TORONTO

STAFF REPORT
ACTION REQUIRED

Redevelopment of the Dufferin Waste Management Facility

Date:	May 20, 2009
To:	Public Works and Infrastructure Committee
From:	General Manager, Solid Waste Management Services
Wards:	**All**
Reference Number:	p:/2009/swms/June/013PW

SUMMARY

The purpose of this report is to recommend a strategy for the redevelopment of the Dufferin Waste Management Facility; recommend a long-term plan to process Single Stream Recyclable Materials collected through the City's Blue Box Programs including the development of a new City-owned Material Recovery Facility and the eventual decommissioning of the existing Material Recovery Facility; recommend a plan to develop a new community recycling centre which will include a public drop-off depot and reuse centre and also a facility to process the durable goods material stream to separate items for reuse and recycling; and to obtain authority to issue any procurement documents necessary to implement the strategy.

RECOMMENDATIONS

The General Manager, Solid Waste Management Services recommends that:

1. The Dufferin Waste Management Facility be redeveloped as a showcase integrated diversion facility which will include the new Material Recovery Facility recommended in 2a) below and the new community recycling centre recommended in 3) below.
2. The strategy for processing the estimated 360,000 tonnes per year of Single Stream Recyclable Materials that is expected to be collected in the City's Blue Box programs over the 20 year period 2012-2032, include:

a. a new Material Recovery Facility with a processing capacity of 240,000 tonnes per year, to be developed at the City's Dufferin Waste Management Site to replace the existing material recovery facility at that site; and

b. a request for proposals for up to 120,000 tonnes per year of third party contracted processing capacity for a period of up to 10 years.

3. A new community recycling centre be developed at the Dufferin Waste Management Facility which will include:

a. a public access reuse centre;

b. a public drop-off depot to support diversion of recyclable materials not collected via the blue box and other City recycling programs, e.g., large scrap metal items, Waste Electronics and Electrical Equipment and Household Hazardous Waste; and

c. a processing facility for the durable goods material stream to separate items for reuse or recycling.

4. The General Manager of Solid Waste Management Services and the Director of Purchasing and Materials Management be authorized and directed to issue the appropriate procurement document to procure processing services for up to 120,000 tonnes per year of Single Stream Recyclable Materials for a period of up to 10 years, on terms and conditions satisfactory to the General Manager of Solid Waste Management Services and the Director of Purchasing and Materials Management.

5. The General Manager of Solid Waste Management Services and the Director of Purchasing and Materials Management be authorized and directed to issue a Request for Proposal to procure contracted professional services in support of the development of the master plan for the redevelopment of the Dufferin Waste Management Facility recommended in 1) above, which will require the consultant/professional to:

a. prepare a project plan for a staged redevelopment of the Dufferin Waste Management Facility;

b. prepare a site plan addressing all future facilities and functions including the new Material Recovery Facility and community recycling centre recommended in 2a) and 3) above;

c. conduct engineering studies and prepare final designs required for the construction of new, or modifications of existing, utility servicing, storm and sanitary sewers, roads, weigh scales, surface water management features etc., as required to implement the site plan design;

d. prepare the appropriate procurement document, as determined by the General Manager of Solid Waste Management Services and the Director of Purchasing and Materials Management, to retain a contractor to construct the site plan design; and

e. provide contract administration and construction supervision services during the construction of the site plan design.

6. The General Manager of Solid Waste Management Services and the Director of Purchasing and Materials Management be authorized and directed to issue a Request for Proposal to procure contracted professional services in support of the development of the 240,000 tonne per year Material Recovery Facility recommended in 2a) above, which will require the consultant/professional to:

   a. conduct preliminary design studies required for the new Material Recovery Facility and decommission the existing Material Recovery Facility convert to maintenance/storage functions;

   b. conduct engineering studies required for the demolition of the existing building at 75 Vanley Crescent;

   c. prepare the appropriate procurement document, as determined by the General Manager of Solid Waste Management Services and the Director of Purchasing and Materials Management, to retain a contractor to demolish the existing building at 75 Vanley Crescent, to design, build and operate the new Material Recovery Facility; and to decommission the existing Material Recovery Facility and convert to maintenance/storage functions; and

   d. provide contract administration and construction supervision services during the demolition of the existing building at 75 Vanley Crescent and during the design, construction and commissioning of the new Material Recovery Facility and decommissioning of the existing Material Recovery Facility and conversion to maintenance/storage functions.

