## SUBJECT: Air Quality Initiatives and Issues Summary - Niagara-Hamilton WastePlan (PW06011) - (City Wide)

### RECOMMENDATION:

(a) That the current wording contained in Item 1(a) of the Social and Public Health Services Committee Report 05-016 concerning Air Quality Initiatives and Issues be deleted in its entirety and replaced with the following:

That should the City of Hamilton and Region of Niagara approve the draft EA Study report recommendation to jointly build thermal processing capacity to manage municipal waste remaining after diversion, any proposal to construct a thermal processing facility incorporate the following considerations with regards to air quality protection:

(i.) Only those thermal processing technologies and vendors with an established and/or proven capability of meeting the Province of Ontario’s and any other applicable federal regulations or standards regarding air emissions and air quality protection will be considered;

(ii.) Completion of air quality impact and site specific risk assessments in support of any proposed location resulting from the site selection process to be completed during the next step in the joint EA Study; and,

(iii.) Incorporation of the best available pollution control technology and other reasonably available measures into the design of a proposed facility to prevent potential air quality impacts and, where any potential for air quality impacts remains, to mitigate or off-set those potential impacts.
EXECUTIVE SUMMARY:

On December 14, 2005, Council referred a recommendation back to the Social and Public Health Services Committee concerning the air quality in the city as it relates to the Niagara-Hamilton WastePlan Environmental Assessment (EA) Study suggesting that Niagara and Hamilton have agreed to construct an incinerator and recommending that any proposal to construct an incinerator in Hamilton be rejected.

Currently, the WastePlan EA Study process has identified a preferred waste disposal system as a thermal facility with recovery of energy and recyclable materials. Public consultation is presently underway on the recommended system and will be completed prior to any final decisions being made.

The purpose of this report is to advise the Social and Public Health Services Committee that the matter of air quality is being appropriately considered in the EA Study process and will continue to be considered during the siting and facility approval process, which will take place once the preferred system is chosen.

It is recommended that the Social and Public Health Services Committee remove for Council consideration and approval Item 1(a) included in Report 05-016.

To address the committee’s concern with existing air quality conditions in Hamilton and the potential impact of a new thermal processing facility it is recommended that a set of alternative requirements set out in this report, which conform with the Niagara/Hamilton partnership agreement and established EA Study process, replace Item 1(a) of Report 05-016 and recommended to Council for approval.

BACKGROUND:

On December 13, 2005, the Social and Public Health Services Committee dealt with Information Report SPH05060 concerning Air Quality Initiatives and Issues Summary. The Committee, in its Report 05-016 to Council, recommended the following motion for approval:

(a) WHEREAS the City of Hamilton is challenged as a direct result of over-intensification of industry leading to poor air quality;

AND WHEREAS the Niagara Region has less intensification of industry and/or other facilities or issues related to poor air quality;

AND WHEREAS the City of Hamilton and Region of Niagara have agreed to build an incinerator to deal with waste management challenges;

NOW THEREFORE BE IT RESOLVED that any proposal to construct an incinerator facility within the City of Hamilton boundaries be rejected.

(b) That Report SPH05060 respecting Air Quality Initiatives and Issues Summary, be received that this item be removed from the Outstanding Business List of the Social and Public Health Services Committee.

Subsequently, on December 14, 2005, Council approved the following recommendation:

That Part (a) of this Item be referred back to Committee for a report from the General Manager of Public Works, Infrastructure and Environment, in consultation with the Medical Officer of Health regarding Air Quality Issues.
The purpose of this report is to address the implications of Item (a) with regard to the Joint Niagara-Hamilton WastePlan Environmental Assessment (EA) Study process that is currently underway.

1. The Environmental Assessment (EA) Process

The WastePlan EA Study is a joint study by the City of Hamilton and the Region of Niagara to investigate alternative waste disposal systems. The study was initiated two (2) years ago as the two municipalities exhibited similar waste management goals and challenges including:

- Approved Solid Waste Management Plans
- Shared waste diversion targets of 65% diversion from landfill
- Limited remaining landfill capacity
- A shared desire to take responsibility for and manage their own waste

With these goals and challenges in mind, it was determined that an Environmental Assessment under the Provincial Environmental Assessment Act would be the appropriate approach to developing a waste management system for the waste remaining after diversion.

