

# **The Corporation of the City of Kawartha Lakes**

## **Council Report**

**Report Number WM 2017-009**

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**Date:** November 14, 2017

**Time:** 2:00 p.m.

**Place:** Council Chambers

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**Ward Community Identifier:** All

**Subject:** Pilot Mattress Recycling Program

**Author Name and Title:** Angela Porteous, Regulatory Compliance Officer

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### **Recommendation(s):**

**RESOLVED THAT** Report WM 2017-009, **Pilot Mattress Recycling Program**, be received;

**THAT** Council approve the implementation of a Mattress Recycling program as a 19 month pilot to start June 1, 2018 and end on December 31, 2019 as outlined in this report WM 2017-009 at a cost of \$72,600 for 2018 and \$124,500 for 2019; and

**THAT** staff report back to Council on the success of the mattress recycling pilot program by July 31, 2019 with future program recommendations and 2020 budget expectations.

**Department Head:**\_\_\_\_\_

**Financial/Legal/HR/Other:**\_\_\_\_\_

**Chief Administrative Officer:**\_\_\_\_\_

**Background:**

At the Council Meeting of October 27, 2015, Council adopted the following resolution:

**RESOLVED THAT** Report WM 2015-011, **Integrated Waste Management Strategy**, be received;

**THAT** Council approves the Integrated Waste Management Strategy as appended to Report WM 2015-011, as the guiding strategy to inform the City's Waste Management Program and waste master planning consideration;

**THAT** staff be directed to plan and phase-in the recommended initiatives, in consultation with Council and the Waste Management Strategy Task Force, as generally outlined in the appended Strategy; and

**THAT** the Waste Management Strategy Task Force's Terms of Reference be updated and approved to include the implementation of the Integrated Waste Management Strategy, as appended to this Report to November 30, 2018.

**CARRIED**

In the Integrated Waste Management Strategy (IWMS) it is recommended that the City implement a mattress recycling program in 2019. As part of the background research, it has been determined that the cost savings through deferring the closure of the landfill by saving space realized with the implementation of a mattress recycling program are significant and will more than pay for the program costs. Therefore, staff is recommending that this diversion effort be implemented as a pilot program starting June 1, 2018. The program may need to be adjusted throughout the pilot stage to ensure it operates efficiently.

For information the resolutions from the Task Force and public review committees are as follows;

At the Waste Management Strategy Task Force Meeting of September 27, 2017, the committee adopted the following resolution:

**Moved By** Councillor Strangway  
**Seconded By** Councillor Pollard

**RESOLVED THAT** the Waste Management Strategy Task Force endorse the implementation of a 19 month pilot mattress recycling program for the City of Kawartha Lakes to start June 1, 2018 to December 31, 2019; and

**THAT** staff provide recommendations to the Waste Management Strategy Task Force after one year of the pilot program in July 2019.

**CARRIED**

At the Lindsay Ops landfill public review committee Meeting of October 25, 2017, the committee adopted the following resolution:

**Moved By** Ken Trodd

**Seconded By** Chris Appleton

**RESOLVED THAT** the Lindsay Ops landfill PRC endorse the implementation of a pilot mattress recycling program for the City of Kawartha Lakes to start June 1, 2018 to December 31, 2019; and

**THAT** staff circulate the one year pilot recommendations to the committee for feedback and input in July 2019.

**CARRIED**

At the Fenelon landfill public review committee Meeting of September 28, 2017, the committee adopted the following resolution:

**Moved By** Robert Coleman

**Seconded By** Mike Wilson

**RESOLVED THAT** the Fenelon landfill endorse the implementation of a pilot mattress recycling program for the City of Kawartha Lakes to start June 1, 2018 to December 31, 2019; and

**THAT** staff circulate the one year pilot recommendations to the committee for feedback and input in July 2019.

**CARRIED**

### **Rationale:**

Staff is recommending that a 19 month pilot mattress recycling program be launched June 1, 2018 to December 31, 2019. A program review after one year of pilot results will provide sufficient data to make future recommendations and 2020 budget considerations to present to the Waste Management Strategy Task Force and landfill public review committees in July 2019. As well, a staff report will be presented to Council in 2019, including feedback from the Waste Management Strategy Task Force and public review committee to provide future program recommendations ahead of the 2020 budget preparation schedule.

