




Hamilton

# INFORMATION REPORT

<b>TO:</b>	Chair and Members Public Works Committee
<b>COMMITTEE DATE:</b>	July 8, 2020
<b>SUBJECT/REPORT NO:</b>	Biosolids Management Project – Woodward Wastewater Treatment Plant (PW11098(f)) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Nathan Reicheld (905) 546 2424 Ext. 5259
<b>SUBMITTED BY:</b>	Andrew Grice Director, Hamilton Water Public Works
<b>SIGNATURE:</b>	

## COUNCIL DIRECTION

Not Applicable

## INFORMATION

The purpose of this report is to provide Council an update on the Biosolids Management Project which reached Substantial Completion on May 11, 2020. The Project has now transitioned into the Operation, Maintenance and Renewal (OMR) term to fulfill the 30-year operating agreement.

Biosolids is an organic residual from the wastewater treatment process with soil-amending attributes that include organic matter, nitrogen and phosphorus. In 2005, the City of Hamilton (City) undertook a Biosolids Master Plan (BMP) to address the challenges associated with the existing practice of land application of Class B biosolids from the Woodward Wastewater Treatment Plant. Challenges include stringent regulatory requirements, storage and land restrictions, and limited opportunity for growth.

The BMP identified Thermal Reduction as the preferred solution and an Environmental Assessment (EA) was undertaken in 2007. In 2009 the Federal Government through PPP Canada made a funding announcement in the form of an alternative procurement delivery model that the City elected to pursue. This opened the door to explore alternate technology solutions and as a result enhanced treatment technologies were added to

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the EA. Enhanced treatment allows for the production of a Class A biosolids with less regulatory restrictions pertaining to handling and end use.

The Biosolids Management Project (the ‘Project’) is a Public-Private-Partnership arrangement supported through funding from Infrastructure Canada (formerly PPP Canada) for the design, build, finance, operate and maintenance (DBFOM) of a biosolids management facility and management of the City’s biosolids for a 30-year term. The City’s key objectives included obtaining a long-term biosolids management program that provides cost and performance certainty, transfers appropriate risk and ensuring environmental and social sustainability.

The PPP Canada model is a multi-phased process and Council was engaged at various steps to approve the transition to next phase of the Project. Starting in December 2011 (Report PW11098), the City initiated the Biosolids Management Project by proceeding with the Phase 1 PPP Canada Funding Approval Workplan. Key activities included issuing a Request for Expression of Interest (RFEOI) and the approval of the Business Case. Phase 2 of the Project, called the Transaction Phase, was undertaken from February 2014 to January 2017. Key activities included shortlisting three Proponents through a competitive process and ultimately identifying the Preferred Proponent through a Request for Proposal (RFP) process. In January 2017 (Report PW11098(e)) Council approved the Project allowing the City to leverage federal funding and complete the long and complex procurement process. On January 27, 2017 Harbour City Solutions (HCS) was selected as the Preferred Proponent and on March 28, 2017, the City and HCS executed the DBFOM Project Agreement allowing the Project to move forward. Figure 1 has been shared with Council as part of previous reports and presentations and serves as a flow chart of the overall project process.

