

Memorandum

To: Members of the Committee of the Whole

From: Erin Mahoney
Commissioner, Environmental Services

Date: August 11, 2017

Re: **Update on Food Waste Grinder Monitoring Activities**

On [February 13, 2014](#) Council approved a list of recommendations from the Food Waste Grinder Sub-Committee including promoting the waste management hierarchy, working with stakeholders and monitoring sewage characteristics. Staff were directed to report back to Council on their findings within three to five years. This memo provides an update on food waste grinder monitoring activities undertaken by Environmental Services staff.

Food Waste Grinder Sub-Committee explored impacts of food waste grinders in York Region

Reports presented to the Food Waste Grinder Sub-Committee showed that food waste grinders can increase loadings and costs at the Duffin Creek Plant and potentially move forward the expansion date of the plant. Treating food waste disposed via the sanitary system was estimated to incur a 30 per cent cost premium over the Green Bin program. As well, the green bin was shown to be the preferred organics waste solution for homeowners.

Since 2011, staff have been working with the food waste grinder industry and local municipal partners to find ways that food waste grinders might be used to meet food waste disposal needs in multi-residential and/or commercial sectors in York Region. This work is careful to balance the unique disposal needs of these sectors with the need to protect wastewater infrastructure. Attachment 1 provides a synopsis of the key recommendations, activities that have been completed or are underway, the collaborating agencies/partners and results to date.

August 11, 2017
Update on Food Waste Grinder Monitoring Activities

Moving forward the Region will continue to work with partners to optimize organics disposal

Staff maintain active partnerships with food waste grinder manufacturers and will continue to explore organics disposal options. The focus will be on exploring solutions that provide options for multi-residential dwellings and businesses yet maintain wastewater infrastructure. Staff also continue to monitor actual sewage characteristics against Sewer Use Bylaw limits (Attachment 2) and parameters as well as penetration rates of food waste grinders. Based on monitoring results staff will make recommendations and report back to Council as required.

For questions or additional information, please contact Mark Payne, Program Manager, Environmental Monitoring and Enforcement at 1-877-464-9675 extension 75194.

Erin Mahoney, M. Eng
Commissioner, Environmental Services

MP/HW

Attachments (2)
#7340441

Table 1
Food waste grinder sub-committee activities and staff actions

Recommendations Addressed	Activities Completed/Underway	Collaborators
<p>#3 – York Region continue to promote the waste management hierarchy, which first and foremost promotes food waste reduction and green bin participation through three stream source separation in accordance with the objectives of York Region's Official Plan.</p>	<p>Staff is working on a number of relevant initiatives as part of the SM4RT Living Plan implementation. Through the Multi-Residential Working Group established with local municipal partners, new waste diversion signage has been developed and distributed to all interested multi-residential buildings in the Region. Additional education/promotion tools are being developed in 2017. A shared database has been set up to track and share data on building stock, engagement effort and diversion performance in this sector.</p> <p>In 2016, the Region launched its in-school program <i>Trash Blasters</i>, which aims to reduce waste and improve diversion in schools with a special focus on food waste reduction.</p>	<p>Local Municipalities, Multi-Residential Working Group, Business Improvement Areas, School Boards</p>
<p>#4 – Staff work with industry stakeholders to identify multi-residential demonstration project(s) featuring latest grinding technology to evaluate effectiveness of diverting food waste from landfill to the green bin, specifically in multi-residential sector.</p>	<p>The ORCA™ food digester pilot in the City of Markham is complete. Effluent testing results show the wastewater did not meet Sewer Use Bylaw criteria. The City of Markham is working with the retirement residence to explore other food waste processing options.</p>	<p>City of Markham, Amica at Unionville Retirement Residence, Totally Green Inc.</p>
<p>#5 – Staff work with industry stakeholders to explore industrial, commercial and institutional food waste diversion and energy production technology systems that align with objectives of the Sewer Use Bylaw and the SM4RT Living Plan.</p>	<p>Staff have been in discussions with Totally Green Inc. regarding possible licensing arrangements for ORCA™ installations. It is estimated there are approximately 10 installations currently in the Region.</p> <p>Staff have also been in discussion with Emerson regarding a possible pilot of their Grind2Energy system in York Region (www.grind2energy.com)</p> <p>Staff is currently working with food processing industries to divert food waste from sanitary sewer disposal and improve effluent quality.</p>	<p>Totally Green Inc.</p> <p>Emerson</p> <p>Food Manufacturing Sector</p>

Recommendations Addressed	Activities Completed/Underway	Collaborators
<p>#6 – Staff report on the progress of pilots with the multi-residential sector and the Industrial, Commercial, and Institutional sector as results emerge from the initiatives on food waste diversion and energy production technology systems.</p>	<p>Staff have been in discussions with Totally Green Inc. regarding possible licensing arrangements for ORCA™ installations.</p>	<p>Totally Green Inc.</p>
	<p>Staff have also been in discussion with Emerson regarding a possible pilot of their Grind2Energy system in York Region. If these projects proceed staff will include updates in future reports.</p>	<p>Emerson</p>
	<p>Staff currently work with food processing industries to divert food waste from sanitary sewer disposal and improve effluent quality.</p>	<p>Food Manufacturing Sector</p>
	<p>The Region is also developing a pilot program to improve waste management practices among small businesses receiving collection in the business improvement areas of several local municipalities. Results will be reported in future waste management reports.</p>	<p>Small businesses</p>
<p>#7 – Staff continue to monitor actual sewage characteristics against Sewer Use Bylaw limits and parameters as well as penetration rates of food waste grinders and report back on findings in three to five years. Based on monitoring results, staff will make recommendations as necessary to achieve full cost recovery for conveying and treating wastewater.</p>	<p>Information sharing by Emerson (the largest GTA supplier) has confirmed little increase in penetration rates. In 2016, sales of food waste grinders were below the five-year average. Staff will continue to monitor penetration rates on an annual basis.</p>	<p>Emerson</p>
	<p>Attachment 2 shows the average concentrations of sewage at the York-Durham Sewage System boundary meter since 2006 for biochemical oxygen demand, total suspended solids and oil and grease (animal and vegetable). The average concentrations of all three parameters at this location over this 10 year time period were within the bylaw limits. While there is no clear trend on increasing concentrations over this time frame, staff continue to monitor the sewage and take required actions including through inspections and sewer use by-law enforcement.</p>	
<p>#8 – Regional Council authorize enactment of an amending bylaw to repeal the prohibition on food waste grinders in Part 17 of the Bylaw No. 2011-56, as amended</p>	<p>Regional Council enacted and passed Bylaw No. 2014-23 (A bylaw to amend Bylaw No. 2011-56 to regulate discharge of sewage, stormwater and land drainage) on March 27, 2014 to repeal Part 17 (Food Waste Grinders) in its entirety.</p>	<p>Legal department, food waste grinder manufacturers</p>

**2006-2017 York Durham Sewage System (YDSS) Boundary
Average Results for Food Waste Grinder Parameters**

Parameter	YDSS Boundary Meter		Sewer Use Bylaw Limit (mg/L)
	Average (mg/L) 2006-2017*	No. of Data Points used for calculation	
Biochemical Oxygen Demand	128.0	53	300
Total Suspended Solids	190.1	53	350
Oil and Grease (animal and vegetable)	45.2	51	150

* First 3 months of 2017

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