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File No. 99060

October 5, 2004

Don Seim, A.M.C.T.  
Clerk-Administrator  
Township of Southgate  
R. R. 1  
Dundalk, Ont.  
N0C 1B0

RECEIVED OCT 7 2004

Dear Sir:

**RE: Holstein Dam**

At your request, we have reviewed our work on the Holstein Dam and proposed work to relieve flooding.

To summarize our earlier report, the overall purpose of the project is to provide greater clearance for water between the spillway of the dam and the bridge that crosses it. This may be enough to prevent overflow of the approaches at the 100 year or regional storm events. If not, a low flood wall could be constructed to prevent overflow. Base modeling (by computer) has been prepared as part of the earlier report but we have not yet modeled the proposed conditions to determine how effective they will be.

The project involves water resources, fish habitat and recreational trails. The results will have positive results for flood prevention and safety. This project will require screening as part of the Environmental Assessment. That is, approval will likely be required from the Saugeen Valley Conservation Authority, the Ontario Ministry of Natural Resources, Transport Canada (Marine Division) and it would be prudent to seek comments from local residents. Some of these approvals take considerable time. The Transport Canada review could take 6 to 8 months including advertising and response times. The published advertisement for a public meeting should be worded carefully so that it meets the requirements of the EA process.

**Order of Tasks**

Based on our experience with similar projects, we expect the following tasks are likely required or recommended. Timing is difficult to predict at this point and is highly dependent on preceding steps.

OVER

1. Model the proposed bridge raise for hydraulic effects on flood levels.
2. Prepare preliminary plans of the proposed work (bridge raise and floodwall).
3. Send proposed plans and design report to approval agencies along with applications for work permits or approvals.
4. Meet with public to present the preferred solution and get their response.
5. Modify plans to accommodate acceptable recommendations.
6. Prepare detailed plans and specifications for construction.
7. Tender and execute the construction.
8. Monitor results.

### Probable Costs

The costs of this project are dependent on the approvals required and whether the bridge raising is enough to satisfy the hydraulic requirements or if a floodwall is required. In our opinion, the following are the probable costs:

1. Computer modeling of spillway with bridge raised	\$1,900
2. Design, application for approvals, EA, contracts and tendering of bridge raise	\$5,500
3. Construction of bridge raise and approach ramps	\$44,600
4. Review construction and contract administration	\$3,400
5. Design of flood wall, (if required)	\$4,100
6. Construction of floodwall, (if required)	\$34,400
7. Review construction and contract administration	\$2,700

### Total probable cost

\$96,600

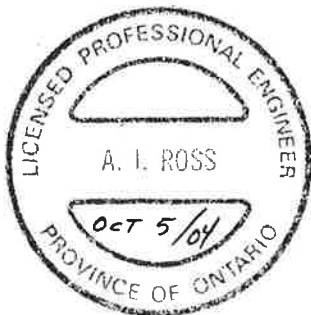
79,200

17,900

Other costs by the Municipality may include net GST, advertising and hosting a public meeting.

The modeling should be done first to determine whether the proposed bridge raise will be effective enough that the floodwall is not required.

Please consider the above information and contact us about how you would like to proceed. Do not hesitate to call if you have any questions.



Yours very truly

B. M. ROSS AND ASSOCIATES LIMITED

Per

A. I. Ross, P. Eng.

AIR:bf