7. The General Manager of Solid Waste Management Services and the Director of Purchasing and Materials Management be authorized and directed to issue a Request for Proposal to procure contracted professional services in support of the development of the new community recycling centre recommended in 3) above, which will require the consultant/professional to:

   a. conduct preliminary design studies required for the community recycling centre;

   b. prepare the appropriate procurement document, as determined by the General Manager of Solid Waste Management Services and the Director of Purchasing and Materials Management, to retain a contractor to design and build the community recycling centre; and

   c. provide contract administration and construction supervision services during the design, construction and commissioning of the community recycling centre.

8. Prior to issuing the procurement document described in recommendation 5d) above, the General Manager, Solid Waste Management Services report back to the SSO and Recycling Infrastructure Sub-Committee with key terms of the procurement document.

9. Prior to issuing the procurement document described in recommendation 6c) above, the General Manager of Solid Waste Management Services report back to the SSO and Recycling Infrastructure Sub-Committee with key terms of the procurement document.

10. Prior to issuing the procurement document described in recommendation 7b) above, the General Manager of Solid Waste Management Services report back to the SSO and Recycling Infrastructure Sub-Committee with key terms of the procurement document; and

11. The General Manager of Solid Waste Management Services be authorized and directed to apply for funding from Waste Diversion Ontario, Stewardship Ontario and any other agency offering funding to offset any eligible costs of the new material recovery facility or the community recycling centre or any other eligible work arising from the redevelopment of the Dufferin Waste Management Facility.

Financial Impact

There are no immediate financial implications associated with the recommendations in this report. The 2009 to 2013 Capital Plan and 2014 to 2018 Capital Forecast for Solid Waste Management Services currently includes $121.8 million for design and construction of source separated organic material, recycling and reuse facilities. The approved 2009 Capital Budget includes $0.85 million for study and design for proposed facilities. Specific allocation to the proposed Dufferin facility will be addressed through the 2010 and future Capital Budget processes. Financial implications associated with any contracts that may result from the adoption in principle of the proposed facility will be reported as required when authority is sought to award contracts.

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

DECISION HISTORY

At its special meeting held on July 30, 31 and August 1, 2002, City Council adopted Clause No. 24 of Report No. 12 of the Policy and Finance Committee and in so doing authorized staff to enter into an agreement with Metro Waste Paper Recovery Inc. to process up to 100,000 tonnes per year of single stream recyclable materials for a period of 7 years with possible extensions of up to 2 years. The staff report titled “Processing of Single Stream Recyclables RFP No. 9150-02-7164” and the City Council Decision document can be viewed at:
http://www.toronto.ca/legdocs/2002/agendas/council/cc020730/pof12rpt/cl024.pdf

At its meeting held on September 22, 23, 24, and 25, 2003, City Council adopted Clause 34 of Report of the Policy and Finance Committee and awarded a recycling processing contract to Canada Fibers Ltd. for up to 85,000 tonnes of single stream recyclable materials. The staff report titled “Processing of Single Stream Recyclable Materials

Request for Proposals No. 9150-03-7092" and City Council Decision document can be viewed at:
http://www.toronto.ca/legdocs/2003/agendas/council/cc030922/pof9rpt/cl034.pdf

At its meeting of June 19, 20 and 22, 2007, City Council adopted the recommendations in the Executive Committee staff report EX9.1 titled "Proposed Initiatives and Financing Model to Get to 70% Solid Waste Diversion by 2010", as amended and in doing so directed staff to implement or expand the City's diversion initiatives including increasing single stream recycling and source separated organics capture rates, to issue a RFP for the processing of SSRM for the tonnage forecasted to result from the implementation of the initiatives in the Getting to 70% Plan and from growth and implement reuse facilities across the City to receive reusable/durable goods for reuse or recycling. The staff report and the City Council Decision document can be viewed at (relevant pages 2 through 10):
http://www.toronto.ca/legdocs/mmis/2007/cc/decisions/2007-06-19-cc10-dd.pdf

At its meeting on May 23, 24, and 25, 2006, City Council adopted Clause 15 of Report No. 3 of the Works Committee and authorized installation of optical sorting technology and agreements with Stewardship Ontario and Metro Municipal Recycling Services Inc. and Canada Fibers Inc. The agreement with Metro Municipal Recycling Services Inc. provided that it would process at least 120,000 tonnes per year. The staff report titled "Installation of Optical Sorting Technology for Plastics and Paper Separation at Single Stream Recycling Facilities" and the City Council Decision document can be viewed at:
http://www.toronto.ca/legdocs/2006/agendas/council/cc060523/wks3rpt/cl015.pdf

