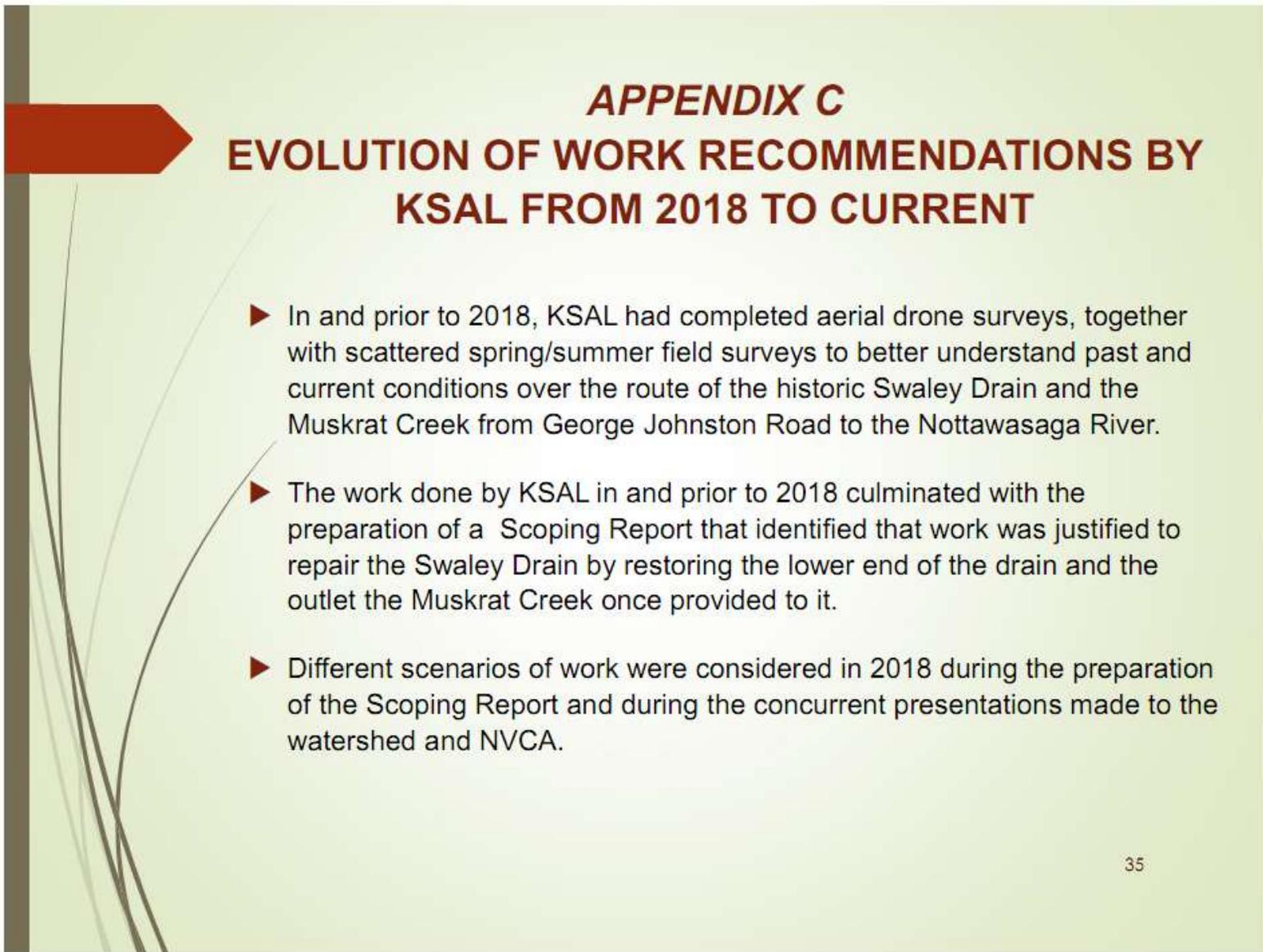


## **APPENDIX 11**

### **EVOLUTION OF ENGINEER'S RECOMMENDED WORK OPTIONS**

**(As Prepared for and Included in the April 6 and May 28 PowerPoint Presentations by the Engineer)**



## **APPENDIX C**

### **EVOLUTION OF WORK RECOMMENDATIONS BY KSAL FROM 2018 TO CURRENT**

- ▶ In and prior to 2018, KSAL had completed aerial drone surveys, together with scattered spring/summer field surveys to better understand past and current conditions over the route of the historic Swaley Drain and the Muskrat Creek from George Johnston Road to the Nottawasaga River.
- ▶ The work done by KSAL in and prior to 2018 culminated with the preparation of a Scoping Report that identified that work was justified to repair the Swaley Drain by restoring the lower end of the drain and the outlet the Muskrat Creek once provided to it.
- ▶ Different scenarios of work were considered in 2018 during the preparation of the Scoping Report and during the concurrent presentations made to the watershed and NVCA.

