

APPENDIX 5

WORK DONE PRIOR TO PRELIMINARY REPORT START UP

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WORK DONE TO ADDRESS THIS OUTLET PROBLEM PRIOR TO THE PREPARATION OF THIS PRELIMINARY REPORT

The referred to Scoping Study not only set out the problem(s)/need(s), but then determined if, or what, solutions/designs were evident and determined if such solution(s)/design(s) may be possible to legally, physically and financially implement pursuant to the Drainage Act.

The Scoping Study indicated/concluded that a described solution(s) is (are) possible both physically and financially. The work leading up to the preparation of the Scoping Study indicates the greatest potential legal constraint may be the ability to receive approval from the parties managing the Minessing Wetlands (NVCA and MNRF) to construct any identified solution(s) in the wetlands.

It was primarily NVCA who communicated with the Engineer on behalf of the wetlands during the Scoping Study work¹. A summary of the Conservation Authority's position would be that defined work in the wetlands could be considered, pursuant to the Engineer's retention, provided a comprehensive Environmental Study was undertaken and the conclusion of the Environmental Study was that drainage construction work could be undertaken without substantial impacts on the wetlands.

The solution/design approach that the Scoping Study recommended to be considered was set out on its Pages 32 & 33 and is repeated herein:

Considering what has been viewed, heard and what is known, the undersigned Engineer recommends that works be initiated to improve the outlet of Swaley Drain pursuant to the Drainage Act but that such works should be carefully implemented so costs are controlled and so that environmental impacts are pre-determined and minimized.

From a construction perspective, it is recommended that there be works to improve the outlet of the Muskrat Creek at the Nottawasaga River (or at the Downey Drain) together with works to improve the outlet of the Swaley Drain

¹ It was also NVCA that communicated with the Municipality with respect to previous drainage concerns affecting the wetlands.

into the old channel of the Muskrat Creek a minimum of 300m± downstream of the existing termination of the Swaley Drain.

It is also recommended that the on-going River maintenance undertaken by agreement between the Township and the Municipality continue.

The specific construction work that the Scoping Report recommended to be pursued was described on Pages 23 to 25 of the Scoping Report and was costed in Appendix 6 of the Scoping Report (on Page 6-3).

This data referred to work both at the downstream Muskrat Creek remnants outlet study area at the River/Downey Drain and at the Swaley Drain outlet area into the upstream Muskrat Creek remnants.

The work recommended was based on survey work in November 2017 and in February 2018 at both the Swaley Outlet Study area and at the Muskrat/River/Downey Drain study area. (No actual survey work occurred then at any length into the actual wetlands.)

The survey work at the Muskrat outlet area was conducted at the outlet of the Muskrat Creek into the Nottawasaga River and at a few locations along the Nottawasaga River itself. The survey work by the Engineer's staff was undertaken primarily by accessing the area by boat starting at Edenvale and travelling up the River.

It was found that the water levels in the Nottawasaga River were 400mm± lower at its junction with the Downey Drain than what its level was at its junction at the Muskrat Creek remnants if the Muskrat Creek did have a proper junction with the River. It was also found that water levels above the Muskrat Creek remnants east of the River and south of the Downey Drain were approximately 300mm higher than the levels in the Downey Drain, compared to being only 150mm± higher than the levels in the River.

The other significant finding here was that the wetlands water level noted in the area of the main Muskrat remnants is only 300m south of the Downey with no levees or high ground in between, - just water and wetlands grasses. However, following the route to the river, a length of 400mm± could be involved with half across a higher ground area. The east half of this route would be in similar water with grasses and waters as to the Downey but the west half, adjacent to the River, would be through a tree stand at a higher elevation than the wetlands. A levee or high bank at River's edge up to 1000mm± higher than the River level (and 850mm± higher than the wetlands water

level) would have to be excavated through to allow the wetland waters to enter the River at or near its original connection. A significant channel in the wooded area would be necessary if a River connection were made. If a new connection were made to the River, it should be actually shifted 50 metres north of the original outlet to better fit meanders in the River. If a connection was made to the Downey, it would join near the junction of the Downey and Giffen Drains².

The Scoping Report also discussed the possibility of cleaning the River of fallen tree areas between the outlets of the Downey and the Muskrat to possibly allow a greater lowering of wetland waters above the Muskrat remnants.

The survey work at the Swaley outlet area initially went 300 metres downstream of the existing outlet. It was found if only this much length were done, the Swaley waters would be lowered only by 300mm vs the desired 600mm.

The Scoping Report recommended/suggested that if a Preliminary Report were undertaken, more survey work should be undertaken both at the Swaley outlet area and at the Muskrat remnants study area to determine how best to achieve the desired lowering of the Swaley waters considering that landowners talked of Swaley levels being up to 600mm± higher in recent years.

The text suggested a Preliminary Report together with any completed natural environment study should better define the extent of work at these two locations and even identify if more work should be done at one location to hopefully avoid work at another location.

The Scoping Report's cost estimate for the work ultimately suggested by it (the short work lengths in both study areas) was \$187,000. (At that time, work on "mats" was still felt possible and thus the reason for the lower cost.) This report also contained a table in its Appendix 8 to show how costs could be distributed (a cost of \$300,000 was selected for the illustration). Notes in the text indicated that this cost could be proportioned for any lesser cost.

The chronology of the study of the options (or iterations of the options) reviewed by the Scoping Report are listed on Pages 16 to 25 of the Scoping Report.

² Elevations secured by the Engineer suggest there is a direct connection of the wetlands waters above the Muskrat remnants to the Downey just upstream of the junction of the Giffen and Downey Drains.

