

CLC Meeting Minutes, September 19, 2018

Highway 101 Twinning – Three Mile Plains to Falmouth

West Hants Municipal Chambers – 6 PM to 8 PM

Attendees

Community Liaison Committee (CLC) Members:

Darren Porter	Shelley Bibby	Kathy Kehoe	Liz Galbraith
Sheldon Hope	Dave Crouchman	Colin Hines	Martin Laycock
Randy Hussey	Mike Oulton	Gail Tupper	
Todd Richard (for Louis Coutinho)		Chris Mansky (for Sonja Wood)	

Regrets: Sonja Wood, Andrew Sheehy, Louis Coutinho

Nova Scotia Department of Transportation and Infrastructure Renewal (NSTIR): Mark Brace, Bob Pett, Justin Tanner, Lyle Russell

Nova Scotia Department of Agriculture (NSDA): Kevin Bekkers

Design Consultants (CBCL): Alexander Wilson, Rick Giffin, Bob Rutherford, Graham Daborne

Independent Chair: Ken Donnelly

Minutes taken by: Ken Donnelly

1. Introductions

Members of the CLC introduced themselves.

2. Review Agenda

The agenda was approved without change.

3. Update On Highway Construction – Lyle Russell, NSTIR

The first 3.5 km of the highway is being built, with the subgrade currently being done. Gravel will be done starting mid-October 2018. The sub-grade will be sitting over the winter, and paving will be done in the New Year.

They are now working on piles for the abutments.

4. Introduction of the Design Consultants – Justin Tanner. NSTIR

The design consultants from CBCL were introduced by Justin Tanner. Justin reminded the committee that at the last meeting, the design consultants presented the scope of work for the aboiteau and fish passage study. They have now completed their work, a substantial study that took approximately 8 months. The consultants will provide the results of their technical study.

Justin pointed out that this is a presentation on the study results. No decisions have been made on options. The presentation is for the benefit of CLC members, and the Project Team looks forward to feedback from the community. There will also be an open house held next month to provide an opportunity for members of the public to see the results of the study and provide feedback. No decisions will be made until after public consultation.

5. Presentation by the Design Consultants

Alexander Wilson of CBCL presented an update on the design consultants' work. He was aided by Bob Rutherford and Graham Daborn on the topic of fish passage. The presentation included detailed charts, maps, and results of modelling. The presentation can be found in the Appendix. Please note the covering page, which indicates that some annotations were made on the last slide based on feedback during the CLC meeting.

Project Objectives

The Committee was reminded of the key objectives of the project, which guide the design study:

- Public safety;
- Regulatory requirements; and,
- Minimizing socio-economic impacts.

The highway is being twinned to make travelling on it safer. The construction will also address continued protection from flooding, including the increased risk presented by climate change and sea-level rise.

Because the aboiteau is also being replaced during the highway construction, the project must meet DFO requirements for fish passage and minimize environmental impacts, including the salt marsh. These

are laws and there is no alternative but to meet them. Developing a system that works for fish passage for all species is very challenging. Fish migrate to spawn at different times of the year, including the winter. It is not possible to have fish passage for just a few months. That would not work for all species.

Impact on socio-economic aspects such as business, agriculture, and recreation must be minimized.

Scenarios Considered

Three scenarios were considered:

1. Do Nothing Scenario
2. Scenario "A": Maintain the lake, with upstream water level a priority over fish passage
3. Scenario "B": Maintain the lake, with fish passage being a priority over maintaining the water level
4. Scenario "C": Fish passage is the priority, and it is provided by allowing a controlled tidal exchange

Do Nothing Scenario

Evaluation of the current aboiteau structure determined that it is at the end of its 50-year life and must be replaced. The bearings and rollers on the existing aboiteau cannot be safely accessed to be replaced. There is a risk of flooding of Windsor and Falmouth if it were to get stuck as upstream water may not be able to be released into the river.

The cost of replacing the aboiteau is substantial and requires federal funding. There is an opportunity for funding now, and it may not be available again for years.

Scenario "A": Water level priority over fish passage

Fishways would need to be closed during summer months to avoid lowering water levels in lake. That would mean water would only flow through fishways when there was excess water in the lake. In summer months, that is unlikely due to dry weather.

The conclusion is that Scenario A will not work as it will not meet the DFO requirements for fish passage. There are concerns from First Nations Groups, CRA fisheries groups and others. A downside is also increased sedimentation in the lake.

Scenario "B": Fish passage priority over water level

In order to ensure passage for as many fish species as possible, there has to be sufficient depth of water and adequately low velocities of water to allow the fish to swim through. Conversely, there also has to be adequate velocity to ensure that there is not a build-up of sediments in the fishway. It is difficult to balance these goals, and doing so does not resolve either issue well.

Water supply for the fish passage comes from the lake, and is low in the summertime. This is known because the existing aboiteau can be closed for months currently in the summer, with no need to

release excess water. Modelling Scenario "B" indicates that the lake would be drawn down to empty 36 days a year to maintain the required flushing velocities in the fishway. This would mean fish passage would be inadequate and sediment would collect in the fishway, eventually blocking it. There would be degradation of water quality and fish habitat in the lake, and a reduction of fish habitat, leading to fish mortality, and the more complex gate would increase risk of flooding in the case of failure.

Scenario "C": Partial Tidal Exchange

An adaptive aboiteau and fishway design that would allow for flexibility in tidal flow was presented. Modelling indicated that operation to allow year-round partial exchange of tidal water would provide year-round species for all species as per DFO requirements. It could also allow the lake level to rise for specific events.