The EA Study process includes the following four (4) major or key steps:

- Step 1: Development of an EA Terms of Reference (ToR)
- Step 2: Provincial approval of EA Terms of Reference (ToR)
- Step 3: Performance of the EA Study according to approved Terms of Reference
- Step 4: Provincial Approval of EA Study

Step 1 of the EA Study was completed in September of 2004 with the submission of the draft Terms of Reference to the Minister of the Environment.

During the first half of 2004, a series of public workshops and information centres was undertaken to consult on the development of the draft Terms of Reference. The ToR establishes the processes and methodology by which the study will take place and, once approved by the Province, must be followed. Through public consultation, the scope of the environmental considerations to be incorporated in the study is determined and criteria and indicators established for the evaluation of alternatives. The environmental categories were determined to include not only the natural environment, but also social/cultural, economic/financial, technical and legal considerations.

Another important element of the EA ToR is the definition of a study area which is to be considered in defining the scope of the issue being addressed and in defining alternatives for addressing the issue. For the joint Niagara/Hamilton study, both municipalities constitute the study area as approved in the EA ToR.

The ToR was approved by Hamilton Council on August 12, 2004 and Niagara Council on August 19, 2004 and was subsequently submitted to the Minister of the Environment early in September 2004. The EA ToR was approved by the Minister on February 7, 2005, completing Step 2 of the EA process.

In April of 2005, Step 3 of the EA Study commenced with the initiation of the Study process in accordance with the approved ToR. The EA Study methodology has the following key components:
To date, the first component, the evaluation of “alternatives to” the undertaking, or the evaluation of alternative systems, has been substantially completed. Public workshops and polling were undertaken to confirm the environmental criteria and indicators and to establish associated priorities. Eight (8) alternative disposal systems capable of managing post-diversion wastes (i.e. the 35% not diverted) were developed and presented at public information sessions in May 2005, with an opportunity to comment to the end of July. The systems were evaluated against the established priorities and criteria, including considerable analysis of life-cycle air quality impacts and suitability. The preferred system that resulted from the evaluation is thermal processing with the recovery of energy and recyclable materials and the landfilling of any ash or char residues.

The preferred disposal system was presented to the WastePlan Joint Working Group in a consultants report on December 8, 2005. The executive summary of that report is attached as Appendix A to this report. The Joint Working Group received the report for the purpose of seeking public consultation on the preferred system between December 9, 2005 and February 6, 2006. At this time, a decision has not been finalized on the preferred system.

Public consultation on the draft report includes posting of the document in public viewing locations, the distribution of the document to a wide range of interested agencies and stakeholders along with an invitation to submit written comments and three (3) opportunities for the public to make delegations to the Joint Working Group. In addition, presentations will be made to the Public Works Committees in both Niagara and Hamilton and Public Advisory Committees (the Waste Reduction Task Force in Hamilton and the Waste Management Advisory Committee in Niagara).

The results of the public consultation process will be recorded and considered in the finalization of the report recommending a preferred disposal system. The recommended preferred disposal system will initially be presented to the WastePlan Joint Working Group. If the Joint Working Group recommends approval of the preferred system, the preferred system would then be presented to the respective Public Works Committees and Council for approval.

If and only after both Councils have approved the preferred system, would this component of the process be complete. The next component of the EA Study, which is the siting process, would commence only after approval of the preferred system.

