

**Class Environmental Assessment (EA) for Biosolids
Management at the Highland Creek Treatment Plant (TP)
Public Information Centre No. 2 – April 9, 2015
Comments/Questions and Responses**



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August 10, 2015

Class Environmental Assessment (EA) for Biosolids Management



at the Highland Creek Treatment Plant (TP) Public Information Centre No. 2 – April 9, 2015 Comments/Questions and Responses

Background

The purpose of Public Information Centre No. 2 was to provide the public with background information on biosolids management at the Highland Creek Treatment Plant (HCTP), present information on the long list of biosolids management alternatives considered, the short list of feasible biosolids management alternatives that will be evaluated in greater detail and the proposed approach to evaluating the short-listed biosolids management alternatives to select the best one for the HCTP.

The format of the Public Information Centre was a drop-in centre with display panels. There was also a formal 20 minute presentation that started at 7:00 pm, followed by a question and answer period to about 8:00 pm. Project team members, including City of Toronto staff and members of the consultant team, were available to answer questions and also, to speak one-on-one with members of the public.

PIC No. 2 Attendance Summary

A summary of the attendance to PIC No. 2 is provided below.

PIC No. 2 Date	April 9, 2015
Location	Royal Canadian Legion, 45 Lawson Road, Scarborough
Number of Individuals who Signed In	62
Comment Sheets Received	53
Other Comments Received	1

Comments and Questions

The comments and questions received following PIC No. 2 are presented below along with the responses prepared by the City's project team. Comments and responses have been organized according to the following Topics:

1. Rationale for Class EA Study
2. Class EA Process Approach and Schedule

3. Evaluation Methodology
4. Traffic, Odour, Noise and Related Impacts
5. Biosolids Generation and Management Options
6. Natural Environment and Health Impacts

Comments/Questions	City Project Team Responses
Topic 1: Rationale for Class EA Study	
<ul style="list-style-type: none"> • The info was well set out and pretty easy to understand/interpret. There is not much you can do at your end to overcome apathy on this or any other topic. You are doing your best to consult. • We did not need this meeting again since the majority of residents had opted for fluidized bed incinerators. What a waste of taxpayers' money and the time and effort put forth again. Some info was not correct to get us to change our minds. • Why do we continue to do EAs when there have been no changes in technology? • Thank you for working so diligently on this Municipal Class Environmental Assessment Study. Hopefully previous work, public meetings, collections of signatures, etc. will finally pay off and incinerators will be replaced with newer fluidized incinerators to provide long term reliability. • Considering the comprehensive study the project team conducted/documented to determine the best biosolids management solution for HCTP, we very much hope that this time, City Council will make the right decision and invest in Fluidized Bed Incineration, practiced in North America and widely in Europe. Only then will we, the stakeholders in this study area, be able to rest easier. 	<p>The City undertook a Biosolids Master Planning process for all four of its wastewater treatment plants from 2002 to 2009. This process resulted in a recommendation for fluidized bed incineration at the HCTP.</p> <p>At that time, the focus of the Master Plan was on biosolids management at the Ashbridges Bay Treatment Plant (ABTP). There was concern from the public and some members of Toronto City Council about incineration related to ABTP which was carried over to the recommendation for HCTP. As a result, the Master Plan recommendation for the HCTP was not approved by Council, who directed that instead a beneficial use program be implemented at the HCTP. In order to move forward, the City undertook a new planning study, a Schedule B Class EA. This course of action was chosen after consultation with the Ontario Ministry of Environment and Climate Change.</p>

Comments/Questions	City Project Team Responses
Topic 2: Class EA Process Approach and Schedule	
<ul style="list-style-type: none"> The City has always promised that the environmental assessment process would be open and transparent; however, I am concerned that most of the detailed technical information contained in the Technical Memoranda is not being made available to the public. This is in stark contrast to the procedures followed for the Biosolids Master Plan, where most background reports were made available on-line. This is an unacceptable situation that must be corrected by making complete Technical Memoranda available on-line in a timely manner, as they are produced. 	<p>The City is posting Executive Summaries for all Technical Memoranda as they are completed. The final Class EA Report, including all detailed Technical Memoranda as appendixes, will be made available for a 30-day or more review period.</p>
<ul style="list-style-type: none"> During the peer review of the draft Biosolids Master Plan, an independent survey of the opinions of the local community was undertaken; the City should consider undertaking a similar survey as part of this EA. 	<p>As part of the Class EA process, all members of the public are invited to participate through Public Information Centres (3 throughout the process), as well as by contributing comments throughout the process to the project specific email address biosolids@toronto.ca. A formal public opinion survey will not be undertaken as part of this study; however, comments and input are solicited from all members of the community and general public through the project email and public meetings so that a diverse range of public opinion will be considered in determining the study outcome.</p>
<ul style="list-style-type: none"> Since the second PIC was scheduled for early 2015 and it is now April 9th, does that mean that the third PIC would be in September since the original agreement was not to schedule any of these events in the summer? Please allow the community time to review information and provide feedback on an issue that is complex and requires some study. 	<p>Since public information centres (PIC) are not typically held in the summer months, the third PIC is currently scheduled for September or October 2015 pending completion of some key technical tasks to support the information that will be presented. A notice will be sent to the project</p>

