climate Change Canada and the Ancillary Agreements, in accordance with this report and such other terms and conditions deemed necessary by the Director of Legal Services and City Solicitor to protect the interests of the City.

6. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report – Standing Policy Committee on Water and Waste, Riverbank Management and the Environment – April 3, 2019

DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On April 16, 2019, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Water and Waste, Riverbank Management and the Environment and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On April 3, 2018, the Standing Policy Committee on Water and Waste, Riverbank Management and the Environment concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

ADMINISTRATIVE REPORT

Title: **LOW CARBON ECONOMY FUND GRANT AGREEMENT FOR THE BRADY ROAD RESOURCE MANAGEMENT FACILITY LANDFILL GAS EXPANSION AND DUAL-PURPOSE WELL UPGRADE PROJECT**

Critical Path: **Standing Policy Committee on Water and Waste, Riverbank Management and the Environment – Executive Policy Committee – Council**

AUTHORIZATION

Author	Department Head	CFO	CAO
Randy Park, Manager, Solid Waste Services	M. L. Geer, CPA, CA, Director, Water and Waste Department	P. Olafson, Acting CFO	D. McNeil

EXECUTIVE SUMMARY

The City of Winnipeg has been approved for funding through the Low Carbon Economy Fund (LCEF) to support the expansion and upgrade of the existing landfill gas system at Brady Road Resource Management Facility (BRRMF). This funding allows earlier expansion of the BRRMF landfill gas capture system and resulting reduction of greenhouse gas emissions (GHGs) and leachate levels.

On February 18, 2019 the City received notification from Environment and Climate Change Canada of approval-in-principle for a grant of $1,302,991 from the LCEF. With Council's approval, these funds will be combined with $2,417,009 from the Landfill Rehabilitation Reserve, for a total project cost of $3,720,000. In order to receive the grant, the City must sign the funding agreement with the Government of Canada by May 23, 2019.

This project is a key contributor to achieving the waste-related emission reduction goals in the Council approved Winnipeg Climate Action Plan.

- Reduce GHGs by an estimated 1,128,133 tonnes of CO2e over the 30 year lifespan of the asset. This is equivalent to the annual emissions of nearly 240,000 passenger cars.
- Improving the landfill gas collection efficiency to 75% by 2030.

RECOMMENDATIONS

1. That the City receive a grant of $1,302,991 from the Low Carbon Economy Fund to support the expansion and upgrade of the landfill gas collection system at the Brady Road Resource Management Facility.

2. That a 2019 Capital Budget for the Brady Road Resource Management Facility - Landfill Gas Capture of $3,720,000 be established with the following funding sources:
    a. $1,302,991 from the Low Carbon Economy Fund.

b. $2,417,009 from the Landfill Rehabilitation Reserve - Account Distribution No. 445 181000 200753 2062000219.

3. That establishment of the 2019 budget and funding be conditional on receipt of the Low Carbon Economy funding.

4. That the City enter into, execute, and deliver a funding agreement with the Government of Canada, Environment and Climate Change Canada, and such other agreements as determined necessary by the City Solicitor / Director of Legal Services to implement the intent of the foregoing (the "Ancillary Agreements").

5. That authority be delegated to the Chief Financial Officer to negotiate and approve the terms and conditions of the funding agreement with the Government of Canada, Environment and Climate Change Canada and the Ancillary Agreements, in accordance with this report and such other terms and conditions deemed necessary by the City Solicitor / Director of Legal Services to protect the interests of the City.

6. That the proper officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

REASON FOR THE REPORT

Council approval is required to enter into an agreement with the Government of Canada to receive funding under the Low Carbon Economy Fund.

IMPLICATIONS OF THE RECOMMENDATIONS

The City will receive a grant of $1,302,991 from the Low Carbon Economy Fund upon entering into an agreement with the federal government. Upon signature of the agreement, the Water and Waste Department will begin planning and implementation of this project to be carried out in the 2019/2020 fiscal years.

The federal funding may be cancelled if there is no funding agreement signed between The City of Winnipeg and the Government on Canada within 45 business days of receiving the funding agreement from the Government on Canada. The funding agreement was received on March 15, 2019 and must be signed by May 23, 2019.

If Council does not approve entering into this agreement, decisions about the future expansion of the Brady Road Resource Management Facility's landfill gas system will be deferred to the 2022 Capital Budget process.

HISTORY/DISCUSSION

On September 28, 2018, the Office of Sustainability and Water and Waste Department submitted a funding application to the Low Carbon Economy Fund (LCEF) to expand and upgrade the landfill gas (LFG) capture and flaring system at the BRRMF.