As noted above, the study area air quality has been considered to date in the evaluation of alternative approaches and systems. Any specific technology selected to implement the preferred system will be required to meet the performance specifications and be capable of meeting Provincial standards. The matter of air quality would continue to be addressed during the siting process. The approval of the motion before the Social and Public Health Services Committee would likely compromise the study as a justifiable rationale (in an EA context) for removing the City of Hamilton from consideration in the
2. The WastePlan Agreement

The operating document for the WastePlan EA process is an agreement between the Regional Municipality of Niagara and the City of Hamilton that has been approved by both Councils and has formed the basis for the working relationship for over two (2) years. In the agreement, the municipalities agreed to undertake the study in accordance with the “Intended Nature of the Study”, which is to undertake a study for the waste remaining after diversion for a planning period from 2013 to 2038 in accordance with the requirements of the Ontario Environmental Assessment Act. Further, the Intent identifies four (4) transition points or “Milestones” in the study process, including:

1) Selection of the preferred method (disposal technology) of managing both parties post-diversion waste;
2) Selection of the preferred procedure (siting) for implementing the preferred method;
3) Preparation of a request for proposals designed to select a technology provider to implement the preferred method; and
4) Preparation of the applications for the necessary approvals required for the preferred method under the relevant legislation.

The agreement became effective on January 1, 2004 and terminates upon completion of the Study, provided that either party may terminate earlier upon at least sixty (60) calendar days prior written notice to the other party, given within sixty (60) calendar days after achievement of a Milestone.

Upon achievement of each Milestone, each party shall decide whether to proceed with the Study or to terminate this agreement. Each party shall have its respective Council make such decision within sixty (60) calendar days after achievement of each Milestone, followed by written notice of the decision.

The intent of the agreement is that Niagara and Hamilton will work through the steps to complete each Milestone and then make a decision on that Milestone before proceeding to the next step. As such, it is appropriate to continue to the end of the first step, the selection of the preferred method (disposal technology) before making a decision to terminate the agreement. This process is expected to be completed in the Spring of 2006. Deliberations at this point in the study in accordance with the intent of the agreement should focus on the suitability of the recommended system versus others considered (e.g. thermal versus landfill).

It is inappropriate at this point in the study to begin ruling out locations, particularly given the absence of site specific data and analysis.

The recommendation of the Social and Public Health Services Committee relates to the second component in the EA Study step which is the siting of the preferred system component(s). If the City of Hamilton is to resolve that a location in Hamilton is not suitable then it would be at this milestone that the decision is most appropriately debated based on the study, area and site specific analysis developed and presented towards the end of that component.

More importantly, the entire WastePlan study is based on the partnership between equals. A unilateral decision by one the party or the other to require a facility to be
located in the other municipality would be incompatible with this partnership approach.

**ANALYSIS/RATIONALE:**

Part (a) of the Item recommended by the Social and Public Health Services Committee that was referred back to the Committee by Council if approved, would have the potential to terminate the WastePlan EA Study process, necessitating the need for the City of Hamilton to identify alternative disposal capacity independently or to resort to the exporting of waste like the GTA municipalities.

1. **Evaluation of Alternative Systems**

As noted in the discussion above and in the draft consultants’ report received by the WastePlan Joint Working Group on December 8, 2005, the evaluation of alternative systems assumed that any waste management technology/component would incorporate state-of-the-art design and performance specifications and the alternative systems were compared using a detailed life-cycle analysis that included consideration of air emissions. It should be noted that life-cycle analysis includes both local direct emissions from facilities as well broader effects such as reductions in emissions due to additional recycling and energy production. Of particular note regarding air quality from this life-cycle analysis was the conclusion that overall air emissions (factoring in greenhouse gases, acid gases, smog precursors, heavy metals and organics) are considered lower for the preferred system, thermal processing, compared to the current practice of landfilling at the Glanbrook facility.

The facility to be sited and built assuming that Hamilton and Niagara approve the recommended system would be required to operate in conformance with all Ontario regulations. These Ontario regulations are comparable to stringent US and European standards. The results of the life-cycle analysis, subject to ongoing stakeholder and agency consultation, would not appear to technically support a motion or recommendation removing thermal processing from the preferred system and from future consideration in subsequent siting steps.

2. **Evaluation of Alternative Sites**

The Committees recommendation deals with the removal of geography as it relates to the siting of the proposed facility, which will be the next component in the EA Study step if the preferred disposal system is approved by both Niagara and Hamilton Councils. The construction of a thermal processing facility has not been approved as stated in the item. If the preferred thermal processing facility is approved, the siting process would commence.