Comments/Questions	City Project Team Responses
	mailing list and advertised when a date is selected for the next meeting.
Topic 3: Evaluation Methodology	
<ul style="list-style-type: none"> • Can you confirm that information gathered in section 2 of this form will help form the evaluation criteria? 	<p>Yes. Information on the weighting of categories of evaluation criteria provided on the comment forms will be used to develop the decision-making model.</p>
<ul style="list-style-type: none"> • Will we be given the opportunity to review draft criteria at the next PIC? • Ensure that detailed criteria with rationale and methods of evaluation are available to the public in all categories. 	<p>The next PIC will present the evaluation methodology and criteria, as well as the preliminary results of the evaluation for review and comment by all members of the public. Comments received at this meeting will be compiled and considered in the preparation of the Project Public File Report.</p>
<ul style="list-style-type: none"> • Will the decision-making model used in the evaluation of alternatives be conceptually similar to that used in the Biosolids Master Plan and will the process and the results be open and transparent by making the calculations available on the website? 	<p>Yes. The basis for assessing each biosolids management option for each criterion will be provided in the Class EA Report that will be made available on the project web page. The Class EA study will incorporate a number of components (Cumulative Air Emissions Assessment, Human Health Risk Assessment, Health Impact Assessment) to evaluate the short-listed biosolids management options and to select the best management option for HCTP; based on a combination of health, environmental, social (community) and economic evaluation criteria. All short-listed feasible options will be evaluated, based on a life-cycle approach, incorporating both initial capital and long-term operating costs into the evaluation methodology.</p>

Comments/Questions	City Project Team Responses
<ul style="list-style-type: none"> • How are the views of the different neighbourhoods weighed in the assessment? • How will the views of different stakeholders (e.g. residents of the local community vs. activist groups) weighed in the assessment of alternatives? • Please ensure that there is not political interference in this fact based evaluation. Personal preferences should not be a part of the evaluation process if those are simply politically driven. • I think that the most important consideration in the evaluation should be the specific preferences of the residents of the local communities that will be most affected by the proposed alternatives. Indeed, the City has clearly stated that “minimizing impacts to the community is a primary goal of this project”. The opinions of special non-resident activist groups are relevant, as are other technical findings of the project team; however it is the role of the local community, and local community associations, to render their opinions giving weight to the environmental, economic and health factors. • We are concerned that the environmental assessment could pit one community against another. It is possible that our community, located closest to the HCTP, may have a different opinion about methods to evaluate their alternatives than residents located further from the HCTP or activist groups. • Alternative #1 also keeps the solution in the community. Prevailing winds continue to blow the small amount of emissions away from the downtown core. Downtown environmental groups should not have more say than local residents. Often, so called environmental groups are opposed to what makes common sense regardless of the facts. 	<p>Comments and input (including information requested on evaluation category weighting and suggested evaluation criteria) are solicited from all members of the community and general public so that a diverse range of public opinion will be considered in determining the study outcome. However, since the highest portion of attendees and comments are from the local community, the community input weighs significantly in the evaluation.</p>

Comments/Questions	City Project Team Responses
Topic 4: Biosolids Generation and Management Options	
Comments Related to Alternative 1: Incineration	
<ul style="list-style-type: none"> • Consider incineration upgrade to Highland Creek. Take more pollutants out of the emissions by catalytic means. • We see the economic benefit of a fluidized bed incinerator, as the preferred way to solve the problem. • My husband and I are long-time community residents who plan to stay for many more years. We attended the prior session and are concerned about and active in local affairs. After speaking to several City representatives and reading the literature, Alternative #1, on-site incineration, seems the obvious choice. The City literature summarizes the reasons and there no need to repeat them here. • As a resident of Highland Creek for 40 years, I have always been interested in protecting our environment as well as the safety and ambiance of our community. I support incineration of sewage at our local treatment plant as the safest and most economic over the long term, and with the lowest greenhouse gas emissions. • To me, Option #1 – On-site Fluidized Bed Incineration is the best choice because the advanced technology reduces the environmental impact of the treatment process and is the most cost efficient. Less road wear and tear, noise and pollution from trucks, plus the added benefit of energy recovery (to supplement fuel) and recycling the ash are excellent outcomes. • I want Option 1. There is disruption to the neighbourhood as there is less hauling. Since the ash can be recycled into cement, it seems more successful. Option 1 is by far the best solution for our neighbourhood. There would only be 1 week per year when 	<p>These comments will be considered in the evaluation of alternatives.</p>

Comments/Questions	City Project Team Responses
<p>we would have the trucks disturbing us on the 7 km trip to the 401.</p> <ul style="list-style-type: none"> • Incineration is the overwhelming preference of the community. Largely because it works...and has "for almost four decades...".I have lived in the neighbourhood for almost five decades and I can tell you that in the years prior to the improvements made in the 70s, you didn't want to be downwind from HCTP. We experienced many uncomfortable, unhealthy, and frequently embarrassing days and nights (visiting friends and relatives couldn't wait to get away from us, some vowing never to return!) We are appreciative of the improvements and good management since those days and wish that these high standards be maintained. That can be achieved by adopting or adapting the best incineration practices you have been studying---some as near as Pickering and Peel. The wheel can, perhaps, be improved but it doesn't have to be re-invented. (Sorry for the cliché). • I believe we need to take care of our own waste locally if possible. I also believe that technology will allow us to do that safely. • I rated social as 10 because I believe that the study would only include options that are environmentally safe and safe for our health. At the last meeting, we heard that Option 1 was the cheapest and that is my choice. • When we have on either side of Toronto i.e. east and west two excellent examples of a successful installation of Fluidized Bed Technology why are these not mentioned as examples of a successful solution? 	
<ul style="list-style-type: none"> • We did not see any information related to the current emissions compared to the emissions calculated for the new incinerator. 	<p>A summary of the current emissions was provided in the Executive Summary for Technical</p>