The Office of Sustainability was established in September 2017 with a mandate that included pursuing funding opportunities to reduce GHG emissions and address environmental sustainability. On February 18, 2019 the City received notification from Environment and Climate Change Canada of approval-in-principle for a grant of $1,302,991 from the LCEF and the funding agreement was received on March 15, 2019. In order to receive the grant, the City must sign the funding agreement with the Government of Canada within 45 business days (May 23, 2019) of receiving the funding agreement.

Winnipeg's Climate Action Plan

Winnipeg's 2011 Community Greenhouse Gas Inventory and Forecast[1] shows that Winnipeg's annual emissions per capita are double or triple the rate of comparable cities in Canada (including Vancouver, Calgary, Edmonton, Ottawa, and Toronto).

BRRMF is the second largest single-point emitter of GHGs in Manitoba even with the methane capture system that has been in place since 2013.

The Winnipeg Climate Action Plan identifies waste disposal as the third largest source of greenhouse gas emissions in the City of Winnipeg. Waste disposal accounts for 798,801 tonnes of CO2e/year or 14.95% of community-wide greenhouse gas emissions.

As per the Winnipeg Climate Action Plan, to support an 11% reduction in city emissions relative to the 2011 baseline, it is envisioned that the BRRMF landfill gas collection system would be expanded over time and its methane collection efficiency would improve to 75%.

Strategic Opportunity #6 (Waste Reduction and Diversion) of the Winnipeg Climate Action Plan includes the related Direction #6.4 of *Support Integrated Resource Recovery Opportunities.*

Low Carbon Economy Challenge

The City of Winnipeg applied for a grant to the Champions Stream of the Low Carbon Economy Challenge, which is part of the LCEF. The LCEF is an important part of the Pan-Canadian Framework on Clean Growth and Climate Change and supports the national GHG reduction targets identified in the Paris Climate Agreement.

For the Champions stream of the Low Carbon Economy Challenge, federal contributions are no less than $1 million and no more than $50 million per project for each funding agreement.

Recipients of this LCEF fund include provinces/territories, municipal government, First Nations, Metis and Inuit government, community or organization and others.

Municipalities are eligible to apply for a 40% maximum level of assistance as a percentage of total eligible expenditures. The total project cost of $3.72 million includes a 10% contingency

[1] http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=M20161116(RM)C-38

which is not an eligible expenditure under the LCEF program. Based on the LCEF funding criteria, the City was eligible to request $1,302,991 (38.54%) of the $3,380,511 in identified eligible project expenses.

The Project

The LFG system at the BRRMF was commissioned in 2013 and expanded in 2017-2018. Between 2013 and 2017, the LFG system reduced greenhouse gas (GHG) emissions by 461,000 tonnes of CO2e – equivalent to the annual emissions of 97,900 passenger vehicles

The LCEF funding allows for the expansion and upgrade of the LFG wellfield at the BRRMF. This is anticipated to increase the efficiency of the LFG system to 75% resulting in a significant reduction of GHG emissions. This project is expected to avoid 1,128,133 tonnes of CO2e over the 30-year lifespan of the asset.

The project includes two important and incremental aspects:

1. Expansion of the LFG system; and
2. Upgrade to dual purpose wells.

This project proposes to expand the BRRMF LFG system and upgrade existing gas wells to also collect leachate. This includes 24 new vertical landfill gas wells, and approximately 3,500 metres of collection pipe that will connect to the existing gas collection system. The well upgrades will help to reduce leachate levels allowing for increased collection of landfill gasses. The LFG retrofits will be designed to accommodate future upgrades that enhance the efficiency of methane gas capture and support future integrated resource recovery projects such as reuse of the landfill gas as an energy source. Pending necessary approvals and agreements, design and construction of the project would take place in 2019-2020 and immediately be integrated into the existing monitoring program.

Future expansion of the LFG system at the BRRMF is currently forecast as part of the 2022 budget process. Upon completion of this project and evaluation of its performance, the timelines and cost estimates for the LFG capital investment program will be reassessed.

FINANCIAL IMPACT

Financial Impact Statement

Date: March 21, 2019

Project Name:

First Year of Program 2019

LOW CARBON ECONOMY FUND GRANT AGREEMENT FOR THE BRADY ROAD RESOURCE MANAGEMENT FACILITY LANDFILL GAS EXPANSION AND DUAL-PURPOSE WELL UPGRADE PROJECT