The siting process consists of eight (8) steps, including:

1) Confirmation of the evaluation methodology and criteria through public consultation
2) Identification of areas considered unconstrained by a set of exclusionary criteria
3) Identification of site size requirements
4) Identification of long list of sites
5) Application of long list evaluation criteria and selection of short list (i.e. those siting alternatives representing best potential for minimal impact)
6) Net effect analysis of short list of sites to determine preferred site(s)
7) Comparison of preferred site(s) with vendor proposals (optional depending on the availability of any sites proposed by vendors)
8) Identification of preferred site

The confirmation of the evaluation methodology and criteria would be done through public consultation, typically a series of workshops in both municipalities. The draft criteria set out in the EA ToR were developed with public consultation; however, further consultation will be done as comments will now be more specific with the identification of a preferred technology.

The proposed exclusionary criteria, evaluation criteria for the long list of sites and the comparative evaluation criteria for the short list of sites presented in the EA ToR were all developed through a series of public workshops.

From the beginning of the siting process, the exclusionary criteria are intended to eliminate the consideration of sites in locales considered unsuitable for the subject type of facility. In the WastePlan ToR, exclusionary areas were identified as lands located in:

- Niagara Escarpment Plan Area
- Designated residential areas and appropriate separation areas
- Designated natural heritage areas (provincially significant wetlands, environmentally sensitive areas, areas of natural and scientific interest, hazard lands and conservation areas) and appropriate separation lands
- Prime agricultural lands
- Designated tourism areas and appropriate separation areas
- Designated park/recreational lands and appropriate separation areas
- Institutional facilities and areas and appropriate separation areas
- Areas around federally regulated airports in accordance with Transport Canada guidelines

The proposed evaluation criteria for the long list of alternative sites include:

- Proximity to required infrastructure (dependent on preferred system)
- Site accessibility
- Potential impact on the haul route
- Property size
- Land use surrounding site
- Availability of site
- Proximity to unregulated airports

The evaluation of the short list of alternative sites is proposed to be carried out in accordance with the following broad environmental categories and specific evaluation criteria. The consideration of potential air quality impacts will be one of the criteria evaluated under the Public Health & Safety and Natural Environment as set out in Table 1.
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<tr>
<th>ENVIRONMENTAL CATEGORY</th>
<th>PROPOSED EVALUATION CRITERIA</th>
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<tbody>
<tr>
<td>Public Health &amp; Safety and Natural Environment</td>
<td>• potential air quality impacts</td>
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<td></td>
<td>• potential water quality impacts (surface water and groundwater)</td>
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<td></td>
<td>• potential impacts on environmentally sensitive areas and species</td>
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<td></td>
<td>• potential impacts on aquatic and terrestrial ecology</td>
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<tr>
<td>Economic/Financial</td>
<td>• capital costs for development of facility(ies)</td>
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<td></td>
<td>• operation and maintenance of costs</td>
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<tr>
<td>Technical</td>
<td>• compatibility with existing infrastructure</td>
</tr>
<tr>
<td></td>
<td>• design and operational flexibility provided by site</td>
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<tr>
<td>Social/Cultural</td>
<td>• potential for conflicts with existing and/or proposed land uses</td>
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<td></td>
<td>• potential impacts on residential areas</td>
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<td></td>
<td>• potential impacts on parks and recreational areas</td>
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<td>• potential impacts on institutional facilities and areas</td>
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<td></td>
<td>• potential impacts on archaeological and cultural resources</td>
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<td></td>
<td>• potential traffic impacts</td>
</tr>
<tr>
<td>Legal</td>
<td>• type of property acquisition</td>
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<td>• complexity of required approvals</td>
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It should be noted that during development of the above proposed evaluation criteria in the EA ToR, the type of processing facility to be sited was not known and accordingly the criteria needed to be generic in that sense. It was for this reason that the initial step in the siting methodology was added to allow for the adjustment of the various criteria to reflect the facility being sited. Accordingly, these categories and criteria will be confirmed through a series of public workshops early in the siting process. For example, possible adjustments given that a thermal processing facility is being sited could include the addition of exclusionary considerations for areas that can be defined exhibiting poor or unsuitable ambient air quality.