Comments/Questions	City Project Team Responses
<p>This is an extremely important comparison factor for evaluating the alternatives, and particularly for Alternative 1 related to Fluidized Bed Incineration.</p>	<p>Memorandum No. 1 available on the web page. This information is being used to complete the cumulative air emissions study and Human Health Impact Assessment (HHIA), with the existing incineration scenario as a base case, against which all other biosolids management alternatives are compared.</p>
<ul style="list-style-type: none"> I am having difficulty understanding the capital cost estimate of \$107 million provided for the incinerator upgrade alternative, compared with the information provided previously by the City. Since part of the cost of the Fluidized Bed Thermal Reduction System is the inclusion of a second unit as back-up (redundancy) that is a part of the cost which most likely is not going to be needed for probably five years or possibly ten or more years. The reason for not having to tap that source of revenue is that there has been an expenditure of \$30-40 million over the past three to four years to bring the now forty year old multi hearth units up to performance level, and to allow them to operator for another five to ten years. Therefore, the actual upfront immediate cost is probably only \$70 million for the one fluidized bed unit which is needed immediately. The two multi hearth units can be used as back-up when necessary which most likely will be very infrequently. Today, one multi hearth unit is servicing the plant with a second one as a back-up. Thus, the true cost over the next ten years is probably for only one fluidized bed. This further demonstrates that now in the 21st century, technology will solve the problem of proper sewage disposal at the Highland Creek Treatment Plant. 	<p>The existing multiple hearth incinerators are undergoing emergency repairs; however, they will not considered to be reliable long term back-up beyond 10 years. With incineration, there is a need for full redundancy (i.e., two units with full capacity) for periods when one unit must be taken down for planned maintenance. The usefulness of one or both of the existing incinerators for short term redundancy will be addressed in the final report.</p>
<ul style="list-style-type: none"> How would ash be managed on site? 	<p>As is the current practice, ash from the incineration</p>

Comments/Questions	City Project Team Responses
	<p>process would be stored temporarily on-site in ash lagoons. Ash would be hauled from the ash lagoons once per year and taken to the City's Green Lane landfill for disposal. If incineration is selected as the preferred alternative, then the City could also investigate if there are available and cost-effective opportunities for ash recycling.</p>
<p>Comments Related to Alternative 2 and 3: Beneficial Use of Biosolids, Processed Biosolids and Pellets</p>	
<ul style="list-style-type: none"> • Off site management may be good for contractors/truckers but it doesn't benefit agricultural use- try to avoid this. • You don't mention how this is beneficial long term for Highland Creek. • Are the pellets (fertilizer) really being sold and how safe is the fertilizer? • Spreading sewage as fertilizer has an environmental impact and must be included in study (environmental and health impact). • Include impacts of use of "beneficial solids" on Ontario agricultural land when conducting a detailed evaluation of the short-listed biosolids management alternatives. • Why are all four wastewater plants not incorporating the proven technology described in Alternative #1? Turning human waste into fertilizer is not a universally accepted practice due to e.g. heavy metals that accumulate. There is no control over these produced once they are sold. Poor application and over application results in run off polluting our waterways. • Include projected usage and destination for biosolids. • Options 2 and 3 may have far-reaching deleterious effects far 	<p>With respect to land application of biosolids, The Ontario Ministry of the Environment and Climate Change (MOECC) and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) have expended a great deal of resources to investigate the options available for biosolids management. Additionally, the U.S. National Academy of Sciences, U.S. Environmental Protection Agency, European Union, Water Environment Federation, Canadian federal government, the University of Guelph and numerous other academic institutions world-wide have conducted extensive research over the last several decades regarding the use and markets for biosolids management, and specifically, the beneficial use of biosolids on agricultural land.</p> <p>These notable groups have concluded that when practiced responsibly and in accordance with guidelines and regulations, agricultural land application is beneficial and poses minimal health or environmental risk. These agencies actively identify research needs and work toward</p>

Comments/Questions	City Project Team Responses
<p>outside of the community and the local impact cannot be the only consideration for viability.</p> <ul style="list-style-type: none"> • I am writing on behalf of Ottawa Citizens against Pollution by Sewage. It has been reported that some of Toronto’s sewage sludge biosolids are being spread in the Ottawa area. Therefore we would like our concerns about health risks arising from this practice to be included in Toronto’s current Municipal Class Environmental Assessment (EA) study to identify a preferred approach to managing biosolids that you are coordinating. We would like the specific concerns we raise addressed by Toronto Health in the EA report. We ask that our request for a moratorium on sewage spreading on agricultural land be considered by and for Toronto, for the same health concerns and urgent need for research outlined in the enclosed letter to Ottawa’s City Council and Board of Health. Please forward or otherwise bring this letter to the attention of all involved with the EA of Toronto’s sewage biosolids disposal. • Toronto’s biosolids have potential for poisoning food supply. • Quaker Oats, McDonald’s, Del Monte and Bick’s have all indicated that they refuse to accept food which has been grown with biosolids. • “Beneficial use” alternatives 2 and 3 must evaluate the actual content of the cake or pellets that are produced (even if in a pilot project) and publish the analysis of those alternatives. • The treated or untreated sludge pellets going over our farmland and greenspaces, where animals may graze, and kids may play, not acceptable. • It concerns me that it appears that no attempt will be made to include the significant social, health and environmental impacts at the destination off-site disposal sites for the Alternatives 2 and 3. 	<p>continuous improvement in practices. It should be pointed out that the guidelines and regulations governing agricultural land application in Ontario place a cap on the amount of biosolids that may be spread in a given period, in part to address any concerns regarding the accumulation of metals in the soil, as well as to limit the potential for run-off to any nearby watercourses.</p> <p>In addition to the above, with respect to beneficial use of pellets, due to the high temperatures required to evaporate the water from the biosolids, pathogenic organisms are destroyed, and this material would meet all quality requirements to enable registration by the Canadian Food Inspection Agency at a fertilizer product.</p>