The most extensive other option examined by the Scoping Report was to construct a new channel to join the Swaley Drain directly to the Downey Drain following a route along the west limits of the bush area that remains in Lots 7 to 9, Concessions 11 & 12. This would include in part an improvement to the previously described Coleman ditch.

This latter option was more costly, would have more impacts on the wetlands and was not the preferred option by the majority of the people and agencies who commented on the Project Scoping Report.

The Scoping Report suggested the two minor projects at the estimated cost of \$187,000 could be pursued but subject to further and listed proceedings.

The Scoping Report on pages 13 and 14 evaluated the recommended work on a cost benefit basis and concluded the costs were far less than the benefits. The report also concluded that the costs for any other work identified to address or compensate for this “problem” would be far greater than the costs of the recommended construction.

The Scoping Report did address the following topics re the suggested options:

- The feasibility of construction and future maintenance (pages 26 to 28)
- The feasibility of minimal damage to the Minesing Wetlands (pages 28 to 29)
- The feasibility of costs being distributed (pages 29 to 32)

The Scoping Report then described what courses of action were available to Springwater once they ultimately received and reviewed the Scoping Report. The Report also discussed the course of action that would be available to Springwater if a Preliminary report were authorized but then final environmental issues ruled out proceeding with construction (see Pages 33 to 34).

The overall summary of the recommendations of the Scoping Report was set out as follows:

It is recommended that the project scoping study be accepted by the Township and that an Engineer be appointed pursuant to Section 78 of the Drainage Act to commence the next step in the process. It is recommended that the appointment to the Engineer pursuant to Section 78 should initially be only for a Preliminary Report. It is further recommended that the environmental impact work to be undertaken should be completed as part of the Preliminary Report. The Engineer in the Preliminary Report stage should update/confirm elevations secured during this Scoping Study, should attempt to secure more GPS type of elevations further downstream from the existing Swaley terminus, should update

the survey of the Swaley Drain and tile outlets into it upstream to Highway 26 and should review the current watershed of the Swaley Drain.

The Preliminary Report should also attend to some soils probing to confirm the type of soils that could be encountered and to confirm the expected ease of constructability. Also the Preliminary Report could finalize access provisions.

Lastly, the Preliminary Report could address what additional work should be considered in the future by either a future/phased construction contract or by a separate future report with a separate future construction contract, should the work to be initially recommended be found insufficient. As an example, perhaps the Preliminary Report could examine the impacts of extending the Swaley Drain further downstream than the 300mm and/or of joining the Muskrat to the Coleman ditch at one location in Lot 7, Concession 12 together with a cleanout of the Coleman Ditch to the Downey Drain. Perhaps if the Muskrat outlet is improved into the River, a further analysis could be made of providing it a future and further outlet to the Downey Drain in addition. The Preliminary Report could also examine the option of going further downstream at the Swaley outlet initially in lieu of doing the work at the Muskrat outlet.

If and once a Preliminary Report including the Environmental Study is prepared, and is accepted by Council and the Conservation Authority, then an appointment to do a Final Report should follow.

Upon the filing of the March 27, 2018 Scoping Report, Springwater Council on April 18, 2018 appointed K. Smart Associates Limited to prepare a Preliminary Report. The Scoping Report had been submitted to NVCA on or about April 4, 2018.

Once appointed, the Engineer authorized the firm of RiverStone Environmental Solutions Inc. to proceed, as a sub-consultant, to undertake the Environmental Study as outlined in the Scoping Report's Appendix 7.

The Engineer also contacted the NVCA and was satisfied the Conservation Authority's position had not changed from the position that was conveyed prior to the filing of the Scoping Report. This position was that the CA was prepared to work with the Municipality to improve the outlet of the Swaley Drain, provided that the work to be done could be constructed with minimal environmental impacts, and with no significant impact on species in the wetlands.

Minutes of the April 27, 2018 NVCA Board meeting stated:

The board directed staff to continue to work with Springwater Township on improvements to the Swaley Drain in the Minesing Wetlands (under the Drainage Act).

In support of the review of a permit application, the NVCA may request an Environmental Impact Study (EIS) to address interference with a wetland. An EIS is a mechanism for assessing impacts to determine the appropriateness of a proposal.

An EIS must be carried out by a qualified professional, with recognized expertise in the appropriate area of concern. Staff's intent in the review of the EIS and other essential documentation is to ensure that the works do not result in adverse impacts on the Minesing Wetland and associated watercourses. In this regard, ecology staff have identified specific concerns that the works at the confluence of Muskrat Creek and the Nottawasaga River have the potential to result in adverse impacts that should be examined.

Subject to the Board's concurrence and prior to issuance of a permit, the proposed works should be supported by the following satisfactory details submitted by the municipality:

- An Environmental Impact Study that examines the environmental impacts and provides recommendations that ensure that the final proposed works are designed (and phased if necessary) in such a manner to avoid, mitigate and where necessary offset environmental impacts to achieve no net loss to the natural heritage system;*
- Details prepared by a professional engineer confirming that the proposed works will not result in adverse flooding impact to adjacent properties. In addition, the proposed drainage works should be reviewed and approved by fluvial geomorphologist;*
- Detailed construction drawings/plans outlining the extent of the works, erosion and sediment control measures, restoration of disturbed areas, and enhancement plantings and habitat creation; and,*
- Appropriate landowner permissions and other required approvals (e.g. MNRF. and DFO).*

NVCA staff will continue to assist through ongoing discussions with Township staff, Drainage Engineer and other involved qualified professionals.