Therefore, the EA Study process provides the appropriate opportunity for consideration of the air impacts of any preferred waste disposal system.

3. Environmental Impact Assessments and Facility Design

Subsequent to the selection of a preferred site for the preferred system components, additional detailed site specific and facility design studies will be required to confirm the suitability of the proposal and approval under the EAA and for the purpose of securing facility construction and operating permits. It will be at this point that the proponent (i.e. City and Region) will commission detailed site specific assessments of potential air quality impacts and associated environment/health risks for the purpose of incorporating required design features and management plans.

It will also be at this point, recognizing that there has been no viable technology developed to date for the management of wastes requiring disposal that is completely
emissions free, that plans and procedures can be developed for the management and off-set of any residual emissions predicted to occur. The range of options available in this regard cannot be defined until such time as a specific technology and site are known but could include measures such as the planting of a number of trees to off-set facility greenhouse gas emissions or the paving of an off-site area to reduce overall study area particulate matter, or compensation in lieu of certain nuisance effects experienced such as additional truck traffic. The intent here is not to 'buy-out' the host community, but rather to be fair to the host community recognizing that disposal capacity is still required for the greater community good and that there remains no perfect disposal solution.

**ALTERNATIVES FOR CONSIDERATION:**

The Social and Public Health Services Committee could recommend to Council that the motion be approved. The implications of doing so are discussed in the Background and Analysis/Rationale sections of this report. In this situation, the City of Hamilton would likely have to start the process over to identify a long term waste disposal solution on its own.

It is recommended that the Social and Public Health Services Committee delete the wording in Item 1(a) and replace it with a series of considerations related to air quality for the WastePlan EA Study process.

**FINANCIAL/STAFFING/LEGAL IMPLICATIONS:**

The financial implications of approving the recommendation originally proposed by the Social and Public Health Services Committee could be potentially significant. Since 2004, the City has invested approximately $1 million in the WastePlan process. The remainder of the EA Study will cost approximately an additional $1 million. These are half of the study costs.

The development of a disposal system is estimated to exceed $100 million, to be shared by the municipalities and potential private sector partners.

If the agreement with Niagara ceased, the City would need to start over again to address its own disposal capacity through an independent EA Study, assuming all of the costs of the study and the system that was established by the study.

If the City was to proceed on its own, there would also be staffing implications. At the present time, the staff requirements are shared by Niagara and Hamilton waste management staffs. The amount of time required for City staff would increase if the City carried out an independent study.

From a legal standpoint, if it is the intention of the Social and Public Health Services Committee and Council to end the study and the agreement with Niagara, then notice of doing so should also be included.

**POLICIES AFFECTING PROPOSAL:**

The policies affecting this report are those in the Solid Waste Management Master Plan, including:

- Recommendation 2 - The Glanbrook landfill is a valuable resource, and the City of Hamilton must optimize the use of its disposal capacity to ensure that there is a
disposal site for Hamilton’s residual materials that cannot be otherwise diverted;

- Recommendation 5 - A new state-of-the-art Energy From Waste (EFW) facility may form part of the City of Hamilton’s waste management system so the need for the EFW facility must be revisited in 2006 to determine if such a facility is needed to optimize the disposal capacity at the Glenbrook landfill site. Our diversion rates will be continuously monitored in order to determine the likelihood of success of achieving our 2006 diversion target (the closing of SWARU led to this recommendation being considered earlier than 2006);

- Recommendation 11 - The siting of any new waste management facilities must consider neighbourhood issues, equity for its communities and the location and concentration of existing waste facilities;

- Recommendation 13 - The City of Hamilton is committed to continually improving its waste management system and will support annual investment in research and development.

**RELEVANT CONSULTATION:**

This report has been reviewed with Public Health and Social Services staff and the Solid Waste Management Master Plan Steering Committee.

