

Schedule E

Completion Report for Studies

GMF number	15098
Name of lead applicant (municipality or other partner)	2502410 Ontario Inc. Mr. Jay Patry
Name, title, full address, phone, fax and e-mail address of lead technical contact for this study	Company: XCG Consulting Limited Name: Mr. Kevin Shipley, Partner Address: 4 Cataraqui Street, Woolen Mill, East Wing, Suite 100, Kingston, Ontario K7K 1Z7 Phone: 613-542-5888 x 7104 Fax: 613-542-0844 Email: kevin.shipley@xcg.com
Date of the report	January 19, 2017

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.**
XCG Consulting Limited (XCG) was retained by 2502410 Ontario Inc. to complete the Feasibility Study. Mr. Jay Patry of 2502410 Ontario Inc. is the owner of 55 Ontario Street in Kingston, Ontario (subject property). Mr. Kevin Shipley of XCG was the Qualified Person (QP) conducting and supervising the Feasibility Study.

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.**

As requested by Mr. Jay Patry, XCG conducted a Phase One Environmental Site Assessment (ESA) at the property and buildings located at 55 Ontario Street, Kingston, Ontario (subject property).

The findings of the Phase One ESA identified 32 areas of potential environmental concern (APECs) and two areas of actual environmental concern (AECs) and that a Phase Two ESA was required before a Record of Site Condition (RSC) may be submitted with respect to all or part of the Phase One Property. Based on the findings of the Phase One ESA, a Phase Two ESA was completed at the subject property. The Phase Two ESA was undertaken as the Feasibility study.

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

2502410 Ontario Inc. has purchased the subject property with the intention of redeveloping it for mixed commercial/residential use. Because of the proposed change of land use from a less environmentally sensitive use (community use as a museum) to a more environmentally sensitive use (residential), a RSC is required for the subject property to comply with Ontario Regulation (O. Reg.) 153/04. Filing a RSC for the subject property requires completing Phase One and Phase Two ESAs that conform to the requirements of O. Reg. 153/04, as amended. Therefore, this Phase Two ESA has been completed in accordance with O. Reg. 153/04 – Records of Site Condition – Part XV.1 of the Environmental Protection Act, as amended.

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

The Feasibility Study consisted of completing a Phase Two ESA investigation. The Phase Two ESA was completed using state-of-the-art equipment and techniques, based on current regulations and appropriate protocols. Groundwater and soil samples from groundwater monitoring wells, test pits and boreholes were submitted to an accredited laboratory for analyses of metals/inorganics, petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs).

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

No public consultations were required or needed for this Feasibility Study.

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).

Exceedances of the Ministry of the Environment and Climate Change (MOECC) Table 9 Site Condition Standards (SCSs) for petroleum hydrocarbons (PHCs) (fractions F1-F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and metals and inorganics were identified in both soil and groundwater at the subject property. Exceedances of PAHs and metals were also identified in sediment samples, collected as part of this Phase Two ESA, from offshore upstream and downstream locations on Lake Ontario and from directly adjacent to the southeast and southwest corners of the subject site. Complete analytical summary tables, site plans, and distribution of exceedances in soil and groundwater can be found in the final Phase Two ESA report (Feasibility Study 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).

Based on the results of the Phase Two ESA, several possible options were identified in order to obtain a Record of Site Condition as required by the owner in order to redevelop the site. The table below shows the cost and timing of the different possible options.

Remedial Option	Estimated Capital Cost (\$)	Estimated Annual Cost (\$)
Excavation and Off-Site Disposal of Entire Site with No Risk Assessment (i.e. Conventional Clean-up)	Greater than \$5 million	\$0
Streamlined Tier 3 Risk Assessment with Excavation and Off-Site Disposal of Select Areas	\$1,300,000 - \$1,700,000	\$15,000
Streamlined Tier 3 Risk Assessment with Excavation and Biopile Treatment of Select Areas	\$600,000 - \$700,000	\$100,000
Full Tier 3 Risk Assessment with Excavation and Off-Site Disposal of Small Area	\$1,000,000	\$30,000

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

Based on the findings of the Phase Two ESA, the above-mentioned contaminants of concern (COCs) were identified on the Phase Two Property. The Phase Two Property will require remediation, or a risk assessment and risk management plan, before all release and exposure pathways can be considered incomplete.

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

As discussed and agreed upon by the owner, XCG will be moving forward with completing a Full Tier 3 Risk Assessment and an excavation and off-site disposal of a small area on the property in order to obtain the Record of Site Condition for redevelopment. Benefits will include boosted tax revenue for the City of Kingston, increased parkland for the City of Kingston, new opportunity to extend a recreational trail along the waterfront, increased population living downtown giving rise to benefits for downtown businesses and supporting the urban core.

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?

The project went well and there was nothing significant at this time that we would do differently.

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

XCG encountered some practical problems while completing the Phase Two ESA investigation on the subject property. For example, it was determined that the bridge connecting the east wharf to the main land was not structurally sound for the heavy equipment to pass over. In order to

complete the subsurface investigations on this portion of the property, a barge was rented to get the drilling equipment onto the east wharf.

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.**

A website where more information about the Feasibility Study is not available.

- 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).**

At this time, XCG is not aware of any other activities of this type.

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