



healthy water healthy environment

Niagara Region

Wainfleet Lakeshore Servicing Update

Open letter to the editor:

We, members of the Public Advisory Committee for the Wainfleet Water and Wastewater Servicing project, recently participated in a five-day Value Analysis Exercise in Niagara Falls where the entire proposed project was analyzed in depth by a group of outside experts (engineers and consultants).

It was a superb exercise. The team members were top-notch and true professionals in every respect; they worked extremely hard and the process was completely open with various PAC members involved throughout.

The results were not what we had hoped for regarding the cost of the project, but much was accomplished:

1. It was made clear that doing nothing is not an option. In the next month or so, the Region will send out a newsletter to Lakeshore property-owners expanding on this point.
2. It appears both the Region and the Township of Wainfleet have committed themselves to limited future development in the area.
3. Alternative solutions to the problem were examined. These experts made 71 observations of the study area during a field trip and afterwards, throughout the brainstorming, came up with 180 suggestions. From those suggestions, a number were examined in detail. Unfortunately, the best of these did not represent a significant cost savings, and all have major drawbacks, extended approval periods, lack of local expertise for construction, operation and others.

The cost – total project cost and the cost to each homeowner – has been the biggest stumbling block to the proposal since its inception. The consensus of the VA group is not good news as they felt that the estimated total municipal project will be in the range of \$50 - \$72 million.

Affordability will be determined largely by the amount of funding committed by all three levels of government through grants, and this we should know in the next two months.

If the whole project is not financially viable for the community, perhaps the Region will look at doing only one part i.e.: either a water system or the wastewater system. In this case, we (PAC) will be pushing for an affordable wastewater system as this addresses the cause of the problem and not just one of the symptoms.

If, as is possible, even a partial system is beyond our means, we the PAC will work to have the Region allow the full-range of on-site solutions, including the long-term use of holding tanks.

Over the next few months, the pace of activity on this project will increase noticeably. Decisions will be made that will have an affect on your community, your home or cottage and your wallet. We urge you to keep abreast of developments and to read carefully the information you will be receiving from the Region and the Township.

There is a problem, we must face it and the problem must be addressed.

Questions or comments may be addressed to any of the Wainfleet PAC members listed here: Nancy Giles, Butch Kimber, Betty Konc, Kate Ostryhon-Lumsden, Colin Pilmer, Wayne Redshaw, Joe Zold.

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Our Goal

It is our goal to work with the community to find a solution that has their support and is acceptable and affordable. It is hoped that through this publication, as well as other activities, this remains an open and inclusive process; one that relies on valuable two-way communication.

Welcome to the third edition of the Healthy Water - Healthy Environment newsletter. Niagara Region's Public Works and Public Health Departments have launched this publication to keep you up-to-date on the issues surrounding the public health and water and sewer servicing issues affecting the lakeshore residents/property owners of Wainfleet.

Why have a value analysis workshop?

The idea of holding a "Value Analysis" (VA) workshop for the Wainfleet water and sewer servicing project is consistent with similar workshops recently held by the Region. In 2004, good results were obtained from workshops held for projects in Niagara Falls and Welland that also had high estimated capital costs. Regional staff felt that a VA workshop was an appropriate technique to ensure that the Wainfleet servicing solution would do what it is supposed to do, by the best possible means, and at the lowest cost.

A Value Analysis workshop typically relies on an intense, uninterrupted and relatively short-term examination of project objectives and possible solutions. In Wainfleet's case, the session was longer than usual. Participants worked over a seven day period, from February 8th-14th, to consider numerous issues related to the Lakeshore community and examine many different ways of addressing them.

The workshop brought together experts in a variety of technical fields. These included experts in: small, on-site and

community treatment and disposal systems; construction contracting and costing; ground-water analysis; public health requirements; and environmental regulations. Together, the group looked at all feasible alternatives and put forward many promising ideas. They considered many options, ranging from private on-site water and septic systems, to conventional piped water and wastewater services, to innovative community facilities.

