



STAFF REPORT ACTION REQUIRED

Solid Waste Management Services Long Term Waste Management Strategy: Vision, Guiding Principles, Evaluation Criteria and Options

Date:	September 8, 2015
To:	Public Works and Infrastructure Committee
From:	General Manager, Solid Waste Management Services
Wards:	All
Reference Number:	P:\2015\Cluster B\SWM\September\015PW (AFS#21022)

SUMMARY

The purpose of this staff report is to request Committee and City Council approval of a Vision Statement, Guiding Principles and Evaluation Criteria to be used to review options for the Long Term Waste Management Strategy (Waste Strategy). This is an important milestone in the project and once approved, these elements will be used to develop the draft Waste Strategy. The draft Waste Strategy will include the recommended set of options to reduce, reuse, recycle, recover and dispose of the City's waste over the next 30-50 years.

Draft vision themes, Guiding Principle, Evaluation Criteria and list of approximately 60 options were provided for information to Public Works and Infrastructure Committee in May 2015. Updates to these elements have been made following an extensive consultation and engagement process that was undertaken with the public, key stakeholders and members of City Council. Revisions have been made based on the feedback received, resulting in:

- Recommended Vision Statement & Guiding Principles
- Recommended evaluation criteria
- Longer list of options to be considered in the evaluation process (Appendix 1)

This report also recommends the extension of the contract with the project consultant to reflect the revised project timelines and also presents an update on the work completed since May 2015.

Following City Council's review and approval of this report, technical work will begin on evaluating the list of options. A draft Waste Strategy will be presented to Public Works and Infrastructure Committee in January 2016, prior to presenting it to the public and stakeholders for review and comment. The final draft of the Long Term Waste Management Strategy will be presented to Committee and City Council in Spring 2016.

RECOMMENDATIONS

The General Manager, Solid Waste Management Services, recommends that:

1. City Council approve the Vision Statement, as presented on page seven of this report, for the Long Term Waste Management Strategy.
2. City Council approve the Guiding Principles, as presented on page eight of this report, for the Long Term Waste Management Strategy.
3. City Council approve the evaluation criteria, as presented on pages 12 – 13 of this report, to be used to evaluate the options (Appendix 1) in order to begin development of a draft Long Term Waste Management Strategy.
4. City Council authorize the General Manager of Solid Waste Management Services to amend the Long Term Waste Management Strategy Consultant Agreement between the City of Toronto and HDR Corporation (RFP 9119-13-3146) to extend the term of the agreement until December 31, 2016.

Financial Impact

Funding is available in the approved 2014 and 2015 Capital Budget of Solid Waste Management Services under the project Long Term Waste Management Strategy (Account CSW013-01-01). There are no other incremental financial impacts as a result of this report. The approved total expenditure remains at \$1,896,883.55 net of all taxes (\$1,930,268.70 net of HST recoveries).

The Deputy City Manager & Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting on March 19, 2013, the Public Works and Infrastructure Committee considered Item PW21.1 entitled "Long Term Waste Management Strategy" and requested

that the General Manager, Solid Waste Management Services, report to the Public Works and Infrastructure Committee on June 19, 2013 with the proposed terms of reference and process for the development of a Long Term Waste Management Strategy, including the proposed principles, scope, statement of work, key deliverables, consultation, costs and timelines of the study, prior to initiating the Request for Proposal for a consultant.

The Public Works and Infrastructure Committee Decision document can be viewed at:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PW21.1>

At its meeting on July 16, 17, 18 and 19, 2013, City Council considered Item PW24.3 entitled "Long Term Waste Management Strategy – Terms of Reference" and adopted, among other items, the Terms of Reference as outlined in the June 4, 2013 staff report from the General Manager, Solid Waste Management Services, as amended, and requested that the General Manager, Solid Waste Management Services, report back to the Public Works and Infrastructure Committee with updates on development of the Long Term Waste Management Strategy at key milestones, and that the final draft of the Long Term Waste Management Strategy be submitted to City Council for approval.