This scenario provides greater fish passage. The lake level would be about 0.6 metres to 2.1 metres lower than the existing target level (currently the target level is met only a few weeks in the year). Salinity in the lake would not impact farming operations or reach the Martock water intake except for in late summer when it is not being used to make snow.

The level of the lake would change with the tide, however the levels could be maintained to provide adequate water for activities such as the pumpkin regatta, boating, etc.

A modelled view of the lake at high tide and low tide was presented. At low tide there was no water in front of the boat club.

The benefits of the tidal exchange scenario is improved flood protection, a more natural flow, high quality fish passage at all times, recreational fishing opportunities and improved water quality. There would also be an establishment of a salt marsh upstream of the causeway, creating bird habitat and recreational opportunities.

Competitive canoeing and the canoe club would be subject to significant negative impacts with the changing lake levels due to the rise and fall of the tide, as was demonstrated in the model.

Summary

The do-nothing scenario is not an option as the current aboiteau is at the end of its life and the risk of flooding of Windsor and Falmouth in the event of a failure of the gate is too high.

Scenario's A and B are not viable as they do not meet the requirements of the Fisheries Act. In addition, Scenario B would result in the lake emptying in late summer every year in order to ensure adequate flow in the fishway. It would also result in the lake continuing to infill.

Scenario C, with partial tidal flow, meets the requirements of the Fisheries Act, however it has a significant impact on the lake.

6. Question and Answer

Q. Does fish passage trump everything else?

A. Whatever the solution is for the aboiteau, it will not be accepted unless it provides adequate fish passage to satisfy DFO regulations. It is the law and the requirements must be met.

Q. Does Scenario C provide the required fish passage?

A. DFO will determine if the fish passage will be adequate. They have reviewed this initial plan and have not approved it, but they have not objected to it.

The bit of salt water that will be flowing through the fishway will assist in the migration of the fish. A sip of saltwater helps them migrate through. But the amount of salt will not impact agriculture or the ski hill's water intake for snowmaking operations.

Q. The human elements have not been considered in this study. There are businesses in the downtown area that have established at the lake. Recreation is a big part of the lake, and people enjoy living and walking around it. Property values will fall if the lake is replaced with tidal flow. Having the lake there is a key component of the Town's economic development plan. Just twin the highway and leave the aboiteau replacement for a later time when a better solution can be developed. What about building a redundant aboiteau? What other options have not been considered?

A. The highway twinning must include an aboiteau and fish passage. The existing aboiteau is at its end-of-life and must be replaced now and the federal funding opportunity to do that is available now.

Q. Is there enough water available from the Nova Scotia Power dams to maintain the lake levels?

A. The operating approval that Nova Scotia Power has is still in force and will be revisited in the next few years. However, even if the water were accessible it would not be enough in the hot summer months to maintain the lake levels.

Q. Could the lake be dredged in the canoe club area to increase depth?

A. Dredging the lake would not be successful, as it would quickly fill up with sediment again.

Q. Are all 25 species on the DFO list in the system?

It is not known if all species are present, but the fish study that has been ongoing since the project started has found more than were known to be present than before. An Inner Bay of Fundy Salmon was caught (and released) in the lake this summer. Other species have been identified and catalogued by researchers at Acadia University. Research into the species found is continuing.

Q. Does fish passage have to be available for all 25 fish even if they are not present?

A. The regulations state that there has to be adequate fish passage for all species on the list.

Q. I am not convinced that the agricultural land will be adequately protected if the upstream area is allowed to rise with the tide. Salt water could significantly harm agricultural lands if they were flooded.

A. The maximum height of the water will be maintained such that the land will be protected. The risk of flooding now is from fresh water from a major storm, not from the tidal flow of the river.

Q. Why is the cost of replacing the old dykes on farmland so high now when it was much lower several years ago? Replacing those dykes could allow for a bridge to be built and the natural river to be restored.

A. It is too expensive to put those dykes in and there are fish passage requirements for each dyke.

Q. Has a decision been made to go forward with Scenario C? The other 3 scenarios don't work, according to the study.

A. No decision has been made yet. We have presented the findings of the technical study to the CLC today. We need to provide information on the study results to the community and gather information from them. We will consider community input before making a decision.

Q. What is the timeline for a decision?

A. We need to make a decision in 2019 to meet the construction schedule.

Q. The canoe club cannot survive under Scenario C with rising and falling tides. The canoe club is a feature of the Town with many members. There has just been a large investment in renovating the canoe club. This is unacceptable to the many people who use the canoe club.

But it is not just the canoe club. People kayak on the lake, swim in it and like to walk around it. It is a special feature of the town, used by many people.

A. We understand that Scenario C will be a concern to many people due to the lake levels fluctuating with tidal flow. We want to hear feedback from the community.

Q. There are many interests in the community. This is a technical study looking at the design options for the highway and aboiteau, done by engineers. The people who live and work here need to get together and talk about what they want for a community.

7. Next Steps

An open house is being planned for October 10th at the Legion. The plan is to have stations to provide community members with information on highway and aboiteau planning. The format of the open house will be similar to the one held in 2017. There will be a lot of information on the aboiteau study and consultants and Project Team staff will be present to answer questions.

There will be an opportunity for workshop attendees to provide their comments on the study results and their priorities for a solution.

Meeting adjourned at 8:00 PM

Appendix – Design Consultant Presentation Slides