The Integrated Waste Management Strategy (IWMS) estimated 7,000 individual mattresses and/or box springs per year could be diverted from landfill. In 2016 for a six-month period, staff counted approximately 3,000 individual mattresses and box springs received at all landfill sites combined. This number was doubled to provide an annual estimated number of 6,000 mattress and/ or box springs received in 2016. This confirms that the number of mattresses estimated in the IWMS is reasonable. The majority of the mattresses received in the 2016 were

brought to the Lindsay Ops landfill site. Therefore, since the majority of the mattresses are already received at the Lindsay Ops landfill, it is recommended that the implementation of a 19 month pilot mattress recycling program is proposed at the Lindsay Ops landfill. As well, at present Lindsay Ops landfill has the space to accommodate this program. To encourage recycling, public education efforts will focus on encouraging residents to bring mattresses to the Lindsay Ops landfill. Alternatively, residents can purchase a mattress sticker at \$15/mattress and set their items out for collection at the curb at any time throughout the year at the same cost which will be delivered to the Lindsay Ops landfill for recycling. However, if mattresses are received at the other landfill sites they will continue to be accepted for disposal. During the pilot, staff will work with the contractor to determine if there is rationale for recycling mattresses at other sites as well as at the Lindsay Ops landfill. If there is a compelling rationale to expand the program to other landfills within the pilot timelines then Council, the Waste Strategy Task Force and landfill public review committees will be consulted prior to expanding the program to other sites.

Based on the estimate of diverting 7,000 mattresses and/or box springs per year and assuming an average estimate of 0.65 m<sup>3</sup> per mattress (note: all estimates were provided by UEM (City's consulting firm) as part of the IWMS) this equates to 4,550 m<sup>3</sup> of deferred landfill space saved per year. Assuming waste in the landfill is compacted to a density of 0.7 tonnes/m<sup>3</sup> then 3,185 tonnes or 4,550 m<sup>3</sup> of deferred landfill space is saved per year. Landfill space valued at the industry standard of \$150/tonne (Reclay) equates to deferred landfill space savings valued at an estimated \$477,750/year from the Lindsay Ops landfill. Therefore, the savings to the City is the capital deferral of \$477,750 in landfill space value per year. In terms of deferred landfill space saved, this will result in an increase in landfill life of 0.12 years for each year a mattress recycling program operates. Therefore, over the anticipated 19 years of landfill life remaining at the Lindsay Ops landfill the City could gain an additional 2.3 years of landfilling capacity at existing fill rates.

Subject to approval of this report, staff currently plan to issue a tender in early in 2018 for the length of the pilot program (i.e. 19 months) with optional renewal terms should it be recommended that this recycling program is sustainable for the long term.

For the implementation of a 19 month pilot program staff has also considered requirements for landfill approvals, landfill site staging, health and safety and tipping fees discussed below.

#### Landfill Approvals

The most current Waste Management By-Law 2016-144, section 4.06 b) allows for the Director of Public Works and/or his or her designate to establish procedures to accept other materials for recycling including mattresses and box springs.

In terms of regulatory approvals required, the project was discussed with the MOECC Peterborough District Office and they have indicated in writing that they are very supportive of the pilot project since it is providing diversion of materials otherwise destined to be landfilled. Should the recommendation after one-year of the pilot be for this program to become permanent, MOECC will require that the Environmental Compliance Approval (ECA) for the Lindsay Ops landfill site be amended to reflect mattress recycling.

#### Landfill Site Staging

The staging of a mattress recycling program will be dependent on the responses received from a procurement process. However, it is most likely that mattresses and box springs will be loaded into a 50 foot trailer supplied by the recycling company. When this trailer is full it will be picked up and replaced with an empty container.

#### Health and Safety

Standard Operating Procedures (SOPs) would be established in consultation with internal departments, to ensure that program procedures meet and exceed occupational health and safety standards. Also, training to all landfill staff will be provided prior to the launch of the two-year pilot program.

#### Tipping Fees

When the pilot is launched in June 2018, the City will continue to charge \$15 per unit (any sized mattress or box spring) at all landfill sites in accordance with the Consolidated Fees By-Law. In the event tender pricing is significantly higher than the \$15 per mattress (i.e. \$20 per mattress or more) then the program would be re-evaluated and recommendations may be considered for a change to the tipping fees. Any tipping fee changes would be recommended to Council as an amendment to the consolidated fee by-law after consultation with the Waste Management Strategy Task Force and landfill public review committees.

When a program review is completed after one year, recommendations can be made if the tipping fee should be lowered or not as an incentive for the public to divert mattresses and at that time a loss in revenue can be reported.