The City Council Decision document can be viewed at:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PW24.3>

At its meeting on October 21, 2013, the Public Works and Infrastructure Committee considered Item PW26.7 entitled "Results of Request for Proposal No. 9119-13-3146 Contract for the Long Term Waste Management Strategy" and authorized the General Manager, Solid Waste Management Services, to enter into an agreement with HDR Corporation for the development of the Long Term Waste Management Strategy.

The Public Works and Infrastructure Committee Decision document can be viewed at:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PW26.7>

At its meeting on June 18, 2014, the Public Works and Infrastructure Committee considered Item PW32.20 entitled "Update on the Development of the Long Term Waste Management Strategy".

The Public Works and Infrastructure Committee Decision document can be viewed at:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.PW32.20>

At its meeting on January 6, 2015, the Public Works and Infrastructure Committee considered Item PW1.5 entitled "Long Term Waste Management Strategy Progress Report – Q1 2015".

The Public Works and Infrastructure Committee Decision document can be viewed at:
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.PW1.5>

At its meeting on March 10 and 11, 2015, City Council adopted "EX3.2 – 2015 Rate Supported Budgets – Solid Waste Management Services and Recommended 2015 Solid

Waste Rates" and directed the General Manager, Solid Waste Management Services to report to the Public Works and Infrastructure Committee prior to the 2016 Budget process on options to introduce financial incentives, including one time or ongoing, to encourage waste diversion and achieve targets contained in the Long Term Waste Management Strategy.

The City Council Decision document can be viewed at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.EX3.2>

At its meeting on May 28, 2015, the Public Works and Infrastructure Committee considered Item PW5.2 entitled "Solid Waste Management Services - Long Term Waste Management Strategy Progress Report - Q2 2015".

The Public Works and Infrastructure Committee Decision document can be viewed at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.PW5.2>

ISSUE BACKGROUND

The City of Toronto has a residential target of 70% diversion of waste from landfill by 2016. While waste diversion efforts to date have been successful, it is anticipated that this target will not be achieved. In 2014, the City achieved a residential diversion rate of 53% and is projecting a diversion rate of 55% for 2015.

Solid Waste Management Services (SWMS) initiated the development of a Long Term Waste Management Strategy for Toronto in 2014, which will guide the Division's decision making for the next 30 to 50 years. Through a competitive procurement process, HDR Corporation was retained to assist with the research, development and drafting of the City's Waste Strategy. The Waste Strategy will examine options for the long term management of Toronto's waste and will recommend waste management policies and programs, including how to manage our remaining garbage even after reducing, reusing, and recycling.

At its meeting on July 16, 17, 18 and 19, 2013, City Council requested, among other items, that the General Manager, Solid Waste Management Services, report back to the Public Works and Infrastructure Committee with updates on the development of the Long Term Waste Management Strategy at key milestones. Please refer to the Decision History for links to the three previous update reports on June 19, 2014, January 6, 2015 and May 28, 2015.

The purpose of this report is to:

- Seek approval of the proposed Vision Statement and Guiding Principles for the Waste Strategy;

- Seek approval to apply the proposed evaluation criteria to the list of options presented in this report;
- Seek the authority of the General Manager of Solid Waste Management Services to amend the Long Term Waste Management Strategy Consultant Agreement until December 31, 2016; and
- To provide an update on all work completed since the last update report in May 2015.

COMMENTS

Revised Vision Statement, Guiding Principles, List of Options, and Evaluation Criteria

Draft vision themes, Guiding Principles, Evaluation Criteria and options were provided to Public Works and Infrastructure Committee in May 2015. Updates to these Waste Strategy elements have been made following an extensive consultation and engagement process that was undertaken with the public, key stakeholders and members of City Council. Revisions have been made based on the feedback received, resulting in:

- Recommended Vision Statement & Guiding Principles
- Recommended evaluation criteria
- Longer list of options to be considered in the evaluation process (Appendix 1)

The consultation and engagement activities included Councillor engagement, key stakeholder meetings, Stakeholder Advisory Group meetings, outreach activities, Public Information Centres, an online survey, and other communication and digital engagement tools. This process ended on July 24th, 2015 and a summary of the consultation and engagement activities is provided in Appendix 2 and feedback is provided in Appendix 3.