At its meeting held on June 19, 20 and 22, 2007, City Council adopted Report PW6.1 titled "SSO Public Facility Business Plan – Recommendations of the Planning Study for Expanded Public SSO Processing Capacity" and in so doing authorized the General Manager, Solid Waste Management Services to reconstruct the Dufferin Organic Processing Facility to increase processing capacity to process a portion of Toronto's long-term SSO tonnage. The staff report and the City Council Decision document can be viewed at (relevant pages 65 through 66):
http://www.toronto.ca/legdocs/mmis/2007/cc/decisions/2007-06-19-cc10-dd.pdf

At its meeting held on July 16, 17, 18 and 19, 2007, City Council, as a result of adopting the staff report PW7.15 titled "Ingram Reuse Centre and Other Potential Reuse Properties", directed staff to work with Facilities and Real Estate and other divisions to develop a list of City-owned properties as potential locations for reuse centres, and that, if a sufficient number of City-owned sites are not available, the Chief Corporate Officer be authorized to seek the services of a real estate broker to find suitable private properties available within the City to purchase or lease. The staff report and the City Council Decision document can be viewed at (relevant pages 106 to 107):
http://www.toronto.ca/legdocs/mmis/2007/cc/decisions/2007-07-16-cc11-dd.pdf

The Public Works and Infrastructure Committee, at its meeting on May 5, 2009 recommended to Budget Committee a number of recommendations as a result of the report scheduled to be before Council at its meeting of July 6 and 7, 2009 and in doing so

recommended that City Council approve an increase in the maximum contracted single stream recycling tonnage to be processed by Canada Fibers Ltd. and an increase in the maximum contracted source separated organic tonnage to be hauled and processed by OrgaWorld Canada Ltd. In addition, to extending the existing authority of the General Manager of Solid Waste Management Services to negotiate and enter into amending agreements with the City's current SSRM and SSO processing contractors and/or negotiate and enter into agreements with other SSRM and SSO processing contractors as required to meet the City's processing needs up to December 31, 2015. The staff report PW24.11 titled "Amendments to Solid Waste Management Services Diversion Contracts" as recommended by the Public Works and Infrastructure Committee to the Budget Committee can be viewed at:
http://www.toronto.ca/legdocs/mmis/2009/pw/decisions/2009-05-05-pw24-dd.htm

ISSUE BACKGROUND

Dufferin Waste Management Facility (DWMF)

The DWMF, located south west of the intersection of Finch Avenue and Dufferin Street, is the largest City-owned solid waste management property within the City's boundaries, excluding closed landfill sites, and is the only property large enough to accommodate the functions required of a fully integrated waste diversion facility.

Waste management functions currently undertaken at the DWMF are presented in the following table. A site plan of the DWMF showing the existing facilities is presented in Figure 1

Table: Existing Facilities at the DWMF

Location	Facility	Function
35 Vanley Crescent	#300 Building –Transfer Station	Residual waste transfer, public waste drop-off
	#500 Building – Material Recovery Facility	Process single stream recyclable materials
	#700 – Building – Organics Processing Facility	Process source separated organic material originating from Green Bin and other City programs
	Administration Building	Office and facilities for Solid Waste Management Services (SWMS) staff (under construction)
	Open Areas	Storage/Transfer Area for leaf and yard material, tires, scrap metal etc. as required
75 Vanley Crescent	Former Dufferin Incinerator	Maintenance/Repair & temporary storage and transfer of single stream recyclable material.

The existing transfer station has adequate capacity and functionality and no significant modifications are planned.

A large portion of the area of the DWMF is inefficiently utilized. The former Dufferin Incinerator building at 75 Vanley Crescent occupies a large area to house a maintenance function, which could be more efficiently housed in a smaller facility, and an occasional material transfer function that could be relocated elsewhere or eliminated by adequate receiving floor capacity at a new MRF. The design of the former incinerator building makes it unsuitable for use as a waste diversion facility.

A large portion of the area of the DWMF is unutilized. The area between the 75 Vanley Crescent building and the buildings at 35 Vanley Crescent was used to dispose of ash from the former Dufferin incinerator and remains open space.

Dufferin Material Recovery Facility

SSRM is currently being generated at a rate of approximately 220,000 tonnes per year through the residential, commercial and ABCD Blue Bin programs.

The City currently processes SSRM at the City-owned Dufferin MRF, which is operated by Canada Fibres Ltd. under contract to the City, and at two private MRFs as shown in the following table.