**CITY STRATEGIC COMMITMENT:**

By evaluating the “Triple Bottom Line”, (community, environment, economic implications) we can make choices that create value across all three bottom lines, moving us closer to our vision for a sustainable community, and Provincial interests.

**Community Well-Being is enhanced.** ☑ Yes  ☐ No

The public are involved in the definition and development of local solutions. Partnerships are promoted.

**Environmental Well-Being is enhanced.** ☑ Yes  ☐ No

Air quality and water quality and quantity are protected. Climate related risks are managed; Greenhouse Gas emissions are reduced. Consumption of energy is reduced; alternate energy and co-generation are supported. Waste is reduced and recycled.

**Economic Well-Being is enhanced.** ☑ Yes  ☐ No

Partnering with Niagara on Environmental Assessment (EA) Study costs results in the City’s portion being approximately $1,000,000.00. Costs would be double if the City was proceeding on its own.

The future potential of partnering in the development of a waste disposal system would result in the City's portion being half of cost, which could exceed $1,000,000.00.

The partnership with Niagara represents the effective and efficient use of capital funding.

**Does the option you are recommending create value across all three bottom lines?**

☑ Yes  ☐ No

**Do the options you are recommending make Hamilton a City of choice for high performance public servants?**

☐ Yes  ☑ No

Not relevant.
Executive Summary

ES-1 Why Has This Report Been Prepared?
The ‘Draft Report on Evaluation of “Alternatives to” and Selection of Preferred Disposal System’ has been prepared to present the results of the first major step in the WastePlan Environmental Assessment (EA) Study for public and agency review and comment. This is a draft report intended solely for the purpose of public and agency consultation.

The initial step in the WastePlan EA was the evaluation of “Alternatives To” the undertaking. “Alternatives to” are defined as fundamentally different ways of managing waste and achieving the purpose of the undertaking or study. The purpose of the undertaking from the approved EA Terms of Reference is “…to manage the wastes that will remain after the application of both municipalities’ at-source waste diversion (reduction, reuse, recycling and composting) programs”.

The result of the initial EA step – identification of a preferred long-term waste disposal system for Niagara and Hamilton - is presented as a conclusion from the consultant team’s consideration of the system advantages and disadvantages and environmental priorities. The inputs to this evaluation (i.e. advantages, disadvantages and environmental priorities) were previously considered and approved by the Joint Working Group and represent the results of ongoing consultation with the public and review agencies.

A final version of this report and a consultant team recommendation, incorporating input from the public and agencies, is scheduled to be prepared and presented to the Joint Working Group in March 2006 after a 60-day consultation period which will begin on December 9, 2005 and end on February 6, 2006. The Joint Working Group and individual municipalities will not make a decision until after the consultation period ends on February 6th and comments received have been considered.

All parties reviewing this draft report are encouraged to submit their comments including those that are supportive or opposing and those that pose questions or make suggestions for modification to the results. As has been the case for Niagara and Hamilton in undertaking the work and decision-making process presented in this report, a strong rationale related to the systems evaluation in support of any suggested modifications will be required and, if present, the comments will be considered and reasonably incorporated into the final report and recommendations to the Joint Working Group.

ES-2 How Were Alternatives Identified And Evaluated?
To fully address this purpose a number of different waste management approaches capable of disposing the remaining waste were combined into alternative waste disposal systems. The WastePlan EA Terms of Reference established that alternative systems comprised of the following approaches and technologies would be formulated and evaluated:

- Additional At-Source Diversion (3Rs)
- Physical (Mechanical) Processing
- Biological Processing
- Thermal Processing; and,
- Landfill

Figure ES-1 summarizes the eight (8) step methodology applied to formulate and then compare eight alternative waste disposal systems.

As an initial task in the system development step, each municipality’s at-source waste diversion programs were reviewed to assess the suitability of the established sixty-five (65) percent at-source diversion targets. This review concluded that waste reduction and ‘at-source’ diversion approaches will continue to be preferred over disposal but that, given the current and projected diversion opportunities available to Niagara and Hamilton, the set targets are reasonable for use in the formulation and evaluation of alternative systems.

