

FEASIBILITY STUDY – RAW WATER FOR AGRICULTURAL IRRIGATION PURPOSES PROJECT REPORT

15.0 Recommended Next Steps

15.1 INITIATION OF DISCUSSIONS ON FINANCING

The final selection of infrastructure solutions for the irrigation of the different areas of the Niagara Region will require determination of the growers' ability to pay and the level of support from the government sector. Discussion with various governments (federal, provincial, regional, and local) can commence based on this preliminary report.

An economic study with the objective of determining the economic benefits of an irrigation infrastructure would be highly desirable, both to determine the benefits to the farmers (related to their ability to pay) and to the other sectors of the economy. Such a report may be used to further justify government support. Alternatively, the farmers' ability to pay may be estimated through questionnaires (as a part of the "Field Study" proposed in the next sub-section), and the benefits to the larger society may be based on more qualitative information.

15.2 FIELD STUDY

The feasibility study identified a range of data gaps necessary for the planning of an irrigation project in the Niagara Region. Provisional estimates and assumptions based on the best data available have been made to provide meaningful conclusions regarding the general direction that the project can take. The data gaps will need to be filled by a field study as soon as possible in order to substantiate the general conclusion made in the study and assist in selecting the optimum solutions for each service area.

The first step to be taken to move forward is, therefore, to conduct a "Field Study" and collect additional data. The following are some of the data to be collected during this field study:

- Areas and locations of existing irrigation lands and their existing crops.
- Areas and locations of the potential irrigation lands and their existing crops.
- Improved estimates of the peak potential evapotranspiration of the target crops.
- Improved estimates of seasonal water deficits for the target crops.
- Assessment of current on-farm irrigation efficiencies.
- Assessment of irrigation efficiencies of NOTL Municipal Irrigation System.

Data collected during this field study will be used to improve the demand estimates and the preliminary layouts of the distribution systems. The comparative costs of the different alternatives, including costs per acre, will be better defined.

15.3 GROUND WATER STUDY

The Niagara Peninsula Conservation Authority is currently completing a study of the groundwater in the Niagara Region. This study will improve the general understanding of the groundwater in the region and will no doubt be used as the basis for many future studies. The specific questions of the impact of additional water takings in Pelham and along the Escarpment are not addressed in this study. A further groundwater study will be required to examine the viability of withdrawing the irrigation requirements of the South District and the West District Zone B from new or existing inactive wells. If it is concluded that withdrawing the full irrigation requirement of these areas is not viable, the study will need to provide the maximum safe supply capacity of groundwater wells that may be utilized in conjunction with off-stream reservoirs.

The prerequisite of the proposed groundwater study is the completion of the Field Study described in the previous subsection, since it will be critical for the groundwater study to be based on a solid understanding of the quantities and locations of the irrigation demands. However, the study can take place in conjunction with the Field Study, if the two studies are properly coordinated.

15.4 COMPLETION OF CLASS ENVIRONMENTAL ASSESSMENT PHASE 2

This study has followed the general approach of Class Environmental Assessment. Further consultation with the stakeholders and the completion of the field study and the groundwater study will allow us to select a preferred alternative for irrigating each area. The following are the remaining steps for completing Phase 2 of the Class Environmental Assessment for the proposed irrigation project:

1. Field Study.
2. Groundwater Study.
3. Further Consultations:
 - With different levels of government regarding financial support for the project and permit requirements.
 - With growers regarding their participation in the project and their ability to pay.
 - With other major stakeholders, such as OPG, St. Lawrence Seaway Authority, and CN Rail regarding various alternatives that may require their approvals.
4. Analysis of the impacts of different alternatives on the natural and social environments.

5. Evaluation of short-listed alternatives using the above data and preparation of proposed Preferred Alternatives for discussion with stakeholders.
6. Public Information Centres.
7. Selection of Preferred Alternatives.
8. Notice of Completion.

Upon the completion of Class EA Phase 2 a Master Plan would be approved in general. Certain projects within the Master Plan (e.g. construction of intakes) will need to proceed to Phase 3 of Class EA with the evaluation of alternative designs and further Public Information Centre(s), while other projects may be able to proceed directly to preliminary design (Phase 5 of Class EA process).

15.5 REGULATORY STEPS / PERMITS

15.5.1 Introduction

The study has identified the fundamental regulatory requirements likely to be associated with any raw water irrigation undertaking. It has also highlighted key environmental and regulatory policy considerations likely to impact on a proponent's assessment burden and ultimate success in obtaining the necessary project approvals.

15.5.2 Outstanding Policy Issues Impacting on Source Selection

Several sourcing options being considered involve policy issues requiring further examination and consultation before comparing their relative merits and acceptability as preferred alternatives. These include provisions of the Niagara Treaty and of the Great Lakes Charter 2001 Annex.

The Region of Niagara is seeking clarification from federal and provincial agencies regarding Niagara Treaty conditions that would need to be met in order to permit access to a portion of water flows specifically allocated to navigation and power production. A response to these inquiries is expected within a few months. On the Charter front, final public hearings are underway that will lead to finalization of a "common standard" for the evaluation and authorization of any new or expanded water withdrawal anywhere within the Great Lakes Basin. Under the current Charter Annex implementation proposals, it is certain that a regional irrigation supply project (and the larger individual district projects) as contemplated here will be subject to joint review by Ontario and the other Basin jurisdictions. This entails following the prescribed consultation processes and satisfying the prescribed tests of acceptability before they could be approved.

15.5.3 Links to Greenbelt Protection and Source Protection

Provincial legislative and policy initiatives that are targeting protection of Niagara grape and tender fruit lands also raise important questions regarding measures that could help enhance the long-term viability of agricultural production in the face of other growth and development pressures and interests. Publicly supported expansion and enhancement of existing irrigation infrastructure has been identified by producers as one such measure since it would reduce potentially devastating crop losses resulting from low-water conditions, could open up additional lands for agricultural production, and would distribute the financial burden of putting the system in place.

Recent regulatory changes to the Permit to Take Water program and impending source protection initiatives could favour municipal/communal development and administration of raw water supply and distribution systems drawing on larger surface water sources particularly where cumulative individual withdrawals from more limiting surface and ground water sources are not likely to be sustainable.

15.5.4 Suggested Next Steps

Steps already underway or proposed as part of Phase 2 will more precisely determine the scale of irrigation demands, examine the availability of ground water supplies in selected areas, and clarify issues surrounding the implications of the Niagara Treaty and the Great Lakes Charter Annex on source selection. Once this information is available, the alternative sourcing and supply options will be reevaluated in close consultation with the Region, the Technical Advisory Committee and senior government officials. Consultation should focus on arriving at a consensus vision of the preferred approach to addressing irrigation needs which recognizes the interaction of environmental, project funding, system administration and regulatory considerations. Integration of this consultation within the Class EA process should ensure the streamlining of subsequent efforts in successfully applying for all necessary regulatory approvals.