Table: City SSRM Processing Contracts

Contract	Start Date	Earliest End Date	Latest End Date	Contracted tonnage (tpy)	Put-or-Pay Amount[1] (tpy)	Currently processing (tpy)
Canada Fibers (Dufferin MRF)	20 December 2005	19 December 2012	19 December 2014	85,000 105,000[2]	60,000	85,000
Metro Municipal	31 July 2003	30 July 2010	30 July 2012	120,000	70,000	120,000
Courtice Industries	1 August 2008	31 July 2010	31 July 2012	30,000	21,000	0[3]
Total				**235,000** **255,000[2]**	**151,000**	**205,000**

Note:

1. Put-or-pay provisions are waived if the contractor is unable to process the put-or-pay amount.

2. Currently seeking Council authority to negotiate an additional 20,000 tonnes per year with Canada Fibres at the Dufferin MRF.

3. The Courtice Industries MRF is under construction.

The existing Dufferin MRF has contracted capacity to process 85,000 tonnes per year of the existing composition of SSRM. The contracted capacity can be extended to 105,000 tonnes per year by extending the hours of operation. It is not possible to expand the size

of the material recovery facility and the space within the existing structure does not allow installation of the additional sorting operations required to accommodate future changes in the SSRM composition. The SSRM planning study, described below, recommends replacing the existing MRF with a new MRF with greater processing capacity. It also recommends that the design of the new MRF exploit new processing designs and technologies, such as optical sortation, and that it be readily adaptable to changes in SSRM composition, whether resulting from market factors or from the intended addition of new solicited materials or products.

Dufferin Organics Processing Facility

The existing Dufferin organics processing facility has been in operation since 2002, and since 2004 has been processing at or in excess of its design capacity of 25,000 tonnes per year of SSO.

In June 2007, Council approved the reconstruction of the existing Dufferin organics processing facility to increase its processing capacity to 55,000 tonnes of source separated organic material (SSO) per year using wet pre-processing and anaerobic digestion technologies, similar to those employed in the existing Dufferin organics processing facility. A request for proposals will be issued in late 2009 to engage a contractor to design and build the new SSO facility and to operate the new SSO facility for a period of up to 5 years. Construction on the new SSO facility is expected to begin in early 2011.

Reuse Centres

SWMS was directed to establish up to six permanent reuse centres as part of the plan to achieve the 70% waste diversion goal. Several sites have been considered or proposed for reuse centres, and attempts have been made to secure the reassignment of surplus properties; however no sites have been confirmed to date.

In the fall of 2008, SWMS initiated a pilot reuse centre located in warehouse space obtained from Toronto Economic Development Corporation on a 2 year lease with renewal options. This pilot facility is successfully recovering mattresses and box springs, scrap metal, waste electronics and electrical equipment, and plastics from a portion of the durable goods waste stream. It is not possible to enlarge the scale of the pilot facility or to make the temporary location permanent.

COMMENTS

Dufferin Waste Management Facility Redevelopment Strategy

The unutilized space at the DWMF is large enough to accommodate either a new MRF or a new community recycling centre, but not both. However, with a strategy to redevelop the site to make more efficient use of the available area, which would involve demolition

of the existing 75 Vanley Crescent building, it would be possible to construct both new facilities while maintaining necessary existing site functions.

A comprehensive redevelopment strategy for the DWMF would:

- enable construction of a new 240,000 tonne per year MRF;
- enable the continuing operation of the existing MRF until the new MRF is constructed;
- enable construction of a new community recycling centre with a dedicated access for the public;
- provide for the continued operation of the existing transfer station;
- provide for the relocation of the existing maintenance function and outdoor material storage/transfer function;
- accommodate the new 55,000 tonne per year SSO Facility;
- effectively integrate the related functions of the material processing and transfer facilities; and,
- provide an efficient design for site access roads and site truck traffic, weigh scale functions, utilities, storm and sanitary sewers and other ancillary facilities.

Figure 2 provides a conceptual plan of the redeveloped DWMF.

SSRM Processing Strategy

In 2008, SWMS retained the firm of R. W. Beck to carry out a SSRM Planning Study to recommend the preferred system to manage the City's SSRM for the 20-year period 2012 to 2032. The Study was undertaken for the following reasons:

- existing SSRM processing contracts will expire, beginning in 2012;
- replacement of existing, or new or modified, processing operations may be required at the City's Dufferin MRF;
- implementation of 70% diversion initiatives will increase tonnage of SSRM;
- implementation of 70% diversion initiatives will change composition of SSRM; and,
- accumulated and ongoing changes in patterns of waste generation, in particular in the types and configuration of plastic packaging, have and will challenge the capacity and sorting capability of existing SSRM processing operations.

