

SCHEDULE E

Form of Completion Report for Studies

Please do not hesitate to contact your project officer to receive an electronic copy of the template of the Completion Report for Studies.

Upon completion of the Feasibility Study, a copy of the Final Study must be submitted along with this Completion Report for Studies.

FCM will post your report on the [Green Municipal Fund™ \(GMF\) website](#).⁺ This is because one of FCM's mandates is to help municipal governments share their knowledge and expertise regarding municipal environmental projects, plans and studies. Before you submit a report to FCM, make sure you hold the copyright for the report (you own all the rights to the content and can decide who is allowed to reproduce and distribute the report) and that it does not contain any confidential information.

If the report contains confidential information, you need to submit two versions: one containing confidential information, to be read by FCM staff, and one that does not contain confidential information, which can be posted on the GMF website. Please contact FCM if you have any questions about copyright and confidentiality.

How to complete the Completion Report for Studies

The purpose of the Completion Report for Studies is simple: to share the story of your community's experience in undertaking a Feasibility Study with others seeking to address similar issues in their own communities.

Please write the report in plain language that can be understood by people who are not specialists on the subject. A Completion Report for Studies is typically in the range of 5–10 pages, but may be longer or shorter, depending on the complexity of the Feasibility Study.

GMF grant recipients must enclose **final** copies of the Completion Report for Studies and the Final Study, both in electronic format, with their final Request for Contribution. The reports, including all attachments and appendices, must be submitted in PDF format with searchable text functionality. Reports that are not clearly identifiable as final reports, such as those displaying headers, footers, titles or watermarks containing terms like "draft" or "for internal use only," will not be accepted by GMF. Additionally, reports must be dated. If you have questions about completing this report, please consult GMF staff.

⁺<http://www.fcm.ca/home/programs/green-municipal-fund.htm>

Completion Report for Studies

GMF number	No.: 16058
Name of lead applicant (municipality or other partner)	Township of South Stormont
Name, title, full address, phone, fax and e-mail address of lead technical contact for this study	Peter Young, MCIP RPP Director of Planning/Economic Development Officer Township of South Stormont Email: peter@southstormont.ca Office: 613-534-8889 ext. 205 Fax: 613-534-2280
Date of the report	November 2019

1. Introduction

a) *Who was involved in doing the Feasibility Study, and what are their affiliations? Please include name, title and contact information. Those involved could include municipal staff, engineers and other consultants, a representative from a non-governmental organization, and others.*

- Peter Young, Director of Planning/EDO, Township of South Stormont
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- Ross Gellately, Director of Public Works, Township of South Stormont
- David Hodgson, P. Eng Project Manager, Malroz Engineering
- Camille Malcolm, GIT, MsC., Junior Geoscientists
- Glenn Ferguson, Ph.D., QPRA, Vice President / Senior Environmental Health Scientist, intrinsk

2. The Feasibility Study

a) *Describe the process that you undertook to make this feasibility study a reality, from concept, to council approval, to RFP, to final deliverable.*

In 2006, the Township of South Stormont acquired the property subjected to this study due to tax failure from previous owner. The site, zoned commercial, had been a former pub in the past, and previously, a gas station and garage. An environmental site assessment (ESA) was carried at that time. In 2015, the Township decided to sell the site and launched a Request for Proposal (RFP) to invite interested parties. The RFP was not conclusive, mainly because of the site environmental liability. The 2006 ESA was outdated and no longer complied with provincial regulation. The proponents did not want to take the risk.

The RFP results brought the Township to reconsider its approach. It was then decided to undertake a new Phase I & II ESA, with a risk assessment and remediation action plan, to clear the air around the environmental conditions of the site and take a sound decision on what to do with it.

With approval from Town Council to undertake a new ESA on the site and with a GMF grant secured for the Phase II, the Township of South Stormont launched a RFP to find the consulting firm that would perform the study. Once selected, the consultant proceeded to complete Phase I and Phase II, risk assessment and remediation action plan, with respect to the provincial standards.

b) What were the objectives of the Feasibility Study (what was it seeking to determine)?

It was already known that the site had been a gas station and garage in the past and the Phase I ESA revealed that underground structure was buried on site. The objective of this feasibility study was to confirm position of the underground structures, determine the extent of soil and water contamination, prescribe options and methods for remediation, costs and confirm potential land use.

c) What approach (or methodology) was used in the Feasibility Study to meet these objectives?

The consultant was mandated to comply with the Ministry of Environment of Ontario Phase I & II ESA guidelines, in order to produce the Record of Site Condition for the property.

d) Please describe any public consultations conducted as part of the Feasibility Study and their impact on the Study.

No public consultation was held as part of this feasibility study, but consultations with local counties and historical owners of the site were conducted. It is not excluded that public consultation will be organized in the future if zoning changes are needed for redevelopment.

3. Feasibility Study Findings and Recommendations

a) What were the environmental findings related to the options explored in the Feasibility Study? Please provide quantitative results and summary tables of these results (or the page numbers from the Feasibility Study report).

The environmental findings were consistent with the previous gas station usage of the site. Observations indicated the presence of a concrete oil-water separator and other reinforced concrete debris, however, buried tanks or hydraulic hoists were not observed, as anticipated from the Phase I findings.

The study confirmed soil and water contamination by contaminants associated to fuels and oils above the applicable 'Generic Site Condition Standard for Shallow Soils in a Non-Potable Ground Water Condition' standards near the former gas station and garage, but limited to the property. The consultant was able to adequately delineate horizontal and vertical impacts.