Vision Statement & Guiding Principles

The Vision and Guiding Principles comprise part of Deliverable 3 of the Waste Strategy and are explained in detail below. Deliverable 3 is also comprised of projections and gaps and challenges. An overview of the projections, gaps, and challenges is outlined in Appendix 2.

Vision Statement

The Draft Vision statement was developed through a combination of feedback received during the Phase 1 public consultation events in June 2014, a visioning session with

Stakeholder Advisory Group members, and a visioning session with members of the Solid Waste Management Services' Senior Management Team.

The resulting draft themes for the Vision statement were presented to the public in a survey (Survey #2). Participants were asked to identify which three themes were most important to them and if there was one theme that they felt was least important. This assisted staff with determining which themes should be reflected in the draft Vision statement. The top three Vision themes respondents chose as most important were:

- Taking responsibility for our own waste by focusing efforts on reducing the amount of waste generated.
- Embracing a waste management system that is user friendly, convenient and accessible to the community.
- Creating a clean, beautiful and green city.

The Vision theme respondents felt was least important was: Toronto as an international leader in environmental sustainability.

Using input received from this process, the following draft Vision Statement was prepared:

"Together we will reduce the amount of waste we generate, reuse what we can, and recycle and recover the valuable resources in our waste that remain. We will embrace a waste management system that is user-friendly, convenient and accessible with programs and facilities that balance the needs of the community and the environment with long term financial sustainability. Together, we will ensure a clean, beautiful and green City in the future."

This draft Vision Statement was then shared at the Public Information Centres in June 2015 and at key stakeholder meetings to obtain feedback. Generally, respondents felt the draft Vision Statement effectively captured the elements important to the Waste Strategy. The specific feedback received can be condensed into 4 main points for revision:

- 1) Introduce the concept of a circular economy and the importance of this type of thinking with respect to waste management in the future;
- 2) Increase readability and reduce some redundancy in the message;
- 3) Consider removing some generic and/or vague words like "green" that can be open to interpretation; and,
- 4) Include additional themes around safety and health.

Based on the feedback received during the consultation and engagement period, a final Vision Statement has been prepared for consideration and approval by the Public Works and Infrastructure Committee and City Council.

Recommended Waste Strategy Vision Statement:

"Together we will reduce the amount of waste we generate, reuse what we can, and recycle and recover the remaining resources to reinvest back into the economy. We will embrace a waste management system that is user-friendly, with programs and facilities that balance the needs of the community and the environment with long term financial sustainability. Together, we will ensure a safe, clean, beautiful and healthy City for the future."

Guiding Principles

Survey #2 also presented a list of draft Guiding Principles and asked participants to identify one or more Guiding Principles that were most important to them. It was noted that all of the principles were important; however, that it was essential to know if some principles were more important than others.

The top three Guiding Principles selected by respondents were:

- Work to Mitigate Climate Change;
- Treat Waste as a Resource; and
- Prioritize our Community's Health & Environment.

Participants were also provided with an opportunity to suggest additional Guiding Principle ideas. Some additional Guiding Principles were suggested. However, they either fit within those already presented in Survey #2 or there were not enough similar comments to justify the addition of a new Guiding Principle.

Through the consultation process, there were no comments received in opposition to any of the guiding principles, nor were there suggestions that would support removing some from the list. As a result, it is recommended that the following original list of eight (8) Guiding Principles be considered and approved by the Public Works and Infrastructure Committee and City Council.

