HALIFAX HARBOUR CLEANUP INC.

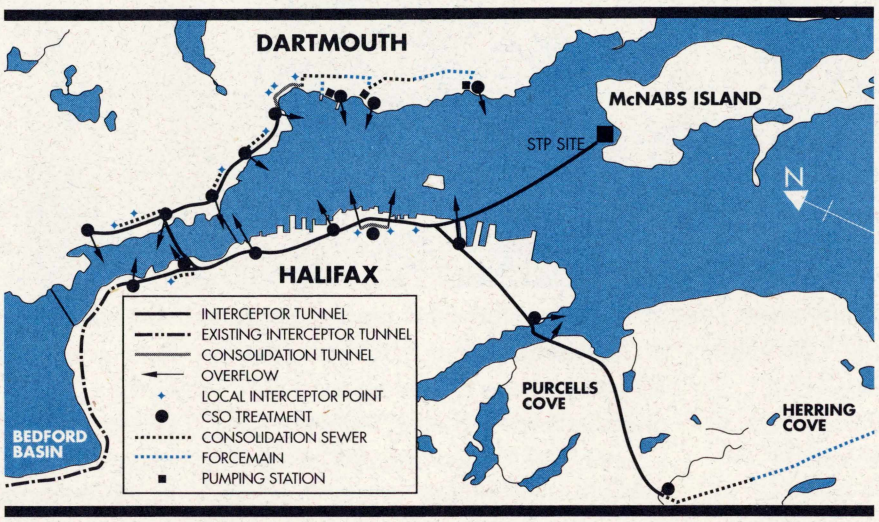
CLEAN CURRENTS

Number 3 Autumn 1992

Consolidation of Metro Sewers Begins

The first phase of a major program designed to reduce the number of outlets discharging untreated sewage into Halifax Harbour has begun. Halifax Harbour Cleanup Incorporated (HHCI) recently awarded a contract to Stewiacke Construction Limited of Waverley, Nova Scotia, to begin work on a sewer consolidation program for the Metro area.

The aim of the Street Sewer Consolidation Program is to reduce the number of sewer outfalls around the harbour before they are connected into the proposed sewage treatment system. Approximately 40 outfalls along the Halifax and Dartmouth waterfronts directly discharge raw sewage and wastewater into the harbour. HHCI's sewer consolidation program will reduce the number of outfalls to just 17.



This map shows constuction areas included in HHCI's sewer consolidation program.

"This preliminary work is necessary if we ever plan to eliminate the discharge of 100 million litres of raw sewage into our harbour daily," says Paul Calda, HHCI president.

"Sewer consolidation is the first step to building any sewage treatment system for Metro and will have to be done regardless of final decisions on site, routing, treatment levels and other issues currently undergoing environmental assessment," added Mr. Calda.

Once HHCI's recommendations for the sewage treatment project are approved, approximately 18 kilometres of large diameter sewers and tunnels will be built to intercept the untreated sewage flowing into the harbour. The sewage will then flow to a regional sewage treatment plant where an underground pumping station will pump it into the plant for primary treatment. After treatment, the outflow will be disinfected before being discharged into the Inner Harbour. Consolidating the existing sewer outfalls must be done prior to any other construction.

"Even if the sewage treatment project does not proceed as currently planned," explains Terry Simms, senior engineer for HHCI, "the spinoff benefits of the sewer consolidation program are obvious. There will be fewer sewer outfalls overall, making it easier to intercept and treat the sewage before it overflows into the harbour."

Stewiacke Construction Limited is kickstarting the consolidation process by constructing a new sewer in Halifax between Hanover and Young streets, running under Barrington Street. This first phase will cost approximately $340,000, and the work should take about three months to complete. Consolidation of other sewers in Halifax and Dartmouth will begin later in the summer and continue for one year, creating more than 200 direct and indirect jobs. The entire sewer consolidation program is expected to cost about $11 million.

In addition to the project at Young and Hanover streets in Halifax, five other locations in the Metro area will undergo similar work over the coming months. Work will begin once designs are finalized and construction tenders have been awarded.

The five remaining locations to undergo sewer consolidation are:

1. *DARTMOUTH:* Best and Lyle streets, beneath MacDonald Bridge
2. *DARTMOUTH:* North Street to Park Avenue, along CN tracks
3. *DARTMOUTH:* Pine Hill Road to Jamieson Street, along CN tracks
4. *HALIFAX:* Duke to Salter Street, below Lower Water Street
5. *DARTMOUTH:* Old Ferry Road to King Street, around Dartmouth Cove

Public Input Important to Project

To achieve its mandate of designing and building a sewage treatment system to clean up Halifax Harbour, HHCI has enlisted the aid of numerous local consultants to help define the scope of the massive project.