Comments/Questions	City Project Team Responses
<p>These could include the environmental impacts on air, water, earth, vegetation and terrestrial, and the health and social impacts on adjacent residents and communities. It is unacceptable that the City only considers these impacts on its own residents.</p>	
<ul style="list-style-type: none"> There seems to be an inconsistency in the chemical parameters tested for in incinerator emissions, such as dioxins and furans and some metals, which are not tested in the biosolids that are spread on land. I suspect that this is because the regulations for testing of biosolids for land application are different, and it is City policy to only test for those parameters that are regulated. It would be helpful if the City at least once per year could perform an expanded test protocol for the biosolids that is more closely aligned to the air emissions parameters, both for the 25% TDS sludge cake, the 90% TDS pellets and for the incinerator ash, to allow the community to understand and compare the fate of these toxic chemicals for all the disposal alternatives. 	<p>The testing requirements for existing incinerators and biosolids beneficial use (from Ashbridges Bay TP) are mandated by the MOECC through legislation and the facility Environmental Compliance Approvals. The requirements for the different biosolids management alternatives are quite different and therefore the analytical program varies accordingly. The biosolids produced consistently meet all the mandated requirements.</p>
<p>Comments Related to Alternative 3: Pelletization Process</p>	
<ul style="list-style-type: none"> There have been issues related to the safety of the Ashbridges Bay pelletizer, in that there was a major fire during construction in 2003, and in recent years the fire department has attended the plant on a number of occasions; a fire of pellets at an Ontario storage site was also recorded. In addition, because of operating issues, the City had to reduce the pelletizer plant's rated capacity to only two thirds of its design rated capacity. Will these issues be considered in the evaluation? Since there have been two fires at Ashbridges Bay with their use of the Pelletizer and I understand another fire in a silo housing these pellets, on what criteria could this be a third choice? 	<p>The complexity and risks associated with each alternative will be considered in the evaluation. It can be noted that there are numerous pelletization facilities operating in North America for several years without incidents. Safety features, to minimize risk of fires, would be included in the design of a new a new facility if this alternative is selected for the HCTP.</p> <p>The Ashbridges Bay pelletizer has been very reliable over the last several years and is consistently processing over 40% of the total</p>

Comments/Questions	City Project Team Responses
<ul style="list-style-type: none"> • There are still a lot of questions about pelletization but there seems to be no interest on the part of the City to properly investigate these. • The scope of the study is restricted to 2 boards. However, there should be recognition that there are potential problems to health and ecosystems, from land spreading and from pellets. See Harrison et. Al 2007 and Holden (2014) on triclosan in sludge. Methney J. on USEPA Lax risk assessment for sludge (2011) used as fertilizer. • Acknowledge the possible health and environmental risks that arise from the use of fertilizers made from sewage, as this is still being studied. • One of the options is “pelletization”, but when health issues were raised they were basically ignored, despite the fact that major food producing companies will not accept produce grown on farms using treatment plant waste. • Pharmaceuticals and pathogens such as viruses and bacteria. These could all end up in the sludge and possibly in the pellets. Why would we want to risk our exposure to any of the above mentioned? I believe Dole, Del Monte and Heinz no longer will accept produce grown on land which has been spread with sewage sludge. In addition, Switzerland no longer allows spreading of sewage sludge. Therefore, why are we even thinking about this as a solution for Highland Creek? • At the meeting, a resident asked about the chemical composition of biosolids from pelletization. Based on the response from the City of Toronto staff, it was not clear if there has been recent analysis of the pellets from Ashbridges Bay conducted. What is the testing procedure for analysis of the chemical composition of the pellets? 	<p>biosolids produced at the plant. Pelletization technology has evolved since the ABTP facility was originally commissioned in 2003 and this new technology is expected to deal with the start-up issues the City experienced at that time.</p> <p>Fundamentally the composition of biosolids pellets is no different than the composition of dewatered biosolids cake. The extensive research performed world-wide on biosolids land application referenced above also applied to biosolids pellets.</p> <p>Specifically with respect to the referenced articles, there are numerous studies on the fate of triclosan, an ingredient added to many consumer products, including toothpaste and mouthwashes, to reduce or prevent bacterial contamination. The most significant concern related to triclosan is the potential impact on the microbial population that functions to degrade contaminants in the wastewater treatment process. While there has been some work related to the degradation in the field, which shows the compound to be highly degradable, health related concerns have not been raised that have affected the regulations around land application.</p> <p>The project team was not able to find all of the other specific articles referenced in the comments. However, as discussed above, there is extensive research to support the regulations that allow the safe management of biosolids on agricultural land.</p> <p>Pellet sampling and lab analysis are carried out routinely as required under the Certificate Approval</p>