	2019	2020	2021	2022	2023
Capital					
Capital Expenditures Required	$ 3,720,000				
Less: Existing Budgeted Costs					
Additional Capital Budget Required	$ 3,720,000	$ -	$ -	$ -	$ -
Funding Sources:					
Debt - Internal					
Debt - External					
Grants (Low Carbon Economy Fund)	1,302,991				
Landfill Rehabilitation Reserve	2,417,009				
Other - Enter Description Here					
Total Funding	$ 3,720,000	$ -	$ -	$ -	$ -
Total Additional Capital Budget Required	$ 3,720,000				
Total Additional Debt Required	$ -				
Current Expenditures/Revenues					
Direct Costs		$ 57,000	$ 86,000	$ 88,000	$ 90,000
Less: Incremental Revenue/Recovery					
Net Cost/(Benefit)	$ -	$ 57,000	$ 86,000	$ 88,000	$ 90,000
Less: Existing Budget Amounts					
Net Budget Adjustment Required	$ -	$ 57,000	$ 86,000	$ 88,000	$ 90,000

Additional Comments: The funding in the amount of $2,417,009 is available in the Landfill Rehabilitation Reserve. Additional maintenance are forecasted to begin in 2020 upon completion of the project.

"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:
Legal Services (as to legal issues)

OURWINNIPEG POLICY ALIGNMENT

OURWINNIPEG

02-2 Environment (pg. 68)
Direction:
> Reduce the environmental impact of our activities, through strategies such as planning for sustainable energy use and greenhouse gas reduction.

SUSTAINABLE WATER AND WASTE

05-2 Comprehensive Waste Management Strategy (pg. 32)
Direction:
> There is a need to integrate and optimize the service level and efficiency of all facets of the solid waste management system, while minimizing environmental impacts. The beneficial outcome of this process would include for example, reduced GHG emissions and less reliance on landfilling.

05-2d Methane Gas Capture (pg. 34)
Direction:
> Methane is widely recognized as a harmful greenhouse gas that contributes to global warming.

A SUSTAINABLE WINNIPEG

05 The Foundation: Leading by Example (Pg. 16)
Direction 2: Incorporate sustainable practices into internal civic operations, programs and services.

09 Continue to Respect and Value our Natural and Built Environment (Pg. 36)
Direction 1: Reduce the environmental impact of our actions
Enabling Strategies:
>Create and maintain a Climate Change Action Plan to reduce Winnipeg's community-wide greenhouse gas emissions by 6 per cent below 1998 levels.
>Establish a community-wide greenhouse gas reduction target for 2020 and 2035.
>Continue to expand the active transportation network and other active transportation initiatives.
>Measure our Ecological Footprint and develop strategies to reduce it.

SUBMITTED BY

Department: Water and Waste Department
Division: Solid Waste Services
Prepared by: Lindsay Mierau (Office of Sustainability);
Justin Lee, Registered Professional Planner (WWD)
Date: March 22, 2019
File No.: 010-01-16-13-12

Attachment
Appendix A: Landfill Gas Capture - Capital Budget Detail Sheet 2019

WATER & WASTE - SOLID WASTE DISPOSAL FUND

Project Name: **Brady Road Resource Management Facility - Landfill Gas Capture Expansion**

Standing Policy	Water and Waste, Riverbank Management and the Environment		
Dept ID:	200753	Investment Driver:	Maintain
Department:	Water and Waste	Service:	Solid Waste Collection and Disposal
Project:	2062000219	OurWinnipeg:	Environment

AUTHORIZATION	Previous Budgets	2019 Estimate	FORECAST 2020	2021	2022	2023	2024	Forecast Total	Six-Year Total
Project Costs ($000's)	N/A*	3,720	-	-	-	-	-	-	3,720
Financed by:									
Landfill Rehabilitation Reserve		2,417							2,417
Low Carbon Economy Fund		1,303							1,303

CASH FLOW	2019	2020	2021	2022	2023	2024	Beyond 2024	Total
Project Costs ($000's)	3,720	-	-	-	-	-	-	3,720
Financed by:								
Landfill Rehabilitation Reserve	2,417							2,417
Low Carbon Economy Fund	1,303							1,303

NET OPERATING IMPACT ($000's)	2019	2020	2021
Operating costs		57	86
Debt and finance charges			
Transfer to General Capital Fund			
Total Direct Costs	-	57	86
Less: Incremental Revenue/Recovery			
Net Cost/(Benefit)	-	57	86

Incremental Full Time Equivalent Positions	-	-	-

Class Estimate: 3

There is an obligation under the Province of Manitoba Environment Act Licence No. 3081 R for the Brady Road Resource Management Facility (BRRMF) to control odours leaving the landfill site. If the gas is not collected, objectionable odours will be experienced by the nearby neighbourhoods from the active filling area. Additionally, flammable gases will be released uncontrolled from the decomposing waste which may pose public health and safety risks. The Climate Change and Emissions Reductions Act requires the City to collect and destroy methane gas generated by the BRRMF, consistent with Provincial directives on greenhouse gas reduction and odour control.

The expected life of this asset is 50 years.

* N/A - No amounts have been included in the "Previous Budgets" due to this project's on-going nature.