Recommended Waste Strategy Guiding Principles:

- 1) *Work to Mitigate Climate Change Impacts-* To reduce our impact on climate change we will find solutions that reduce greenhouse gas emissions associated with our waste management system.
- 2) *Treat Waste as a Resource-* Waste is an asset that needs to be conserved. We should make best use of our waste by recovering materials and energy remaining after reducing, reusing, and recycling.
- 3) *Prioritize our Community's Health and Environment-* The health of our residents and the environment is a priority in decision making to minimize negative impacts and to maximize the benefits.
- 4) *Embrace Social Equity-* Create an easy-to-use system that all residents and the community can understand and participate in.
- 5) *Lead the Change-* Strong leadership is taking ownership, leading by action and being responsible for the waste we produce.
- 6) *Ensure Financial Sustainability-* Financially sustainable solutions that are easy and affordable to maintain by future generations and also help to stimulate economic growth within our community.
- 7) *Make the Future System Transparent-* Future decisions on the implementation of the Strategy will be open, accessible and based on best practices and facts to find solutions that benefit all.
- 8) *Support Development of Community Partnerships-* Working together with local community groups and organizations will help us reach our goals and reduce waste more effectively and efficiently.

Further information on the feedback received on the Vision and Guiding Principles during the consultation process can be seen in Appendix 3.

Evaluation of Options (Evaluation Process and Criteria)

The detailed evaluation process and criteria for the evaluation of Options comprise part of Deliverable 5 of the Waste Strategy, which is explained below. Deliverable 5 is also comprised of the identification of the recommended options and their integration with the current system. An overview of these two components is outlined in Appendix 2.

Options are grouped together to address a common gap/challenge/opportunity and will be considered using the criteria outlined below to determine suitability for Toronto. There are three sets of options under consideration: programmatic; facility/infrastructure; and

implementation tools/future considerations. The following provides an overview of the broadly defined types of options:

- *Option Type #1: Programmatic*
This type of option typically involves activities that are more policy and behaviour related with minimal capital investment required for infrastructure. Examples of Programmatic Change Options can include, but are not limited to, advocacy, regulatory changes, reduction and reuse initiatives, and cultural and behavioural changes (e.g. food waste).
- *Option Type #2: Facility/Infrastructure*
This type of option includes infrastructure activities, such as adding a new facility or making modifications to the current facility network. Examples of this type of option include, but are not limited to, drop-off facilities, waste recovery technologies, residual waste disposal capacity, partnerships or contracting out of services identified (if infrastructure already exists).
- *Option Type #3: Implementation Tools/Future Considerations*
Some of the options identified will not be evaluated using the criteria below, but rather will be identified as either Implementation Tools or Future Considerations. Implementation Tools are options that will be considered in the context of what is recommended for implementation (e.g. an Implementation Tool option will be utilized to support the implementation of a recommended program or facility). Future Considerations are options that would not be initially required and timing for a more detailed evaluation of the option will be identified (e.g. a decision on future processing capacity needs to be deferred to a more appropriate time in the future, once the implementation impact of recommended programs and facilities is better understood).

Evaluation Process

Input was received on the evaluation process that was provided in May 2015 to the Public Works and Infrastructure Committee. Table 1 below summarizes the feedback received that has resulted in a recommended modification to the originally identified evaluation process.

Table 1: Modifications to the Evaluation Process Based on Feedback

Feedback Received	Modification
Concern regarding having two different sets of criteria (one for Programs, the other for Facilities & Infrastructure) and the confusion this could cause with the public and stakeholders.	A common set of criteria will be applied to both Program Options and Facility & Infrastructure Options. Where criteria are not applicable to the options being evaluated an N/A will be marked.
Concern regarding some options being more about the "how" than the "what" and that some options could be removed from further consideration when they may be appropriate for implementation purposes depending on what is recommended.	Options identified that directly relate to either how a program or facility/infrastructure are implemented will be identified, summarized and carried forward as "Implementation Tools" to be considered where appropriate as part of the development of the implementation road map.

One of the prevalent aspects of the feedback on the draft detailed evaluation criteria was to simplify and have one set of evaluation criteria to evaluate all options. Separate evaluation criteria had been proposed for program options and facility options because the criteria applied to evaluate a range of waste reductions programmatic options are somewhat different than those for a range of waste recovery or disposal options. However, feedback received during the consultation and engagement process indicated that some participants were unclear as to why there were two sets of criteria. Consequently, going forward, one set of evaluation criteria will be used to evaluate all options. For each criterion that does not apply to a particular option, a "not-applicable" or "NA" will be noted.