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## **APPENDIX C**

### **EVOLUTION OF WORK RECOMMENDATIONS BY KSAL FROM 2018 TO CURRENT - Continued**

- ▶ The minimum work identified by the Scoping Report and the work described at a presentation to the NVCA staff and Board in February 2018 would have involved:
  - a) 500m± of work in the wetlands from either the Nottawasaga River or Downey Drain outlet upstream.
  - b) 300m± of work in the wetlands from the Swaley Drain’s current outlet downstream either along its historic route or along its current diagonal outlet into Lot 9.
  - c) Suggested continued removal of debris in the River by the cooperative effort of the Township and NVCA.
  
- ▶ After the submission of the Scoping Report and the presentation to the Board in 2018, it became evident that the undertaking of an environmental review of the work area would be necessary and the review would have to identify that the “works do not result in adverse impacts on the Minesing wetland and associated watercourse”<sup>\*</sup> for NVCA to give support to the project.

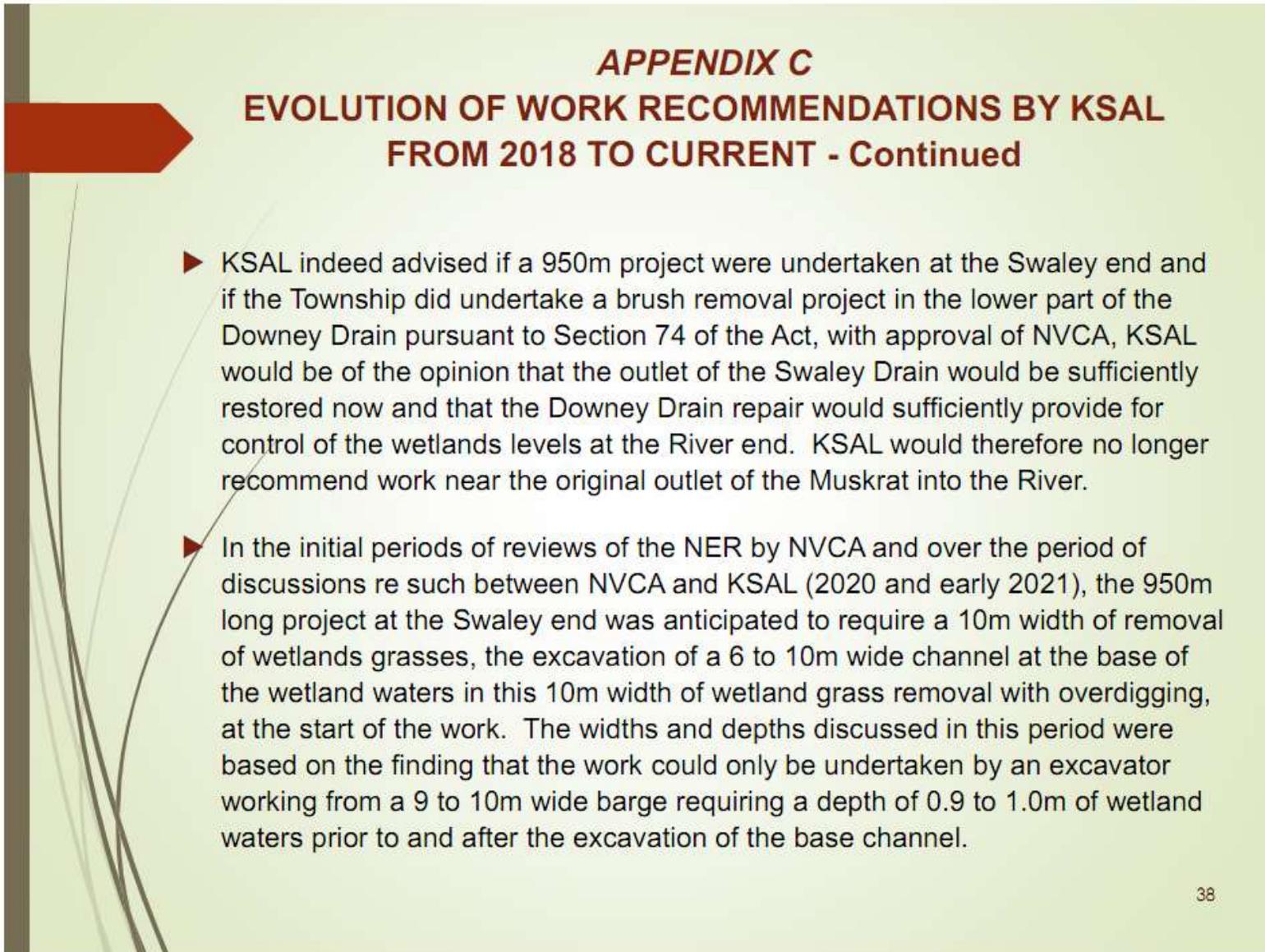
<sup>\*</sup> *Wording from 2018 staff report.*