Comments/Questions	City Project Team Responses
<ul style="list-style-type: none"> • What are the regulatory limits for different contaminants that could be present in the pellets? • The City’s heating method, for biosolids pellets, is apparently, not hot enough to destroy mad-cow-producing prions. 	<p>Number 8401-5543RJ issued by the Ministry of Environment and Climate Change (MOECC) for the Pelletizer Facility. The test results for all parameters tested on the finished pellets in 2015 were within MOECC guidelines. The testing method for analysis of the chemical composition of the pellets is mentioned on the Certificate of Analysis.</p> <p>Please refer to the Certificate of Approval # 8401-5543RJ. The 11 metals mentioned in the Certificate of Approval are managed as per the guidelines for the Utilization of Biosolids and Other Wastes on Agricultural Land (MOE and OMAFRA).</p> <p>During pelletization process, pathogenic organisms are destroyed by the high temperatures required to evaporate the water from the biosolids, and this material would meet all quality requirements to enable registration by the Canadian Food Inspection Agency as a fertilizer product.</p>
<p>Other General Comments</p>	
<ul style="list-style-type: none"> • Innovative and increasingly popular options like the Lystek process and Alkaline Stabilization only “failed” in the long-list due to possible increases in truck traffic. In our view, this should not be a valid reason to remove these options from the short list. There is no harm in including these biogas options in a short list in order to do a proper assessment of the potential benefits and impacts. Without proper assessment of these biogas options, we will never know if the possible increase in truck traffic could lead 	<p>Lystek and Alkaline Stabilization are technologies that process biosolids to produce materials that meet the quality requirements to be eligible to be registered as a fertilizer by CFIA. Both processes would require trucks to deliver chemical to the HCTP, and increase the biosolids volume, such that more trucks would be required to haul the material from HCTP than Alternative 2.</p>

Comments/Questions	City Project Team Responses
<p>to fewer net emissions than incineration, especially when you consider biogas as a green energy source that can reduce dependency on other forms of energy and chemical use at the plant. Biosolids management “enhancements” such as pre-treatment and digester gas use could reduce trucking volume while the ash management option, ash recycling after incineration, could increase trucking volume.</p> <ul style="list-style-type: none"> The City indicates that identified greening and process enhancements will be considered only after the selection of the preferred alternative. This would appear to be counter-productive, since such enhancements would positively affect the environmental and social performance of an alternative, while negatively affecting its economic performance. Such information could have an influence on which alternative is preferred. Examples of such a situation could include the recovery of phosphorus from incinerator ash, the recovery of energy from the incinerator gases, or the installation of enhanced air pollution control equipment to reduce greenhouse gas emissions beyond regulated limits, all possibilities for Alternative 1. Why was co-gen not included in the assessment? 	<p>On-site processing using these technologies was screened out due to truck traffic to and from the HCTP; however, these processes are available for Alternative 2, where biosolids could be hauled to an off-site facility.</p> <p>The short-listed alternatives are stand-alone solutions for HCTP biosolids management and therefore are being evaluated as such. Most biosolids management enhancements, such as digester pre-treatment and digester gas use (e.g., cogeneration), are available as enhancements to all of the alternatives and their use would have similar benefits and impacts to all the alternatives, these will be considered at a later stage in the study for only the preferred alternative.</p> <p>Once the preferred alternative is selected based on the biosolids management needs, then enhancements will be evaluated during the design stage to identify the most cost-effective design to be implemented.</p>
<ul style="list-style-type: none"> Instead of burning biosolids, (putting carbon into the air), put the carbon back into the soil, where it belongs. A composting system could be set up on site. This could double as a museum, a renewable energy plant and act as a model for other cities. 	<p>Composting biosolids on-site was considered as an alternative but screened out due to insufficient site capacity at the HCTP. However, composting could be used under Alternative 2, where biosolids could be hauled to an off-site composting facility.</p>
<ul style="list-style-type: none"> Try to avoid landfill. It is not a long term solution just a postponement of the effects of landfill generally. 	<p>Landfilling biosolids was reviewed and not short-listed as an alternative. The Ashbridges Bay Treatment Plant biosolids management program is a contracted hauling program (i.e., the same as Alternative 2), with a City mandated goal of 100%</p>

Comments/Questions	City Project Team Responses
	beneficial use, using landfill only as contingency.
<ul style="list-style-type: none"> How can you honestly put forward a solution which reflects the thinking of the 19th century i.e. the honey wagon hauling sewage sludge through seven kilometers of residential and commercial properties? And on top of that with no specific destination! 	<p>Hauling programs are successfully used at most municipalities in southern Ontario, because there is a vast amount of agricultural land and land needing rehabilitation (e.g., mine tailings areas) that benefit from the biosolids or processed biosolids products (e.g., pellets). Should Alternative 2 be selected, the destinations would be determined through a contract tender process, similar to the successfully operated program at the Ashbridges Bay TP.</p>
<ul style="list-style-type: none"> Since we are now in the 21st century why are not all of our possible solutions to sewage sludge reflecting a technological solution? Why is the study considering only North American equipment? The only concern should be reliability and success in dealing with biosolids residue. Maintenance of equipment should not be stopping the purchase of the most suitable system. 	<p>A long list of all possible biosolids management technologies and alternatives used globally was reviewed to identify a short list of alternatives available for the Highland Creek Treatment Plant.</p> <p>There are many emerging yet unproven technologies being promoted throughout the industry. Given the significant costs involved, a prudent approach is being taken to ensure that funds, regardless of the end solution, are spent wisely.</p>
<ul style="list-style-type: none"> Does the breakdown include the cost of gas, trucks, and salaries for drivers, maintenance, licences, tipping fees and so on for 20-30 years vs. an incinerator? 	<p>For evaluation purposes, all information on the trucking is being developed on an annual basis, and over the specified project life-cycle period. Operating costs are based on contracts in place for the Ashbridges Bay TP, and therefore, include gas, salaries and all other components of hauling operations.</p> <p>More details on the costs will be provided in the</p>