All mattresses collected at the curb will be delivered to the Lindsay Ops landfill and recycled through this pilot program.

As part of the 19 month pilot, the number of mattresses and box springs that are recycled will be recorded to gauge the success of the program. This information will be included in the update that will be provided to Council by June 2019.

### **Other Alternatives Considered:**

Option 1: Council could choose to not implement a mattress recycling program. This would go against the Integrated Waste Management Strategy and valuable landfill space would continue to be taken up by recyclable materials.

Other recycling alternatives have been identified and considered throughout the Integrated Waste Management Strategy process. These alternatives are well documented in the strategy and many did not meet the criteria that were set by the City in consultation with the public. The main criteria are listed below.

- Proven method by other municipalities
- Ease of regulatory implementation
- Low cost to the municipality
- Deferring landfill space
- Reducing municipal liability

For instance, staff reviewed potential implementation of a carpet recycling program, disposal bans or establishing recycling incentives. After the review of all alternatives the implementation of a mattress recycling program was selected as one of the highest ranked strategies. A mattress recycling program was deemed to be one of the most effective proven ways to divert large volumes of material from landfill, saving valuable landfill space.

### Financial/Operation Impacts:

The following table summarizes the anticipated expenses and savings associated with the implementation of a 19 month pilot mattress recycling program diverting an estimated 7,000 units per year. There will be a cost to operate a mattress recycling program. The benefits to the City from this program will be in the landfill space saved (i.e. deferred cost to build additional landfill cells).

<b>Expenses</b>				
<b>Itemized Costs</b>	<b>Unit Rate</b>	<b>2018 Costs (7 months)</b>	<b>2019 Costs (12 months)</b>	<b>19 Month Pilot Total</b>
1) Processing (estimated contractor cost)	\$17/mattress plus contingency	\$72,600	\$124,500	\$197,100
<b>Expenses Sub-Total (A)</b>		<b>\$72,600</b>	<b>\$124,500</b>	<b>\$197,100</b>
<b>Savings</b>				
<b>Savings</b>	<b>Unit Rate</b>	<b>2018 Savings (7 months)</b>	<b>2019 Savings (12 months)</b>	<b>19 Month Pilot Total</b>
1) Landfill Space Saved	\$150 per tonne	\$280,000*	\$480,000*	\$760,000*
2) Equipment Maintenance Costs	Remove wires from packer wheels	\$10,000	\$10,000	\$20,000
<b>Savings Sub-Total (B)</b>		<b>\$290,000</b>	<b>\$490,000</b>	<b>\$780,000</b>
<b>TOTAL Pilot Savings (B-A)</b>		<b>\$217,400</b>	<b>\$365,500</b>	<b>\$582,900</b>

\* It should be noted these savings is deferral of future capital (value of landfill space based on industry standards)

The operation cost to run this program is estimated at \$72,600 in year one for 7 months (2018) and \$124,500 in year two for 12 months (2019) but this cost is offset by deferral of capital due to landfill space savings. In anticipation of this program, staff has incorporated \$72,600 within the proposed 2018 budget. Therefore, in approval of this program, there will be no additional operational impact for 2018 beyond the proposed budget. The 2019 budget will be adjusted accordingly.

The estimated operation costs for 2018 and 2019 include cost of minor retrofits at the landfill to better accept mattresses, as well as education costs of approximately \$5,000. The net value to the City is estimated to be at least \$217,400 in year one (2018) and \$365,500 in year two (2019) in deferred landfill space savings.

Should Council choose not to move forward with the program, \$72,600 could be removed from the 2018 operating budget.

### **Relationship of Recommendation(s) to the 2016-2019 Strategic Plan:**

This report contributes to the Council Adopted Strategic Plan, namely Strategic Action 3.1.2 which is "Executing the Waste Management Strategy". This report aligns with the City's Integrated Waste Management Strategy to divert materials from landfill and find further recycling opportunities to save landfill space. Also, the proposed pilot mattress recycling program aligns with Goal #3 of a "Healthy Environment". The act of mattress diversion aligns with the City's vision of a naturally beautiful community that protects our local environment, enhances water quality and creates an improved quality of life.

### **Review of Accessibility Implications of Any Development or Policy:**

None

### **Servicing Implications:**

None

### **Consultations:**

Waste Strategy Task Force  
Lindsay Ops Landfill Public Review Committee  
Fenelon Landfill Public Review Committee

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