While professional experts supply invaluable technical support, HHCI also relies heavily upon the input of those who will be affected most by the sewage treatment project – the residents of the communities involved. The people who live and work near the harbour, who use its waters for recreation and sport. The people who need to know how or if the project will affect them in their daily lives.

That's why HHCI has developed ways for the public to express comments and concerns about the proposed project. Thanks to a public comment phone line and regularly conducted public opinion polls – the latest was completed this summer – HHCI can gauge which concerns and issues are most important to the public.

"Past research clearly revealed that how the proposed treatment facility will look is a major concern for many people," says Gina Connell, information officer for HHCI. "So when Metro Engineering, our pre-design consultants, completed their architectural drawings this spring, we knew our next step was to take the pre-design details directly to the public."

To that end, HHCI published a special edition of *Clean Currents* in two local newspapers this spring which contained computer-enhanced photographs and architectural drawings of the proposed island site and treatment facility. The newspaper supplement also outlined the steps involved in the primary treatment process. HHCI ran public service announcements on local radio stations, urging people to watch for the newspaper supplement and to call HHCI's public phone line with their comments. In addition, HHCI scheduled public presentations of the pre-design architectural drawings. To date, over 40 groups have signed up for the presentations, including Halifax County Council, Dartmouth Library Adult Services, Public Works Canada, Gaetz Brook Junior High and the Dartmouth Chamber of Commerce. According to Ms. Connell, these visual presentations provide a way for HHCI consultants to meet personally with members of the concerned public and to elicit instant face-to-face feedback.

"Public response to these activities has been great," says Ms. Connell. "Thanks to the newspaper supplement, our mailing list has grown and our public comment phone line continues to record the public's concerns. The majority of messages we receive clearly tell us that we should get on with the business of cleaning up the harbour." Many other people comment that community households and industries should pay more attention to what they dump into the sewage system, such as bleaches, oils and solvents, added Ms. Connell.

The proposed sewage treatment system for Halifax Harbour is a massive undertaking, perhaps the largest local project of the century. Because HHCI's goal is to design and build a system that will serve the area for generations to come, it will continue to solicit the opinions and concerns of community members who live within the project area, says Ms. Connell.

Environmental Assessment Update

The Nova Scotia Department of the Environment recently released the Environmental Assessment Report (EA Report) for the sewage treatment project to the Federal-Provincial Environmental Assessment Review Panel and the public. The Department is providing a period of at least 60 days for the public to review the EA Report prior to public hearings.

Based on comments received and its own review and evaluation, the Panel will then judge whether or not the EA Report is adequate for discussion at public hearings. Any additional information requested from HHCI will be made public for review prior to public hearings. These hearings are scheduled for late fall.

If you would like to obtain a copy of the EA Report and/or become involved in the review process, write or call:

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Geo-Technical Studies Complete

Investigative drilling conducted this spring along the Halifax and Dartmouth waterfronts has provided Metro Engineering, HHCI's pre-design consultants, with detailed information about the quality of rock that will have to be excavated to make way for the proposed treatment system's interceptor tunnels.

Technicians examine samples of rock taken during geo-technical studies conducted for HHCI this spring to determine the geological characteristics of the rock formations throughout the project area.

Metro Engineering hired Jacques Whitford & Associates Limited (JWAL) to conduct detailed investigations to determine the geological characteristics of the rock formations throughout the project area. These "geo-technical investigations" provide valuable insight into technical details associated with the construction of tunnels, pipelines, and structures.

"It is extremely important to determine the type and quality of rock along the waterfront before any form of tunnel construction begins," explains Cyril Allan, Metro's project manager. "The type of rock will, of course, influence the route of these tunnels as well as the method of construction."

Approximately 18 kilometres of large diameter sewers and tunnels will be built to intercept all the untreated sewage now flowing unchecked into Halifax Harbour. The tunnels will burrow through the rock lying along the Halifax and Dartmouth waterfronts, and run beneath the harbour floor at the Narrows and between the mainland and the sewage treatment plant. The tunnels will reach depths of approximately 60 metres, or 180 feet. These tunnels are the single most expensive item of the whole project, comprising approximately 60 per cent of the project's total cost.

The drilling investigations uncovered three main types of rock running throughout the project area. Along the Halifax waterfront, the JWAL team found bedrock composed of acidic slate, which is a bluish-grey rock compressed into layers. The Dartmouth shoreline through to the Narrows contains a heavy concentration of boulder till – a mixture of soil, gravel, cobbles and boulders compressed by glaciers centuries ago. And the area through the Purcell's Cove backlands is a quartzite granite.