Evaluation Criteria

Input on the draft Evaluation Criteria was sought through Survey #3, Public Information Centres, key stakeholder meetings, and Stakeholder Advisory Group meetings. The feedback received has resulted in enhancements to the evaluation criteria originally proposed and resulted in the revised Evaluation Criteria presented in Table 3. Table 2 below summarizes the key feedback received that has resulted in a recommended change to the proposed criteria. This table is not meant to be an exhaustive list of feedback received. Appendix 3 provides a summary of the feedback received during the Phase 2 consultation process.

Table 2: Evaluation Criteria Changes as a Result of Consultation

Feedback Received	Modification
A comment was provided that similar to energy generation/consumption, the potential water consumption need of some options should also be evaluated.	Potential Water Consumption Requirements has been added as a consideration when evaluating Local Environmental Impact/Benefit.
Comments were made about the difference between innovation and risk and that more innovative technologies are inherently higher risk.	Innovation has been removed as a criterion and will be addressed as an indicator along with other risk based criteria.
Comments were received about how public safety would be addressed in the evaluation.	Community Safety has been added as a criteria for evaluation.
Comments were received about consolidating and/or grouping some of the criteria originally proposed.	Some of the Criteria have been grouped together. For example, Capital and Operating Cost criteria have been grouped under a new criteria of Cost. This change will not impact the extent of the evaluation to be completed, but rather is being done to simplify how the results will be presented in the future.
Nutrient recycling benefits should be included in the evaluation.	The environmental indicator "Potential Contaminants to Land Resources" has been modified to "Potential Impacts/Benefits to Land Resources" to reflect this comment.
Comments were received about the importance of social equity within the City.	A new criteria has been added under Social called "Equity" which will be applied to understand if the proposed option has a different impact/benefit on different groups within the City.
A comment was provided with respect to setting thresholds for each of the criteria.	For a planning study at this stage and given the range of options to be evaluated, the establishment of thresholds would be very subjective and potentially overly restrictive resulting in some options being removed from further evaluation, when in fact they should be considered further. However, there are some thresholds which are already in place and would be included/assumed (e.g. regulatory thresholds for air emissions would be assumed as mandatory requirements and any option not meeting these requirements would not be considered further).

The criteria have been organized under three categories that represent the three fundamental pillars of sustainability (Environmental, Social and Financial) and support a triple bottom line analysis of each option. Beside each criterion are sets of indicators, which are the specific considerations or measures that are proposed to be applied where appropriate to identify the potential effects related to the respective criterion. It is important that evaluation criteria are appropriate to the options being evaluated and therefore adjustments to the criteria and their application may be required depending on the option evaluated.

Table 3 below presents the final evaluation criteria that are proposed for consideration and approval by Public Works and Infrastructure Committee and City Council.

Table 3: Recommended Final Evaluation Criteria

Category	Criteria	Indicators
Environmental Impact/Benefit	Local Environmental Impact/Benefit	<ul style="list-style-type: none"> • Potential Impacts/Benefits to Land Resources • Potential Impacts to Local Airshed • Potential Impacts to Local Water Sources • Potential Water Consumption Requirements • Total Land Required and Land Use Displacement
	Regional/Global Environmental Impact/Benefit	<ul style="list-style-type: none"> • Energy and Fossil Fuel Generation / Consumption • Greenhouse Gas Contributions
	Public Health Impact/Benefit	<ul style="list-style-type: none"> • Potential to impact human health • Potential to impact Ecological health
	Potential to Increase Diversion	<ul style="list-style-type: none"> • Ability to recover additional reusable and/or recyclable materials
	Waste Hierarchy	<ul style="list-style-type: none"> • Consistency with the priorities of the Waste Hierarchy

