



Hamilton

Carlisle EA Newsletter #2

November 2013

The City of Hamilton has initiated a Schedule “C” Municipal Class Environmental Assessment (EA) for a New Well and Water Storage Facility in Carlisle. This Class EA process is a continuation of the 2004 Carlisle Water Supply System Master Plan and the 2006 Carlisle Well Siting Study which identified three (3) potential locations for a new municipal water supply well to service Carlisle. Once the City has confirmed an acceptable groundwater supply, the EA process will identify the location, treatment and storage methodologies and cost estimates for the new infrastructure.

The City completed the Carlisle Water Supply Study in 2010, which focused on two concerns:

- Review of the impact of water efficiency measures on actual water demand; and
- Evaluate the future water supply and demand balance for the community.

The following conclusions and recommendations came out of the study:

- Carlisle’s actual maximum day peaking factors and summer water use exceed the Ministry of Environment (MOE) Design Guidelines for Drinking-Water Systems (further discussed on page four);
- Carlisle has historically had very high water use compared to average consumption values in Ontario (270 to 450 L/(cap.d));
- Carlisle must continue with the Water Conservation Program;
- Additional supply capacity will be required in the long-term, assuming complete build-out and transfer of all private well users to the municipal system; and
- The City must investigate additional groundwater sources and storage options.

Legislation requires municipalities to plan for the long-term viability of their drinking water systems.

The Ministry of the Environment (MOE) is responsible for administering the following statutes related to drinking-water systems: The Environmental Assessment Act (EAA), the Safe Drinking Water Act (SDWA), the Ontario Water Resources Act (OWRA), The Clean Water Act (CWA), the Environmental Protection Act (EPA) and the Environmental Bill of Rights (EBR); all of which apply to the proposed infrastructure. Additional relevant legislation for this project is cited below.

The Municipal Act (2001)

Under Section 86(1) Mandatory Supply of the Municipal Act, a municipality shall supply a building with a water utility if the building lies along a supply line of the municipality for the public utility and if there is a sufficient supply of water for the building.

2005 Provincial Policy Statement (PPS)

This policy of the Planning Act directs land use planning across Ontario and municipalities use it to develop their Official Plans and make decisions on planning matters. The PPS states that infrastructure and public service facilities shall be provided in a coordinated, efficient and cost-effective manner to accommodate projected needs and that planning for infrastructure and public service facilities shall be integrated with planning for growth so that these are available to meet current and projected needs.

Under Section 1.6 Infrastructure and Public Services Facilities, partial servicing (i.e. municipal water supply without municipal sewage service) are not permitted except in very particular circumstances. The policy is as follows:

Partial services shall only be permitted in the following circumstances:

- a. where they are necessary to address failed individual on-site water services in existing development; and
- b. within settlement areas, to allow for infilling and rounding out of existing development on partial services provided that:
 - i. the development is within the reserve water system capacity; and
 - ii. site conditions are suitable for the long-term provision of such services.

This policy is intended to ensure that the provision of urban based water supplies to rural areas does not promote the overuse and failure of private septic systems, leading to the potential for broad scale health emergencies.

Greenbelt Plan (2005)

The Provincial Greenbelt Act contains infrastructure policies wherein (under Section 4.2.2) the provision of a lake-based system water supply to service areas outside the urban boundary is prohibited. Only broad health-related exceptions are permitted. The policy is as follows:

Where settlements do not currently have Great Lake or Lake Simcoe based water and sewage services, extensions to or expansions of existing Great Lake or Lake Simcoe based services to such settlements is not permitted, unless such servicing is required to address failed individual on-site sewage or water services or to ensure the protection of public health where it has been determined by a Medical Officer of Health (or health authority) that there is a public health concern associated with existing services within the settlement. The capacity of the services provided in the these circumstances will be restricted to that required to service the affected

existing settlement plus the capacity for potential development within the approved settlement boundary as it existed on the date this Plan came into effect.