"All three pose their own set of technical problems and solutions," Mr Allan says. "Disposal of acidic slate, for example, can be damaging to the environment if not done properly. Boulder till contains a mixture of sand, silt and boulders, and drilling through it can produce cracks and infiltration. Tunnelling through granite, of course, is extremely difficult."

Mr. Allan added that other technical problems may occur because the rock types are sometimes interconnected at different points in the harbour. "The chemical reaction that occurs when bedrock comes into contact with granite causes the rock to fragment, making it difficult to go through," he says.

JWAL began the investigative drilling in February and completed the work over a five-month period. Drilling sites on the Halifax side included the Northwest Arm, Ocean Terminals, Lower Water Street and the Halifax Dockyard. In Dartmouth, Metro Engineering investigated sites near Ferguson Road, Jamieson Street, Church Street, and the Esso oil refinery lands. The JWAL team analyzed rock samples and completed a report on their findings in June.

Halifax Harbour Cleanup – The Historical Challenge

Every day, 100 million litres of raw, untreated sewage flow into the waters of Halifax Harbour. While this amount has increased over the years as Metro's population has grown, the use of the harbour as a dumping ground is hardly new. In fact, Halifax and Dartmouth residents have been using the harbour to dispose of their raw sewage and other waste for nearly 250 years.

Here is a condensed history of harbour pollution and the ongoing efforts to clean it up:

1850s – Metro's first sewer pipes are installed. They discharge sewage and stormwater runoff directly into the harbour. Today, over 40 of these outfalls line the Halifax and Dartmouth waterfronts.

1960s – Just over a hundred years later, the Nova Scotia Department of the Environment refuses to permit the construction of any new outfalls to discharge raw sewage into the harbour.

1970 – The Mill Cove treatment plant is built to serve the Bedford-Sackville area. Construction of the Eastern Passage treatment plant follows four years later. Even so, most of Metro's sewage remains untreated, and continues to flow into the harbour.

1974 – The first stage of a main collection tunnel is constructed beside the Bedford Basin and around the north end of Halifax. The work stops when federal government funding ends.

1977 – A study conducted by the Metropolitan Area Planning Commission (MAPC) recommends that a single regional plant providing primary treatment be built at Sandwich Point, north of Herring Cove. Nothing is done due to a lack of funding.

1980s – A second MAPC study once again recommends Sandwich Point as the site for a sewage treatment plant. Thanks to federal-provincial negotiations, both governments agree to cost-share 75 per cent of the project's estimated costs. The municipalities of Halifax, Dartmouth and Halifax County will foot the bill for the remaining 25 per cent.

1988 – Dismayed Herring Cove residents are concerned about the impact of such a plant. The provincial Minister of Environment instructs the Environmental Control Council to conduct an environmental impact study on the effects of the proposed project on the Herring Cove fishery.

1989, February – The Environmental Control Council decides that it cannot assess the proposed sewage treatment plant at Sandwich Point in the absence of clearly defined water quality objectives, a better understanding of the marine environment, and more effective public participation in the decision-making process.

April – Following this report, the province appoints Dr. Robert Fournier to chair a task force to conduct a new physical oceanographic study of the harbour and recommend a location for a sewage treatment plant.

July – Halifax Harbour Cleanup Inc., (HHCI), a crown corporation, is established to design and build a regional system of sewage collection, treatment and disposal for the cities of Halifax and Dartmouth, and the Herring Cove area.

1990, August – The Halifax Harbour Task Force members, after reviewing the uses of the harbour and defining water quality objectives, produce a report that includes 18 key recommendations.

September – HHCI accepts the task force report and begins to implement all the recommendations within its mandate.

1991, January – HHCI registers the project for a Joint Federal-Provincial Environmental Assessment Review.

May – After public consultation and extensive evaluation of sites within the areas proposed by the Halifax Harbour Task Force, HHCI recommends that an island be constructed at Ives Cove, off the north end of McNabs Island, to house the sewage treatment plant.

June – HHCI hires Jacques Whitford Environment Limited to assess the cleanup project's potential environmental and socio-economic impacts, and to recommend measures to reduce those impacts and prepare an Environmental Assessment Report (EA Report) which will become the basis of the Environmental Assessment Review.

1992 – The EA Report is released during the summer and public hearings are scheduled for late fall.

Clean Currents is a quarterly publication of Halifax Harbour Cleanup Inc.
Editor: Gina Connell
Produced by Bristol Communications Inc. for HHCI.
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