Category	Criteria	Indicators
Social Impact/Benefit	Approvals Complexity	<ul style="list-style-type: none"> • Complexity associated with approvals and permitting requirements
	Potential for Land Use Conflicts/Community Interruption	<ul style="list-style-type: none"> • Potential for Traffic increase/Reduction • Potential for Litter increase/Reduction • Potential Odour Emissions • Potential Noise Emissions • Potential for Increased Vector/Vermin
	Collaboration	<ul style="list-style-type: none"> • Ability to partner with other municipalities/ organizations
	Complexity	<ul style="list-style-type: none"> • Program complexity to user
	Convenience	<ul style="list-style-type: none"> • Ease of participation
	Community Safety	<ul style="list-style-type: none"> • Potential for impacts to Community Safety
	Equity	<ul style="list-style-type: none"> • Potential for unequal impacts/benefits to specific groups
Financial Impact/Benefit	Cost	<ul style="list-style-type: none"> • Estimated Net Capital Cost • Estimated Net Operating Cost
	Risk	<ul style="list-style-type: none"> • Potential for Contractual Risk • Schedule Risk • Innovation Risk
	Economic Growth	<ul style="list-style-type: none"> • Potential for Local Economic Growth • Potential for Regional/Global Economic Growth
	Flexibility	<ul style="list-style-type: none"> • Ability to accommodate future changes (e.g. regulation, waste composition, etc.)

Priorities

It is necessary that the relative importance of each category and criteria is understood and considered in the evaluation of options. As part of the consultation and engagement process, participants were asked to identify any criteria they felt should be a priority. Appendix 3 highlights the feedback on priorities received from Survey #3, Public Information Centres, and the Key Stakeholder Meeting. Overall, respondents generally expressed that environmental criteria should be given the most priority when making decisions about waste management programs.

Based on the input received through the Phase 2 consultation process, the following priorities are recommended for application in the options evaluation process:

1. Environmental
2. Social
3. Financial

Options

A total of 64 options were provided in the May 2015 Public Works and Infrastructure Committee report. The consultation process has resulted in a longer list of 68 options that will be evaluated using the recommended evaluation criteria. Appendix 1 provides information on the options, including a summary, City of Toronto Experience, Municipal/Waste Industry Experience, Case Studies/Examples, Considerations, and Potential Outcomes.

Contract Extension with HDR

The last Waste Strategy report to Public Works and Infrastructure Committee on May 28, 2015 provided an update on the revised time lines for the Long Term Waste Management Strategy. As a result of these revised time lines, the Consultant Agreement between the City of Toronto and HDR Corporation needs to be extended. The current contract is due to expire on December 31, 2015. Since the final report to Public Works and Infrastructure Committee and City Council is not anticipated until Spring 2016, the contract must be extended. Staff are recommending an extension until December 31, 2016. There is no financial impact to the contract as a result of the extension at this time.

Waste Strategy Deliverables Update

Extensive work has been undertaken on several Waste Strategy deliverables since the last update report to Public Works and Infrastructure Committee on May 28, 2015. Appendix 2 provides a detailed update on the deliverables and work completed since May.

Next Steps

After City Council discusses and approves the Long Term Waste Management Strategy Vision, Guiding Principles, and evaluation criteria at their September 30 – October 1, 2015 meeting, the consulting team will begin their technical work by applying the evaluation criteria to the final list of options. Following the technical analysis, a draft Waste Strategy will be prepared in the Fall of 2015 and presented to the Public Works and Infrastructure Committee in January 2016.

In Winter 2016, staff will conduct public and stakeholder consultations on the draft Waste Strategy and Roadmap. It is anticipated that the final Waste Strategy Report and Roadmap Plan will be brought forward to the Public Works and Infrastructure Committee and City Council in May 2016 for consideration.

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SIGNATURE

E. (Beth) Goodger
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ATTACHMENTS

Attachment 1 – Appendix 1: Final List of Options
Attachment 2 – Appendix 2: Waste Strategy Deliverables Update
Attachment 3 – Appendix 3: Public Consultation & Engagement Feedback