Comments/Questions	City Project Team Responses
	<p>Class Environmental Assessment Report.</p> <p>Life-cycle cost analysis were developed for a 25 year period.</p>
Topic 4: Traffic, Odour, Noise and Related Impacts	
<ul style="list-style-type: none"> With Alt #2 and #3 (trucking) will the truck loading facility include truck and trailer washing after loading and prior to travelling on city streets? 	<p>Yes</p>
<ul style="list-style-type: none"> An analysis on alternative truck routes and traffic does not appear to be explicitly covered in the list of criteria. How will this be incorporated? Why not Kingston Rd. to Hwy 401? i.e. Manse (truck in summer when school is out). 	<p>As presented in the Executive Summary for Technical Memorandum No. 2 (posted on the web page) for the trucking option, in order to select the preferred truck route, a total of 6 potential routes were investigated, and in consideration of operating, community features and safety concerns, 2 routes were short-listed for further evaluation with the biosolids management alternatives. Each of these routes will be subject to detailed evaluation in the Class EA.</p>
<ul style="list-style-type: none"> Include traffic/trucks and how safe they are when conducting a detailed evaluation of the short-listed biosolids management alternatives. As discussed at the HIA, truck traffic could be mitigated through various approaches such as route planning limitations or bans on specific streets that concern residents. Trucking as a safety concern in this community should be taken seriously and to do that, a full transportation study of all trucking sources and possible mitigation and reduction opportunities should be explored. This would require involvement from industrial and commercial sources of traffic that are well known to be 	<p>The health impacts associated with emissions and safety of additional truck traffic associated with each biosolids management alternative is being evaluated as part of the Health Impact Assessment and Human Health Risk Assessment. This assessment takes into account the existing traffic from all sources and the safety and traffic impacts from the incremental additional trucks for each of the biosolids management alternatives. In addition, noise, dust and other social impacts will be considered for each option within the Class</p>

Comments/Questions	City Project Team Responses
<p>responsible for hundreds of vehicles on these local roads per day.</p> <ul style="list-style-type: none"> • Exhaust from trucks travelling on 401 to dump site (London). These greenhouse gases should be included in truck hauling option. • The frequent trucking of biosolids away, from HCTP, for land application, would generate much air pollution/poisonous exhaust along the routes. • Currently, there are truck travelling these streets and they are having difficulty navigating some corners and already impact families living in the area. • The trucking issue is important. Equally important to the community in the place itself. How will the different alternatives affect noise, dust, odours, and emissions? • I realize all three options would meet environmental requirements of the government including health aspects. I also realize that economic realities exist when decisions are made. My concerns beyond these issues are social aspects. This location, unlike the other treatment plants, is in a residential neighbourhood that does not have quick easy access to highways. We residents do not want trucks of biosolids travelling through our streets for 7 km before reaching the 401. The study did not consider the pollution caused by the trucks once on the 401 stating there are already great amounts of traffic. I do not feel this reasoning is correct as any increase in pollution is more harmful. • Include road maintenance costs and proposed lifespan of each options when conducting a detailed evaluation of the short-listed biosolids management alternatives. • Transportation route needs to consider peak traffic to and from 	<p>Environmental Assessment Process.</p> <p>Exhaust from trucks once outside of the community is not considered in the above noted HIA and HHRA. However emissions with respect to Greenhouse gasses will be captured in the analysis.</p>

Comments/Questions	City Project Team Responses
<p>Rouge Hill GO Station.</p> <ul style="list-style-type: none"> • We must consider the neighbourhoods that trucking would go through (safety). It is dangerous in such a high volume of trucks. You have covered most of the major factor rather well. Is there a “dumbness” factor? It’s just “dumb” to avoid using incinerators, recovering the heat for other projects etc. • Trucking is just out of the question. The fluid-bed incinerators are satisfactory. • Being a West Hill resident of Beechgrove I would like to see the option that has the least amount of truck traffic. Having these large trucks driving past residential areas is not just an eye sore it’s a hazard to all local area residents. • Please choose Option 1 which is similar to the current plan and does not increase truck traffic. There are too many trucks on the residential streets in the area as of now. More trucks would be too many. • The chance for accidents with one of the trucks having sludge or even pellets is a very real possibility. Sewage sludge may be called cake but it is actually 75% liquid and 25% solid and when it is disturbed, it turns from “cake” to liquid. Do we wish to create the possibility for this happening at Lawrence/Morningside and Kingston Road in West Hill? • Manse Rd. and Coronation are far too busy – too many children – too much traffic – too many houses for more truck traffic. Incinerate. • We do not want huge trucks spoiling our neighbourhoods, with sludge and risk of accident in areas where kids go to school every morning. 	