In determining the scope of alternative systems to be evaluated, the focus was on covering the range of options to recover resources from the residual waste stream rather than all possible combinations of the alternative approaches available for consideration. Resource recovery options available from the residual waste stream included recyclable materials for sale to market, energy from biogas, and energy from the thermal treatment of wastes.

Landfill was included as part of each system with a treatment component(s) to manage those remaining wastes with no resource value given the respective system under consideration and was also included as a system capable of managing all residual wastes. Table ES-1 summarizes the eight systems developed and evaluated.

Once developed, the alternative disposal systems were evaluated by application of the established evaluation criteria and environmental priorities and using the net effects analysis incorporated as Steps three to eight in the “alternatives to” evaluation methodology. The preferred disposal system was that which offered the preferred balance of advantages and disadvantages given the environmental priorities established by the Niagara
and Hamilton communities through the public consultation process.

**ES-3 How Did We Consult With The Public and Agencies?**

The approved EA Terms of Reference establishes key points of contact in the evaluation process where public and agency consultation will occur. For the evaluation of “alternatives to” step of the study, there are four key points of consultation. These are described as follows:

**Input to Criteria Development and Priority Setting**

At Step 1 of the evaluation methodology, public workshops were held on April 5th, 2005 in Hamilton and on April 6th, 2005 in Niagara to receive public input on the scope of criteria and environmental priorities to be applied in the evaluation of alternative systems. This was the second set of workshops held related to the evaluation criteria. In developing the draft criteria presented in the EA Terms of Reference, the first set of workshops were held on February 3rd, 2004 in Hamilton and on February 4th, 2004 in Niagara.

To increase the level of confidence in the priority setting exercise and results, it was decided to undertake a representative poll of the study area community. Experts in these types of polls, Ipsos Reid Public Affairs were retained and conducted the poll in September 2005 prior to the consideration of system advantages and disadvantages at Step 8 of the methodology.

**Confirmation of Alternative System Development**

At Step 2 and upon completion of the draft reports on the at-source diversion review and alternative system development, public information sessions were held on May 25, 2005 in Hamilton and on May 26, 2005 in Niagara to present the draft results to the public. In addition, the Joint Working Group held a special meeting on June 2, 2005 to receive delegations from the public on the proposed alternative systems. The intent of these sessions was to receive public input on the suitability of the alternative systems and to confirm the systems to be carried forward in the evaluation.

**Confirmation of System Advantages and Disadvantages**

At Step 7 and upon completion of the draft system advantages and disadvantages, public information sessions were held on October 4, 2005 in Hamilton and on October 5, 2005 in Niagara to present the draft results to the public. Subsequently, on October 11, 2005 in Niagara and on October 13, 2005 in Hamilton the Joint Working Group held special meetings to receive delegations from the public on the draft system advantages and disadvantages. The intent of these sessions was to receive public input on the suitability of the advantages and disadvantages prior to moving forward with the application of environmental priorities and comparison of the systems for selection of a preferred system.

**Conclusions on Preferred Disposal System**

The final point of consultation related to the “alternatives to” evaluation is the public review of this draft report. The report is being released on December 8th, 2005 and a period of 60 days to February 6, 2006 is being allocated for public review and comment on the report. Comments
may be submitted in writing at any time during this review period and the Joint Working Group will be holding special meetings in January 2006 to receive public delegations on the draft results.

In addition, the draft report is being made available to a range of review agencies and stakeholders with a potential interest in the study and its outcome. Comments received from the public, review agencies and stakeholders on the draft report will be considered and addressed as appropriate in the final report.

The final report and its recommendation on a preferred long term system will be presented to the Joint Working Group in March 2006 and, if approved, to the individual Councils of the two municipalities. This is expected to occur during the late Spring of 2006.

**Input from Government and Other Agencies**

A review agency list of approximately one hundred government departments, boards, groups, and other stakeholders has been established for involvement in the study. These agencies were contacted during the initial step of confirming the evaluation methodology and criteria and to date, several comments have been received from those contacted. This list will be continually updated throughout the balance of study for review and input to the work being completed. This will include an opportunity to review and provide comments on this draft report.