The VA Team was comprised of various technical experts and knowledgeable local representatives. The VA facilitator, George Riek, is an experienced Certified Value Engineering Specialist and has served as team leader in more than 150 similar studies. Only four such specialists are certified in Canada.

Many participants were engineers who do not exclusively specialize in conventional urban water and wastewater systems, but have extensive expertise in small private systems. For example, Jim Kreissl from Hydromantis was brought in because he worked extensively with the Environmental Protection Agency in the United States and developed manuals for small community cluster systems and private on-site facilities.

Other members of the VA Team included a number of consultants from the Cambridge firm, Hydromantis, including civil engineers, cost estimators, well and septic system experts, constructors and system operators. This external team was selected for its expertise in water and wastewater servicing, objectivity and their lack of potential conflicts of interest.

The VA workshop also provided an opportunity to show the Region's willingness to further explore a variety of alternatives, especially those beyond the conventional servicing approach involving connections to Port Colborne treatment plants. In fact, prior to the workshop, letters were sent to over 60 alternative technology suppliers asking for up-to-date supplementary information.

The VA workshop allowed the Region and Township to respond to public criticism that very few water and wastewater servicing systems were originally considered. In addition, by actively involving members of the Wainfleet Lakeshore Public Advisory Committee as participants in the workshop, the openness of the VA process was clearly demonstrated.



Was everything considered?

Early in the workshop brainstorming sessions, the VA Team talked about many possible servicing concepts and different ways of addressing public health and environmental issues facing the Lakeshore Community. In fact, over 170 different creative possibilities were discussed.

Some alternatives examined included solar aquatic systems, low water consumption fixtures and appliances, chemically assisted filtration systems, ultraviolet disinfection,

reverse osmosis, sand/media filters, wetlands, low pressure sewers, expanding the private water system, home-based treatment systems, localized treatment facilities, sewage lagoons, biological treatment systems, effluent disinfection processes and various forms of on-site private treatment, to name only a few.

After critical review, the Team identified about 30 of these for further consideration. This "short list" of possible alternative solutions included on-site improvements to

the existing private water and wastewater facilities, the construction of local facilities to serve clusters of lots or different parts of the Lakeshore community, and combinations of these.

The modified "baseline" solution, involving piped service connections to treatment plants in Port Colborne, is considered the best way to service the Lakeshore community. There is no community-wide solution that can more effectively address pressing public health and environmental concerns.

Niagara Region

Building Community. Building Lives

There are a variety of ways to contact the Region to voice your opinion or share your thoughts/concerns over anything happening in your community related to the water and sewer issue, including the following:
www.region.niagara.on.ca/wainfleetwater Bob Steele, Project Manager, Niagara Region (905) 685-4225 ext.3745

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Key Outcomes and VA Team Recommendations

The VA Team looked at a variety of technologies that were applied in other Canadian and American communities. This included numerous design, construction and operational ideas to lower costs without affecting the reliability of proposed water and wastewater systems.

The first important VA Team conclusion was that local soils and geology, coupled with small lot sizes, make on-site treatment and disposal of household waste into septic tanks an **unacceptable solution**. Information provided at the workshop showed that, for many properties, this option would violate Building Code provisions, Public Health requirements and Ministry of Environment policies.

Secondly, the VA Team recommended that a modified "baseline" project be carried forward as the most cost effective and technically appropriate servicing solution for the entire Lakeshore area. The "baseline" project was the solution identified in the Environmental Assessment (EA) process and originally presented to the public in August 2004. It includes constructing new water distribution and wastewater collection systems within the Lakeshore community. These would be connected by pipeline back to Regional water and wastewater treatment plants in Port Colborne.

Because these plants are owned and operated by Niagara Region, the VA Team concluded that construction of new local treatment facilities would not be cost

effective. Primarily for this reason, options involving smaller plants and distribution facilities were rejected in favour of extended services to Port Colborne. The availability of the two plants effectively knocked other alternatives out of the running.

During the workshop, the VA Team also identified recommendations that have the potential to add value and trim capital costs by about \$3 million, while also reducing estimated annual and 20-year life-cycle costs. Major savings came from the reduction in pipe size because original estimates were based on the projected population number used in the EA. Those numbers were, quite frankly, incorrect. A much smaller pipe can, and will, be used to service the existing population and the expected limited growth.