Detailed environmental results can be found from page 30 to 44 of the Phase II ESA report.

b) What were the financial findings related to the options explored in the Feasibility Study (for example, results of a cost-benefit analysis, financial savings identified, and so on)? Please provide quantitative results and summary tables of these results (or the page numbers from the Feasibility Study report).

The study includes costs estimates for three remediation options.

Option	Details	Estimated cost	Potential costs savings
1. Excavation of Contamination to 'Generic Site Condition Standard for Shallow Soils in a Non-Potable Ground Water Condition' Standards	<ul style="list-style-type: none"> - Excavation of impacted soils and disposition at an off-site licensed waste disposal facility. - Dewatering during excavation and backfilled to the original grade. 	\$1.1M, including \$180,000 in contingency	<ul style="list-style-type: none"> - \$190,000 if conducted concurrently with site redevelopment - \$390,000 if Township landfill is used for soil disposal
2. Excavation of Contamination to Property Specific Standards	<ul style="list-style-type: none"> - Excavation of impacted soils and disposition at an off-site licensed waste disposal facility. - Dewatering during excavation and backfilled to the original grade. 	\$510,000, including \$85,000 in contingency	<ul style="list-style-type: none"> - \$70,000 if conducted concurrently with site redevelopment - \$140,000 if Township landfill is used for soil disposal
3. Partial Excavation and In Situ Remediation of Contamination to 'Generic Site Condition Standard for Shallow Soils in a Non-Potable Ground Water Condition' Standards	<ul style="list-style-type: none"> - Excavation of a portion of impacted soils and disposition at an off-site licensed waste disposal facility. - Completed with in situ chemical oxidation, aerobic biodegradation, and carbon sorption. - Dewatering during excavation and backfilled to the original grade. 	\$1.1M, including \$190,000 in contingency	<ul style="list-style-type: none"> - \$70,000 if conducted concurrently with site redevelopment - \$140,000 if Township landfill is used for soil disposal

Detailed financial results can be found from page 7 to 10 of the Remedial Action Plan and Costs Analysis report.

c) *Based on the environmental and financial findings above, what does the Feasibility Study recommend?*

Recommendations from the study tended towards option 2, mainly because the volume of excavation is most likely to be less under that option and, therefore less expensive. However, preliminary discussions with the Town Council suggested that option 1 would be preferred to

option 2 if the Township could leverage the cost saving opportunity of using its landfill to dispose of the soil. That possibility is still to confirm and therefore no final decision was made.

4. Lead Applicant's Next Steps

- a) *Taking the Feasibility Study's recommendations into account, what next steps do you as the municipality plan to take?*

As mentioned, the Township is looking to use its landfill to dispose of the contaminated soil, but needs to go through provincial approval to do so. Depending if that is possible or not, South Stormont will then have to choose to either complete the remediation itself from one of the three remedial options available, or sell the property as is, with complete and compliant ESA to support the sale.

It is known that the potential for redevelopment and the benefits from the sale would be greater for a remediated site. If the municipality decides to complete remediation, it is most likely going to be rezoned to mix use, to eventually be sold for residential and commercial redevelopment. Nevertheless, the property will be included in the municipality Asset Management Plan and will be prioritise against other municipal liabilities.

What potential benefits or internal municipal improvements would result from these next steps?

- Take an informed decision around the asset's future
- Improve the municipal asset management practices
- By completing the remediation before selling, the municipality would gain experience with brownfield remediation for the first time.
- By completing the remediation before selling, the municipality would most likely get a better value for the property.
- By rezoning the property to mix use, the municipality would create a new opportunity for residential development.

5. Lessons Learned

In answering the questions in this section, please consider all aspects of undertaking the Study — from the initial planning through each essential task until the Final Study was prepared.

- a) *What would you recommend to other municipalities interested in doing a similar Feasibility Study? What would you do differently if you were to do this again?*

- Small communities should apply for funding to be able to undertake such initiative. The township would not have been able to complete the ESA without the GMF grant. This is true for many smaller communities where land value is not high enough to justify the cost of a study without a grant.
- If you do not have experience in brownfield remediation, speak to other municipalities that completed similar projects.
- If given the chance to do it again, the municipality would not have tried to sell the property without the proper ESA documentation. That way, you maximise the budget allocated to the site as well as the benefits resulting from its sale and redevelopment. It was a challenge to go back to council and ask for a new ESA after failing to sell the property the first time, especially in a small town with limited resources.

- b) *What barriers or challenges (if any) did you encounter in doing this Feasibility Study? How did you overcome them?*

Challenges were mostly encountered when completing the Phase I ESA, which was out of scope of the study funded by GMF. The site records on the former building removal indicated that clean up had been completed at demolition, but the Phase II confirmed that it was not the case. The overhead costs were mitigated by using municipal resources such as in-kind staff time and municipally owned equipment to cover for unexpected work.

6. Knowledge Sharing

- a) *Is there a website where more information about the Feasibility Study can be found? If so, please provide the relevant URL.*

<https://pub-southstormont.escrimemeetings.com/filestream.ashx?DocumentId=3922>

- b) *In addition to the Feasibility Study results, has your Feasibility Study led to other activities that could be of interest to another municipality (for example, a new policy for sustainable community development, a series of model by-laws, the design of a new operating practice, a manual on public consultation or a measurement tool to assess progress in moving toward greater sustainability)? If so, please list these outcomes, and include copies of the relevant documents (or website links).*

No activity or tool of interest developed as part of this study.

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