## **APPENDIX C**

### **EVOLUTION OF WORK RECOMMENDATIONS BY KSAL FROM 2018 TO CURRENT - Continued**

- ▶ As a result over the period of 2018 to 2020, RiverStone Environmental Solutions (RSES) completed their Natural Environment Report (NER). The “work” areas considered during the preparation of this NER were both the area identified by the Scoping Report at the River end and the area at the Swaley end similar in concept to that presented in the Scoping Report but greater in length (to encompass the 750m to 950m lengths now proposed).
- ▶ The reason for the greater length at the Swaley end being, that in 2019, the Engineer’s field work had identified that a greater length should be studied at the Swaley end and this was conveyed to the authors of the NER and was addressed in the NER.
- ▶ The NER concluded that if identified mitigation measures were undertaken, work could occur in the studied area at the Swaley end with no adverse impacts on the wetland but work should be pursued at the River end only if, and after, it was determined that work at the Swaley end was insufficient.
- ▶ During the period of review by NVCA staff of the NER and the back and forth discussions between NVCA, RiverStone, KSAL and the Township, it was agreed that the 500m of work at the River end should not be undertaken pursuant to KSAL’s reports.

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The slide features a light green background with a dark green vertical bar on the left. A red arrow points right from the bar. The title is in bold brown text. Two bullet points are on the right, with thin lines connecting them to the bar. The page number '38' is in the bottom right corner.

**APPENDIX C**

**EVOLUTION OF WORK RECOMMENDATIONS BY KSAL  
FROM 2018 TO CURRENT - Continued**

- ▶ KSAL indeed advised if a 950m project were undertaken at the Swaley end and if the Township did undertake a brush removal project in the lower part of the Downey Drain pursuant to Section 74 of the Act, with approval of NVCA, KSAL would be of the opinion that the outlet of the Swaley Drain would be sufficiently restored now and that the Downey Drain repair would sufficiently provide for control of the wetlands levels at the River end. KSAL would therefore no longer recommend work near the original outlet of the Muskrat into the River.
- ▶ In the initial periods of reviews of the NER by NVCA and over the period of discussions re such between NVCA and KSAL (2020 and early 2021), the 950m long project at the Swaley end was anticipated to require a 10m width of removal of wetlands grasses, the excavation of a 6 to 10m wide channel at the base of the wetland waters in this 10m width of wetland grass removal with overdigging, at the start of the work. The widths and depths discussed in this period were based on the finding that the work could only be undertaken by an excavator working from a 9 to 10m wide barge requiring a depth of 0.9 to 1.0m of wetland waters prior to and after the excavation of the base channel.

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**APPENDIX C**  
**EVOLUTION OF WORK RECOMMENDATIONS BY KSAL**  
**FROM 2018 TO CURRENT - Continued**

- ▶ The NER had anticipated these wider widths and all the reviews and discussions with NVCA (up to just before April 6 this year) were based on the wider widths.
- ▶ Then in late March/early April 2021, KSAL become aware that the work could be undertaken using a narrower barge accommodating a smaller excavator. Indeed the width of wetland grass removal could be reduced from 10m to 6m, the extent of the overdigging at this barge launching area could be significantly reduced and disposal of excavated materials would be significantly less intrusive. KSAL were advised, however, there would be no significant cost savings, since the smaller excavator would take some additional hours to do the work. KSAL now feel that this is the optimum project to develop, considering all interests.
- ▶ As a result, the project that will be recommended in the Preliminary Report and that is being presented to the Board today for support is thus the project with a 950m length and with a 6m width.