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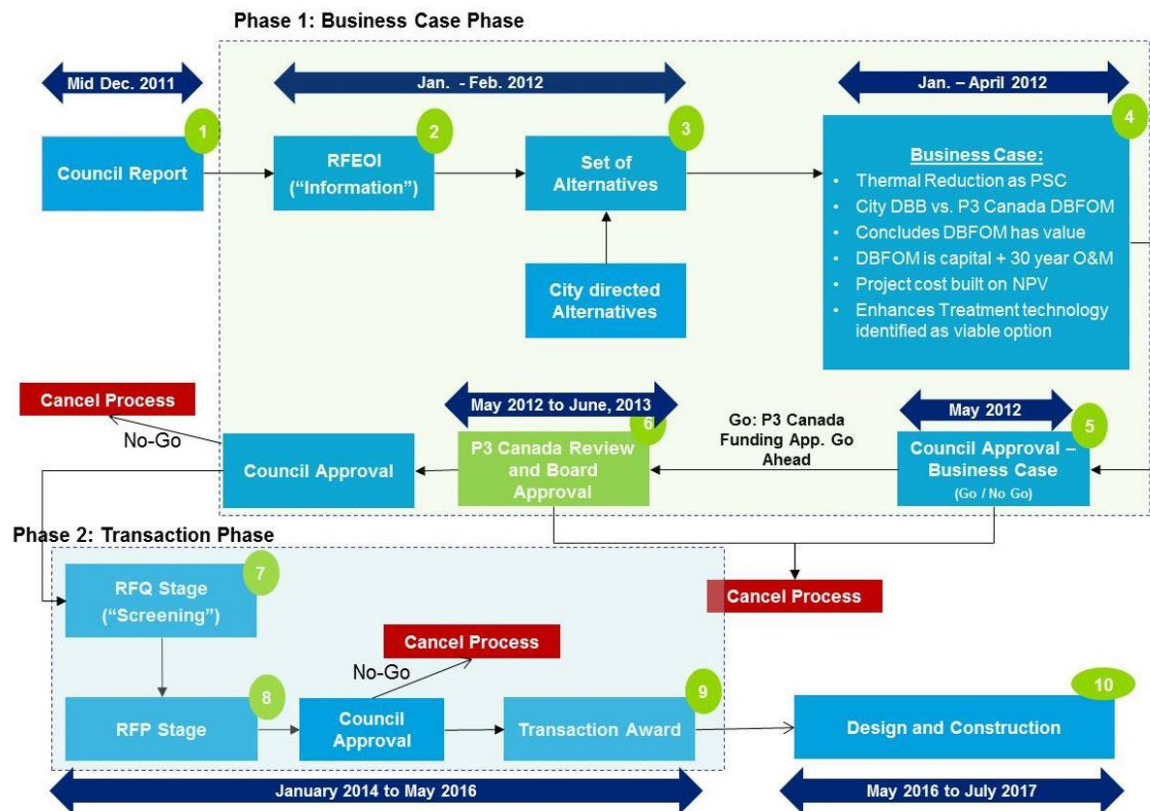
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Figure 1 – Biosolids Management Project Flow Chart:



From April 2017 to May 2020, HCS designed and constructed the new Biosolids Management Facility leveraging an Andritz Drum Dryer System, which allows for the drying and pelletization of biosolids that are pathogen free and can be marketed as a fertilizer and/or can be sold as an alternate energy source.

The PPP Canada delivery model allows for accelerated design and construction and the Project reached Substantial Completion on May 11, 2020. Construction photos are provided in Appendix "A" to attached to Report PW11098(f).

The Biosolids Management Project brings many environmental, social and economic benefits to the City. The installation of the thermal drying system will decrease the volume of Biosolids by approximately 75% which significantly reduces the number of trucks to haul the material off-site. Thermal drying also reduces odours which minimizes offsite impacts to residents living near the Woodward Avenue Wastewater Treatment Plant. Enhanced treatment through thermal drying provides greater market diversity such as agriculture / horticulture and the end product can be sold as fertilizer as regulated by the Canadian Food Inspection Agency (CFIA). In addition, the Project

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allows the City to transfer significant risk in processing and marketing of biosolids in the most efficient manner, providing fixed known cost over a 30-year period.

**Financial:**

The overall lifecycle investment by the City over the 30-year term is approximately \$245M, which is consistent with the approved Project budget. Upon the issuance of Substantial Completion \$26M was released to HCS as per the Project Agreement. This value represented 50% of the overall capital construction cost and \$13M of this payment was funded by Infrastructure Canada. The balance of the capital cost will be paid out over the 30-year term along with the OMR payments at an approximate cost of \$177M. The entire Project was completed on schedule and budget.

**Next Steps:**

HCS continues to work towards Final Completion of construction activities which includes seasonal work such as landscaping, paving and close out of final deficiencies. The City is excited to work with HCS to deliver the sustainable Biosolids Management Project for the next 30 years.

**APPENDICES AND SCHEDULES ATTACHED**

Appendix “A” to Report PW11098(f) – Construction Photographs