Was the Value Analysis Exercise Worthwhile?

In a word, "YES". The Value Analysis process brought together the best available experts to identify the best solution.

Within a compressed seven day workshop, all possible options were examined. Experts, including the Niagara Region's Medical Officer of Health, presented scientific evidence confirming the seriousness of the public health situation. The workshop also introduced technical information confirming the need to address environmental contamination risks.

Attendees, including Public Advisory Committee (PAC) members and local politicians, were presented with a first hand understanding of local conditions and the results of additional technical studies. The PAC witnessed an open and unbiased process that confirmed the need for community-wide services. The PAC members clearly stated, in their recent letter to the editor, that options were properly and fairly defined, and the most appropriate solution was correctly identified.

The VA Team also recommended ways to save money that will be considered in the baseline project's final design. The final results were used to support the Township's COMRIF funding application. They will also be incorporated into the Class Environmental Assessment document that will be submitted for Ministry of Environment approval.

How much will the revised project cost?

Despite finding capital cost savings, the VA Team agreed that the overall project cost estimate for the modified "baseline" solution should be substantially increased to provide higher built-in contingency allowances.

Because field work has not yet been completed and the design is still at a conceptual level, VA Team members recommended that additional funds be budgeted to cover potential unforeseen costs. Possible significant "unknowns" include extensive rock excavation, large-scale construction dewatering, design and construction changes, inflation, and unpredictable costs related to the bidding process, material costs, etc.

The VA Team recommended an upward cost revision to \$65 million. That figure represents the mid-point estimate of the price range for the adjusted "baseline" project.



The Next Steps

Ministry of the Environment (MOE) approval is required to proceed with further steps to address the Lakeshore community's public health and environment problems. After the August 2004 Public Information Centre, the Region and Township agreed to delay submitting the Class Environmental Assessment (EA) documentation until June 2005. This provided more time for the Region to carry out additional water quality studies, as promised, and to complete the VA workshop.

Workshop findings and recommendations will be incorporated into the draft Class EA document over the next two months. The Class EA document will be submitted to the MOE in June 2005, following endorsement by Township and Regional Councils.

Members of the Wainfleet PAC agreed that the EA process should be restarted as soon as possible, recognizing that this is simply the next step in the process and **does not mean that construction of the project is moving ahead**. The decision to begin the project will still require approval by Regional Council and Township Council.

This is a necessary step to satisfy Public Health Department concerns that the process is proceeding and to secure COMRIF funding. Details on benefiting homeowner costs and financing arrangements cannot be accurately estimated until this step is complete.

VA workshop reports will be available at the Township and Regional offices. The Class EA submission will be available for public review in June 2005. In the interim, the Region will undertake additional work to refine and minimize costs. This will include conducting studies to identify the location and extent of bedrock and exploring alternative mechanisms to finance homeowner costs.



AREA OF CONCERN

In general, the area affected by the public health and water and sewer servicing issues extends from 200 metres north of Lakeshore Road, south to Lake Erie, from Cement Plant Road in the east to Etling Road in the west.



The Township's COMRIF Application

In early January 2005, the Wainfleet Township submitted an application for funding under the Canada-Ontario Municipal Rural Infrastructure Fund (COMRIF) program. Based on the VA Team recommendations, the Township's COMRIF application was revised in February and resubmitted at an estimated cost of \$53 million (which represents only the local costs). The Region's costs are estimated at \$12 million.

If approved in total, this cost would be equally shared by the federal, provincial and Township governments. About \$36 million (67 per cent) would be provided by senior governments, leaving about \$17 million (33 per cent) to be paid by benefiting property owners in the Lakeshore area.

On Monday, April 25, 2005, Mayor Gord Harry was informed that the funding application was not approved. It's important to understand that this does not mean Wainfleet has lost its only opportunity to seek funding under COMRIF. A second round of funding announcements is scheduled for September and the Region and Township are already working diligently to prepare a submission for a part of those funds.