Comments/Questions	City Project Team Responses
<ul style="list-style-type: none"> • “No increase in truck traffic” for options 2 and 3 misrepresent the facts that they will increase over the current situation. Option 1 essentially replicates the current level of truck traffic as it is a modernized/revision of the current incineration process. • Will impacts associated with different transportation routes be compared? 	<p>The study team acknowledges that the must-meet criterion “no increase in truck traffic” was not properly explained in the PIC materials. This is further explained in the executive summary for Technical Memorandum No. 2, posted on the study website. This particular criterion refers to the amount of truck traffic needed to haul dewatered biosolids cake from the HCTP. As some alternatives on the long list of management options require the addition of certain bulking materials to the biosolids, these options result in increased total volumes and there more trucks. The "no increased truck traffic" criteria was therefore used to screen out those options from further consideration.</p>
<ul style="list-style-type: none"> • Without a proper assessment of biogas options, we will never know if the possible increase in truck traffic could lead to fewer net emissions than incineration, especially when you consider biogas as a green energy source that can reduce dependency on other forms of energy and chemical use at the plant. 	<p>As noted above, the energy recovery from biogas is an enhancement that can be considered for all biosolids management alternatives, and therefore, would not differentiate between alternatives.</p>
<ul style="list-style-type: none"> • At a previous PIC, we raised the topic of air pollution related to trucking and asked if they had factored in the pollution from the trucks from Morningside/401 to a landfill site (i.e. Green Lane) and we were told that there are so many trucks on the 401 that the “few” trucks hauling the waste didn’t matter, so it was not important. Since there would be an estimated 5-8 trucks per day, we think it is significant. At 5 trucks per day, this represents 1300 trucks per year to the disposal site and return. • Originally, the estimate of trucks for biosolids removal was 5-8 per day, but they have now lowered that to 4-6, but I have seen 	<p>The City, through the Class EA study, is examining the potential odours, noise and traffic impacts from all short-listed biosolids management alternatives to ensure they are accounted for in the evaluation of the potential biosolids management options and the final recommended option.</p> <p>With respect to truck traffic, this will include greenhouse gas emissions for the entire length of the biosolids hauling route (estimated distances to end use for beneficial use options), as well as potential impact due to spills. The rationale for</p>

Comments/Questions	City Project Team Responses
<p>nothing to support this reduction.</p> <ul style="list-style-type: none"> I have health and safety concerns about the potential for spillage of odorous and toxic biosolids, or pellets that could result if one of the open-top biosolids trucks were involved in a traffic accident near a school, or in a heavily travelled commercial area. I am aware of the terrible spill of one of Toronto’s sludge trucks in Flat Rock Michigan in 2005, which ultimately lead to the State of Michigan banning the import of Toronto’s sludge and garbage. 	<p>inclusion of truck traffic to the 401 is that once the trucks enter the 401, the volume of trucks from the HCTP would be insignificant compared to the background traffic already present on the highways. In order to capture greenhouse gas emissions from trucks, the project team will consider minimum and maximum haul distances for off-site management options and use published federal greenhouse gas (as CO₂ equivalent) emission rates from trucks.</p> <p>The operation of any vehicle for transporting biosolids will be regulated by Federal and Provincial legislation and City bylaws. All vehicles will follow designated routes and operating times as recommended in the Class EA; however, it is outside the scope of this study to investigate truck traffic from other industrial sources in the area.</p> <p>During the detailed design stage for the recommended management option, the City will consider specify measures to be incorporated into the design that offer the best opportunities to minimize odour, noise, traffic and safety related impacts.</p>
<ul style="list-style-type: none"> There is a large school on Manse Rd. What happens if there is a spill of toxic materials? The street (Manse) is already quite busy. We have not seen any evaluation regarding the risks related to spills/accidents. These are important considerations. That many trucks going through our neighbourhoods, the pollution from truck exhaust, the risk of spillage of untreated 	<p>Biosolids or pellets, which would be hauled in Alternatives 2 and 3, respectively, are not toxic materials. In the unlikely event of a spill, the materials are solids and would not flow away from the spill site. The incident would be reported to the appropriate agencies and readily cleaned up.</p>

Comments/Questions	City Project Team Responses
sewage, not acceptable.	
Topic 5: General Comments	
<ul style="list-style-type: none"> This is a NIMBY neighbourhood who wants to lessen its footprint in dealing with its waste by employing incineration. 	
<ul style="list-style-type: none"> Environmental and health concerns would be met by all three of the proposed options. Given that all three alternatives are currently in use, either in Toronto, or in the immediately surrounding Regions of Durham and Peel, I feel that all three should be considered generally acceptable from an environmental perspective. As far as the health aspects are concerned I also feel that all three should be considered generally acceptable from an environmental perspective. As far as the Health aspects are concerned I also feel that the situation in Highland Creek is not significantly different from across the GTA. Given that costs are always a critical concern for all taxpayers, and will continue to be for the life of the project, economics must play a significant role in the evaluation. 	
<ul style="list-style-type: none"> What about the concerns of airborne particles as quoted from Toronto Board of Health “The screening assessment is not adequate to conclude whether or not adverse effects may actually occur? It is useful only for identifying areas that need further analysis and areas that do not. Therefore, to confirm whether plants or soil organisms would be at risk from copper due to pellet application on lawns, gardens or City lands, more detailed evaluation is needed. Again, why are we looking at an 	<p>This Class EA process will consider human health thoroughly through the Human Health Risk Assessment (HHRA), and Health Impact Assessment (HIA) study components. The Human Health Risk Assessment (HHRA) The HHRA will be a multi-media assessment based on the potential air emissions from the short-listed options in Wards 43 and 44. Since these Wards represent</p>