The extension of municipal or private communal sewage or water services outside of a settlement boundary shall only be permitted in the case of health issues or to service existing uses and the expansion thereof adjacent to the settlement. Notwithstanding the above, where municipal water services exist outside of settlements areas, existing uses within the service area boundary as defined by the environmental assessment may be connected to such a service.

This policy is intended to preserve the rural nature of settlement areas by maintaining development densities accordant with private services (i.e. individual private wells and septic systems) and to discourage high development pressure in rural areas along the water pipeline supply route.

It prohibits the supply of lake-based water being provided to settlement areas located within the Greenbelt Area. The City's Rural Official Plan reflects this policy, as required by Provincial legislation.

Places to Grow Act (2005)

This Act helps the Ontario government manage growth and development in a coordinated and strategic way. It gives the City the authority to:

- Designate any geographic region of the province as a growth plan area;
- Develop a growth plan in consultation with local officials, stakeholders, public groups, and members of the public; and
- Develop growth plans in any part of Ontario.

The legislation ensures that growth plans reflect the needs, strengths and opportunities of the communities involved, and promotes growth that balances the needs of the economy with the environment.

City of Hamilton's Rural Official Plan

This Plan reflects the servicing policy requirements of the Province in Chapter C - Lake-Based Municipal Water and Wastewater Systems. Section C-5.3.1 states:

The Province requires municipalities to prohibit the extension of lake-based municipal services outside of Urban Area boundaries, except in response to public health emergencies. No extensions of or new connections to municipal-based water and wastewater systems shall be permitted by this plan in the Rural Area or designated Rural Settlement Areas unless the Medical Officer of Health declares an urgent public health emergency and there are no viable alternatives to rectify the emergency except by provision of municipal water and/or wastewater systems to the affected population.

Municipal Class Environmental Assessment (MCEA) Process (2000, as amended in 2011)

The MCEA process is a planning tool approved by the Ministry of the Environment that municipalities must follow in order to meet the requirements of the Ontario Environmental Assessment Act (EAA). The EAA defines a planning and design process that municipalities must follow to ensure that all environmental impacts are considered, and any effects appropriately mitigated, before the project is implemented.

The Class Environmental Assessment process is a decision-making and planning process that ensures that potential effects of a project are identified and managed prior to implementation. It applies to routine public sector projects that have predictable and manageable environmental effects, such as municipal water and wastewater projects.

The MCEA process is a self-assessment process that includes five (5) phases that must be followed to ensure that the best approach is identified to address a specific problem. The process requires the evaluation of possible solutions, design concepts, and recommends the best approach based on a rigorous evaluation of environmental effects and how to minimize them.

The five phases of a Schedule “C”, MCEA process are as follows:

Phase 1 - Identify the problem (deficiency) or opportunity.

Phase 2 – Identify alternative solutions to address the problem or opportunity.

Phase 3 – Examine alternative methods of implementing the preferred solution.

Phase 4 – Document in an Environmental Study Report a summary of the rationale, and the planning, design, and consultation process of the project.

Phase 5 – Implement the preferred alternative.

The EA Evaluation Criteria Categories established by the Project Team are summarized below. A detailed breakdown of each Category is included in the Environmental Study Report:

- Natural Environment
- Social and Cultural Environment
- Technical and Operational Considerations
- Economic Considerations (including Capital and Operating Costs)

The EA will validate the need for an additional water supply well and water storage facility and will evaluate the location, methodologies and estimated costs of the required infrastructure.

The Community Liaison Committee (CLC) is not a requirement of the MCEA process and was added to the project as a method for the City to consult with affected parties in the community throughout the EA process. The role of the stakeholders group is to provide a community perspective on issues, planning processes, and solutions.

The Community Information Meeting on September 19th was conducted as a courtesy to nearby residents to provide an overview of the project background and the proposed approach, in addition to information on the upcoming hydrogeological investigation. The two future Public Information Centres (PICs) planned for 2014 will provide detailed project information from the project team as it follows the prescribed and legislated process.

