Old problem, new solution

by Barbara Webber

Halifax harbour clean-up project underway

Picture this: on average, 180 million litres of raw sewage flows into Halifax Harbour and approaches every day – an amount that would entirely fill Toronto's SkyDome every four days. The problem has been 250 years in the making and solutions have been considered for over 30 years. The former County of Halifax built two wastewater treatment plants on the harbour, but these combined handle only 20 percent of the total discharge. Now, the Halifax Harbour Solutions Project (HHSP) is a go.

In 1973, the municipal government of the former City of Halifax (and later the City of Dartmouth) started a special environment protection charge on local water rates to raise funds for future development of a solution. In addition, wastewater maintenance was introduced in the former County of Halifax in 1994 to consumers in the area who were served by the Dartmouth Water Utility. In 1996, the cities of Halifax, Dartmouth and the County of Halifax amalgamated to form the Halifax Regional Municipality (HRM). Currently, the over $50-million available in the reserve account and the continuing levy will pay 85 percent of the $315-million capital cost and the entire operating cost over the 30-year life of the project (total combined capital/operating cost of $480 million).

The project is expected to provide total tax revenues from construction activity of $28 million to Nova Scotia and $58 million to the federal government. Operation of the plants will also provide $1 million provincially and $1.9 million federally in annual tax revenue. The federal government committed $30 million and the province $30 million and part of the land required for one of the three new sites.

The current HHSP got its start at a symposium held at Dalhousie University in 1996, which included all levels of government as well as environmental groups, industry experts and academia. As the project progressed, Community Liaison Committees (CLC) from the areas hosting the wastewater treatment plants were involved to foster a "WINBY" (Want It In My Backyard) approach.

Michael Kroger, project engineer since 1998, explains that, due to the complex water flows of Halifax Harbour, two of the new treatment plants will be positioned on either side of the harbour, at Halifax and Dartmouth, to collect the effluent currently discharged into the Narrows – the entry into Bedford Basin, a large fjord, two hundred plus feet deep with a small river at the far end to push the water. Although the tides go in and out, Bedford Basin water changes only two or three times year. There is a treatment plant in Bedford Basin that addresses the Basin's situation, but current discharges at the Narrows greatly affect the water quality in the Basin.

On May 31, 2000, HRM Council released the Request for Proposals to two short-listed consortia (one of the original three having dropped out). The winner of the contract is

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Halifax Regional Environmental Partnership (HREP), comprised of local companies and transnational players including United Water Canada Inc., Ondeo Degremont Ltd., PCL Construction Inc., Dexter Construction Ltd., Harbour Engineering (Dillon Consulting, CBCL), Black and McDonald, Ocean Contractors, Scotia Bank, Stinnes Enerco, and Burchell Green Hayman Parish. The project includes the design, construction and operation of three new treatment plants; the design and construction of related collection infrastructure to be owned by HRM; and design, construction and operation of a biosolids management facility to be owned by HREP.

The evaluation of various proposed solutions culminated in October 2002 when HRM Council authorized Mayor Peter Kelly to sign project agreements with HREP. These agreements were conditional on funding from the federal government and the Province of Nova Scotia (which has occurred), and the receipt of a decision from the responsible authorities that the environmental effects of the project are acceptable under the Canadian Environmental Assessment Act (CEAA approval was expected by press time). The reversion date for the facilities is 30 years after the completion of the first facility. HRM will also have the right to terminate the operations and maintenance agreements at a number of pre-established dates, with cause, upon payment of a termination fee.

Kroger explains that prior to CEAA approval and the project's start, HHSP has initiated a three phase archaeological review of the first plant site to mitigate the effects of the construction in historical downtown Halifax and to preserve the city's historic background. Kroger says that Phase one involved archaeological background research and a cursory examination of surface features.

Phase two involved more in-depth fieldwork. After review with the Nova Scotia Museum, slit trenches were excavated at eight separate locations identified during the initial screening as most likely to yield archaeological significant items. In Phase three, a full-blown archaeological dig was initiated which involved mechanically taking off the top level of earth followed by hand digging with trowels. The mother lode was privies, which provided traces of items from as far back as the mid-1770s. As part of the overall archaeological mitigation, photographs were taken to preserve the record of foundations and other features located, identified and cataloged.

As part of the project's environmental preparations, the HHSP submitted a screening document and two addenda (**www.region.halifax.ns.ca**, quick links, Harbour Solutions) for the CEAA process covering such key issues as odour, noise, ocean modeling and fish habitat. The CEAA panel consists of representatives from various federal departments including Environment, Parks Canada, the Port Authority and Fisheries & Oceans. Public input to the CEAA process closed January 14, 2003 and if CEAA approval was obtained as anticipated by the end of January 2003, Kroger believes the official start of the project will have occurred by press time.

Following CEAA sign-off, Kroger says the project will begin with the Halifax collection system. Visions of ripping up busy downtown streets come to mind; however, Kroger says disruption will be minimized by construction of a tunnel, 60 to 100 metres deep, through the downtown core. Other measures such as a temporary road built at the north end of Upper Water Street will also help mitigate traffic problems.

Completion of the entire Harbour Solutions Project is scheduled to take 54 months from the construction start date. Then the process of turning Halifax Harbour into a healthier environment for recreation, tourism and business will become a reality.

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