**ES-4 What Were The Priorities In The Evaluation?**

An influential aspect of the evaluation process that was based primarily on the results of input from the public was the priority assigned to the various components of the environment being considered. A key characteristic of the Environmental Assessment Act and most planning processes with a focus on sustainability is the requirement to consider a broadly defined environment (i.e. more than just the natural environment). Accordingly, the different categories of the environment considered in this study and the priorities assigned by the Niagara and Hamilton community were as follows:

<table>
<thead>
<tr>
<th>Environmental Category</th>
<th>Priority</th>
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<tbody>
<tr>
<td>➔ Natural Environmental</td>
<td>Most Important</td>
</tr>
<tr>
<td>➔ Social / Cultural</td>
<td>Important</td>
</tr>
<tr>
<td>➔ Economic / Financial</td>
<td>Important</td>
</tr>
<tr>
<td>➔ Technical</td>
<td>Important</td>
</tr>
<tr>
<td>➔ Legal</td>
<td>Least Important</td>
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</table>

As noted in the “alternatives to” evaluation methodology, the results presented in this report represent the preferred balance of system advantages and disadvantages given the environmental
priorities described above and set by the Niagara and Hamilton communities through both consultation workshops and public polling.

Figure ES-2 describes the overall results of the alternative disposal system comparative evaluation based on these environmental priorities. The full rationale for the various levels of comparison and results is provided in Section 8 and the Appendices of this report.

**ES-5 What Did The Evaluation Conclude?**

The evaluation of “alternatives to”, as a first priority, concluded that the reduction and “at-source” diversion of municipal solid waste is and will remain the most preferred components of an integrated waste management system. With this in mind and given the current and projected diversion opportunities available to Hamilton and Niagara, it was determined that the established 65 percent at-source waste diversion targets are reasonably aggressive targets on which to base the planning of long-term disposal capacity.

The preferred long-term waste disposal system identified as a result of the evaluation of alternative systems to manage the post-diversion or residual wastes is **System 2B – Thermal Treatment of MSW and Recovery of Energy followed by Recovery of Materials from the Ash/Char**. More specifically:

*System 2B entails the establishment of thermal treatment capacity to process the residual waste stream and recover energy, followed by the removal of materials that may be sold to market from the ash/char residue, and finally the landfilling of all process residues (non-combustible materials removed prior to treatment and the ash/char).*

Figure ES-3 outlines the process flow of the preferred System 2B. A more detailed description of the system, its individual components, and the need for a waste management hierarchy to support the continued improvement of waste reduction and at-source diversion performance in front of the disposal system is provided in Section 9.0 of the main report.

It is important to **note** that, at this time, this system represents a conclusion of the consultant team and not a decision on the part of the two municipalities. This decision will not be made until the public and agencies have been consulted on the conclusion and its supporting rationale presented in this draft report.
1. The decision of the Joint Working Group to be made on December 8th, 2005 is expected to be receipt of the draft report for release to the public and agencies for consultation. It will not represent a decision to approve the preferred system as concluded by the consultant team.

**ES-6 What Now?**

With the receipt of this draft report by the Joint Working Group on December 8, 2005 the following is recommended on public consultation and finalization of the report:

**Recommendation 1**

That the report be released to the public and government review agencies for a period of 60 days starting on December 9, 2005 and ending on February 6, 2006.

**Recommendation 2**

That notification of the availability of the draft report be undertaken immediately by way of direct contact with the established public and government review agency list and by way of the website and local media for the general public.

**Recommendation 3**

That copies of the draft report be forwarded to the public and government agencies on the established contact lists and that copies be placed in the local libraries, municipal offices and on the study website for public review.

**Recommendation 4**

That the Joint Working Group schedule, advertise and hold special meetings during the month of January 2006 to receive delegations from interested parties on the draft report and its results.
**Recommendation 5**

That comments received during the draft report review period be documented and included in the final report and that comments received be considered and addressed, as appropriate, during finalization of the report.