The terms of reference of the study included:

- analysis of factors affecting future SSRM tonnage and composition including population growth, trends in products and packaging, and new materials or products which may be solicited for collection;

- forecasts of future SSRM tonnage and composition over the 2012-2032 planning period;

- survey of 'state of the art' operations and best practices for SSRM processing; and,

- analysis of factors affecting, and forecasts of trends in, markets for product derived from SSRM;

- preliminary designs for MRF processing operations to address future tonnage and composition;

- conceptual site plans for replacement of the Dufferin MRF;

- estimates of capital and operating costs for the replacement of the Dufferin MRF; and,

- external financial support from industry funding organizations, including Stewardship Ontario and others, for the City's SSRM system.

The study is ongoing, with some tasks complete and some underway.

The SSRM planning study forecasts an ultimate SSRM tonnage over the planning period of approximately 300,000 tonnes per year, an increase in approximately 80,000 tonnes per year over current annual tonnage resulting from:

- implementation of 70% diversion initiatives;

- population growth; and,

- addition of new solicited materials compatible with household SSRM collection containers including all plastic packaging and plastic products, scrap metals items and ceramics.

The Study recommends that the City's ultimate annual SSRM processing capacity requirement include contingency capacity to ensure continuity of processing services in the event of equipment failures or other planned or unplanned disruptive events, and to accommodate seasonal peaks in SSRM generation. The contingency capacity would also enable the City to provide temporary SSRM processing assistance to other municipalities as necessary due to disruptions in their SSRM processing systems. A contingency of 20 percent of the ultimate forecasted generation, or 60,000 tonnes per year, is recommended.

The total processing capacity requirement, including contingency capacity, is therefore 360,000 tonnes per year.

Waste Diversion Ontario, through its Continuous Improvement Fund (CIF), offers capital funding assistance for municipal recycling projects, including the construction of new MRFs. The CIF intends to promote a regional planning approach for SSRM processing and this intent is reflected in its eligibility criteria. The contingency capacity recommended for the new MRF, if available to other municipal recycling programs, may make a portion of the capital cost eligible for CIF funding.

SWMS directed the SSRM planning study to allocate the total SSRM processing capacity requirement in the following proportions: 2/3 or 240,000 tonnes per year to be provided by a new MRF located at the DWMF, and the remaining 1/3 or 120,000 tonnes per year to be provided by one or more private MRFs providing contracted SSRM processing services to the City.

This allocation of SSRM processing capacity adopts a key risk management approach incorporated into the City's plan to expand its capacity to process the SSO material whereby the two new City-owned facilities would provide capacity to process a total of 110,000 tonnes per year of the forecasted total generation of 180,000 tonnes per year, with the remainder to be processed at private facilities providing contracted processing services to the City. Allocating capacity to multiple facilities, including privately owned facilities, minimizes risks associated with planning errors, i.e., over estimation of future SSRM tonnage, and a major disruption of SSRM processing services.

Extended Producer Responsibility

The Provincial Minister of the Environment is currently in the process of reviewing reports on the Waste Diversion Act (WDA) and the Blue Box Program Plan (BBPP), following extensive consultation on preliminary discussion papers prepared by the Ministry of the Environment and Waste Diversion Ontario respectively.

The reports being reviewed by the Minister of Environment are based on the premise of a full extended producer responsibility model, whereby producers and first importers of packaging and printed paper (stewards) are 100% responsible for the end of life management of their materials. This includes not only financial responsibility but also operational responsibility for the program.

If a full extended producer responsibility model was approved by the Minister of Environment, it is possible that stewards could choose to operate municipal recycling programs or contract with the local municipality. The City has strongly recommended to the Minister of the Environment, in its responses to the BBPP and WDA reviews, that any revisions to the program and legislation ensure that during and following the transition to a system of full producer financial responsibility, that the current infrastructure ownership and operational structure be maintained in the City of Toronto due to our unique operating and infrastructure conditions.

The Report Recommendations and approvals timeline have been structured to ensure that the City will have certainty with respect to long-term operational responsibility prior to the issuance or award of any construction contracts associated with SSRM.

Community Recycling Centre

A comprehensive redevelopment of the DWMF would make available space adequate for a new community recycling centre, which would include:

- a public access reuse centre where durable goods could be received and directed to, or made available for, reuse or recycling opportunities;
- a public drop-off depot to support diversion of recyclable materials not collected via the blue box and other City recycling programs, e.g., large scrap metal items, Waste Electronics and Electrical Equipment and Household Hazardous Waste; and
- a processing facility for the durable goods material stream to separate items for reuse or recycling.

CONTACT

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SIGNATURE

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ATTACHMENTS

Figure 1: Dufferin Waste Management Facility – Existing Plan
Figure 2: Dufferin Waste Management Facility – Redevelopment Conceptual Plan