Comments/Questions	City Project Team Responses
<p>application which has the potential to be injurious to our health?</p> <ul style="list-style-type: none"> • Air toxins seem to be the primary focus, even with regard to food uptake. • I would like to see data on a specific air emissions including OCS comparing FBI and multi hearth thermal reaction units (see Cantox Env. Report); and GHG emissions from these plus GHG emission from land spreading (esp. Methane). • Particulates and dust can carry pathogens off-site and also toxic materials. • Dust (particulates) from operation at the plant and from transport are also important for Options 2&3 to the neighbourhood. • After reading Newsletter #2 with regards to Health Impact Assessment, “the following considerations related to biosolids management alternatives are identified as having the most potential for impacts on human health.” It is very disturbing to see effects of new facilities on neighbourhood, housing and property values and on recreation and leisure. What does property or housing values got to do with human health? How would new facilities affect recreation and leisure activities? Where is any mention of the chemical companies that are emitting toxins into our air and the cumulative effects we face with regards to decisions made from the short list? There are several chemical companies near the HCTP which are all within an immediate radius of residential homes, schools, libraries, rec centres, parks and plazas. And yet, no mention of these already existing chemical companies but a mention of human health effects for property and housing values!!! What would possess an HIA stakeholder to put property values as a human health impact and yet make no mention of the chemical companies pounding toxic releases into our air and community? Do these 	<p>the communities closest to the source of biosolids, they would be most affected by the activities associated with biosolids management (i.e., processing at the HCTP site or transport through the community off-site). The results from the HHRA for sensitive receivers within the community represent a worst case scenario and is a conservative approach to evaluate the potential health effectiveness of the biosolids management options. The HIA will consider a number of factors of importance to the community in an overall assessment. This will include both health and lifestyle factors and will include input from an extensive list of stakeholders within the community. The results of these components will be incorporated into the overall biosolids management evaluation process as part of the health category.</p> <p>With respect to evaluating airborne particles, we are completing cumulative air emission modeling using the CALPUFF model that has been adopted by the City to evaluate air quality and emissions. This model evaluates the emissions from each of the alternative biosolids management solutions relative to existing background levels. This information is being incorporated into the human health risk assessment for each of the short-listed biosolids management alternatives, and will be considered in the environmental impacts assessment.</p> <p>While this Class EA study aims to capture and evaluate impacts to the community, it is not feasible to include all potential end use</p>

Comments/Questions	City Project Team Responses
<p>stakeholders even know about these deadly emissions our community faces due to the local chemical companies? You would think that an area study would bring cumulative effects with regards to chemical companies and human health impacts and short list decisions into play.</p> <ul style="list-style-type: none"> If you reside in this area, human health impacts should be of most concern. We are already subjected to volatile organic compounds that are toxic such as benzene and dichloromethane from these chemical companies and face other releases such as methanol and styrene. We need to include the data on these releases from local chemical companies into the decision making of the health impacts and ultimate short list decision. Environmental impacts should also be of equal importance with regards to air quality protection of water and land and sustainability. If you reside 3-5 km radius of the HCTP and local chemical companies, human health and environmental impacts should outweigh social and economic impacts. We need to think about our future and future of our children's children. There was no discussion of what type of components make up sewage sludge and what are the negative effects of these items i.e. chemical compounds. Heavy metals "arsenic, lead, copper, zinc, iron, manganese, beryllium and aluminum, although light metals, are sometimes counted as heavy metals in view of their toxicity. Beryllium exposure can result in lung and heart disorders and possibly death; aluminum is a major inhibitor of crop growth in acid soils. As a resident of the targeted community, my main concerns are those that affect the community/social, health and environment. The management alternative that has the least impact on these areas (minimal odour, noise, dust, health risks, environment, and 	<p>destinations for the biosolids or potential impacts at these destinations.</p> <p>The health areas being considered within the Health Impact Assessment were selected based on input from the public through public information centres, as well as the HIA Stakeholders Group representatives selected to represent different groups within the community. The list of health areas being considered in the HIA, and the rationale for selecting these areas is available in the executive summary for Technical Memorandum No. 10 – HIA Scoping, available on the project website.</p> <p>As previously described, the City, through the Class EA study, is examining the potential environmental, social, economic and health impacts from all short-listed biosolids management alternatives to ensure they are accounted for in the evaluation of the potential biosolids management options and the final recommended option. With respect to truck traffic, this will include greenhouse gas emissions for the entire length of the biosolids hauling route (estimated distances to end use for beneficial use options), as well as potential impact due to spills. The rationale for inclusion of truck traffic to the 401 is that once the trucks enter the 401, the volume of trucks from the HCTP would be insignificant compared to the background traffic already present on the highways. In order to capture greenhouse gas emissions from trucks, the project team will consider minimum and maximum haul distances for off-site management options and</p>

Comments/Questions	City Project Team Responses
<p>impacts on traffic) is the obvious choice.</p> <ul style="list-style-type: none"> • Clarify whether the evaluation will include impacts beyond the HCTP community, as stated on Slide 22 since environmental and health effects are not contained. • I trust that the Greenhouse Gas Emissions, for all three alternatives will be considered in their entirety from point of generation to final destinations. • Will emissions from burning of fossil fuels for transportation be included in the study? • Will the form that biosolids are eventually returned to the atmosphere be considered? i.e. incineration CO₂ vs. beneficial use CO₂ and CH₄ • We understand that assessment of any potential far-field impacts to water quality associated with beneficial use are beyond the scope of this EA. Given this, what criteria will be used to compare the alternatives? How will these criteria be evaluated? Is it based on analysis of other similar options to the proposed alternatives? • Can you please let us know what sampling and monitoring is currently being conducted for baseline environmental conditions? • Can you please let us know what current social, economic and health information is being collected in support of this assessment? 	<p>use published federal greenhouse gas (as CO₂ equivalent) emission rates from trucks.</p> <p>All short-listed biosolids management alternatives meet all regulated environmental standards and are being practiced in other locations within Ontario, Canada and globally. The differentiating factors between the alternatives will be used to select a preferred biosolids management solution for the HCTP through the evaluation process.</p>

Contact Us

Information related to the study and consultation process can be obtained through the project web page (www.toronto.ca/hctpbiosolidsea).

Please contact the Public Consultation Coordinator if you have additional questions or comments, or would like to be included on the Project Contact List:

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