# Woodward Upgrades Project Newsletter

## A part of the Clean Harbour Program

June 2019

### What are Biosolids?

Biosolids are defined as a nutrient and organic by-product of the wastewater treatment process. Currently, the City digests and dewaters biosolids to a Class B level, and contracts a third party to manage biosolids disposal that is applied to agricultural land as beneficial re-use. When seasonal limitations are applied (for instance, land application is not accessible in winter months), the sludge is sent to either a landfill or mine reclamation.

### The Plan

The Biosolids Management Project was created to develop a long-term sustainable solution for the City of Hamilton. The City entered into a Project Agreement for the design, build, financing, operations and maintenance (DBFOM) of the Biosolids Management Facility with a private sector partner, Harbour City Solutions ('HCS'). The scope of the agreement includes HCS be responsible for marketing, distribution and potential sale of the beneficial product and by-products (or disposal of unmarketable products) throughout the term of the 30-year agreement.

### The New Process

The ANDRITZ Drum Dryer System was the technology chosen. It is a direct heat drying and biosolids pelletization process with high-rate exhaust gas recirculation. The process mixes heated air with biosolids in a rotary drum dryer. The heated air comes in contact with the biosolids in the rotating drum, resulting in the evaporation of water, and production of a dry, consistent pellet that will be marketed as a fertilizer (regulated as a Product under the Canadian Food Inspection Agency) and/or can be sold as an alternate energy source.

### The End Result

This system will allow for a more sustainable management of biosolids with the following immediate benefits compared to the current process:

- Greater marketable opportunities as pathogen-free pellet product
- Minimal dust
- Lower odour
- Less truck traffic (20 truck loads/week now, 6 truck loads/week after)
- Less waste to landfills
- Risk transferred to the private sector
- Greater cost certainty over the 30-year term

ANDRITZ Drum Dryer

January 2018

September 2018

December 2018

February 2019

May 2019

## Meet the WUP Team

In 2013, the City received Federal Government approved support for the Woodward Upgrades Project and as such the WUP Section was formed and seconded to deliver this very important project.

In 2018, to assist in the delivery and ultimately the transfer of these City legacy projects to Plant Operations, an operational sub-group was created.

The WUP Team is striving to make Hamilton a centre of excellence for global wastewater treatment through the implementation of the Woodward Upgrades Project.

> "I am very fortunate to lead such a dedicated, engaged and supportive team all working together for the betterment of the City and its citizens." – John Helka

The following is the WUP Team (pictured L to R): Dan Docking – Shane Blanchard – Derek Berrisford – Daniel Repath – Tracey Tuttle – John Shields – John Helka – Brendan Chancellor-Maddison – Ian Routledge – Steven Hoover – Nathan Reicheld – Plamen Nikolov

### *Main Wastewater Pump Station*

Construction of the wet well and dry well walls for the new pump station continues to be the focus of the MPS project. The wet well structure below ground was poured in five stages called 'lifts'. Each lift creates a ring of concrete that is approximately 6m tall. After each lift is completed, the next begins, creating the well structure. The fifth lift is nearing completion bringing the wet well to ground level. The permanent concrete liner for the tunnel connecting the influent pipe to the pump station has been completed, and the Factory Acceptance Testing for the pumps has taken place.

*Construction: May 2017 - May 2021*

Progress to Date

35%

0% 100%

### *Power Centre/Chlorination Upgrades*

Construction of the Electrical Power Centre building is continuing. Underground utilities and duct bank installations are nearly complete. Electrical conduit rough-in installations continue while fabrication of a number of electrical equipment has been completed and installation taking place. Commissioning of the chlorination system was recently completed, in time for the start of chlorination season.

*Construction: Oct.2017-Jun.2021*

Progress to Date

41%

0% 100%

### *Tertiary Treatment*

The Request for Tender for the Tertiary Treatment Upgrades closed on February 28th. The contract was awarded to North America Construction (1993) Limited Construction. The notice to proceed was released on May 16th and the contractor is beginning to mobilize the site.

*Construction: May 2019-Feb.2022*

Progress to Date

0%

0% 100%

### *Biosolids Management*

Construction of the building exterior is nearing completion with panelling almost complete, and installation of roofing and windows underway. Electrical and interior finishing works, and mechanical equipment installations have begun inside the building with commissioning plans being developed for this fall.

*Construction: Jun.2017-Apr.2020*

Progress to Date

62%

0% 100%