Ministry of Environment (MOE) Design Guidelines for Drinking-Water Systems (2008)

The risk of not having sufficient water supply in Carlisle is that fire-fighting capability is reduced and water pressure and storage in the distribution system is compromised.

Water storage facilities should have sufficient capacity, as determined by engineering studies, to meet water demands that exceed the daily water supply capacity of the treatment plant and to provide fire flow demands, where fire protection is provided. If storage is not provided for fire-fighting, then larger production wells, treatment capacity, transmission mains and pumping station capacity is required.

Whether or not fire protection is provided via the communal drinking-water system is the decision of the municipality/owner of the system and can be subject to a cost/risk-benefit analysis, especially for smaller systems. However, once the decision has been made to provide fire protection via the communal drinking-water system, the designer should consult the *Fire Code* (O. Reg. 388/97) made under the *Fire Protection and Prevention Act, 1997* and the latest edition of Fire Underwriters Survey document *Water Supply for Public Fire Protection* and the municipality/owner decision respecting fire protection.

City of Hamilton By-law R84-026

This by-law respects the management and maintenance of the water works systems of the City and the establishment of water rates and charges. Section 4(1) Water Service Connections – Application for Water Service cites that wherever there is a City watermain in a highway or other public communication, the owner of any abutting lands that are within the regional area and which may be readily supplied therefrom and desire to connect to a watermain can apply to the City for a permit for water supply service for domestic and fire purposes.

The City will also have to *accommodate the water demands of residents now on wells as they gradually convert in the future to the Municipal system*. This may be one of the single highest demands on future supply. This has been studied over the past 10-15 years and we are now confident that accurate demand projections have been determined.

Under this by-law it must be assumed that the 222 existing properties with private wells in the Carlisle Rural Settlement Area (RSA) will be connected to the municipal water supply.

Furthermore, 147 new houses may be built at developable locations in the Carlisle RSA and these houses may require municipal water supply.

UPDATE: The number of developable lots within the Carlisle Rural Settlement Area has recently been reviewed and it is estimated that there are approximately 20 lots available for development.

Ministry of Environment Permit to Take Water Process

In Ontario, anyone who takes more than 50,000 litres of water a day from a lake, river, stream or groundwater source, must obtain a Permit to Take Water (PTTW) from the ministry (with a few exceptions). These permits help to ensure the conservation, protection, management and sustainable use of Ontario's water.

Ontario's Water Taking Regulation (O. Reg. 387/04) helps to ensure fair sharing of our water resources and prevent interferences among water users.

The ministry evaluates each proposed water-taking to ensure it meets the principles of the PTTW program including:

- Protecting the natural ecosystem;
- Fair sharing and conservation of water; and
- Preventing unacceptable interference with other water users.

As part of the hydrogeological investigation component of this project, the City will be completing background reviews of the large water users located in close proximity to the test well site. These reviews will support our evaluation of the effects of the addition of the new well on the local and regional groundwater system.

Upcoming Events

- **Well Monitoring Program** – Private Water Well Surveys commenced in October 2013. The surveys will provide baseline water level and water quality data. Private wells and the City's monitoring well network will be logged before, during and after the 24-hour pump test.
- **Test Well** – This well will be installed in the right-of-way fronting 1326 Centre Road. It will be drilled in December 2013. A 24-hour pump test and water quality sampling will be performed on this well. This well will become a part of the City's Monitoring Well Network.
- **Data Analyses** - Data from both the Test Well and the Private Water Well Survey will be gathered and analyzed by the City's Consultant (Genivar) to determine the potential impacts.
- **CLC Meeting** – The first meeting will be scheduled for early next year. Data from the Well Monitoring Program and Test Well will be part of the discussion as well as other project related issues.

- **Two Public Information Centres** – These events will be scheduled for next year as a requirement of EA Process.
- **Production Well** – This well will be installed and analyzed during peak water usage next summer.

Questions?

For further information or if you wish to provide input regarding this project, please contact:

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