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ARNPRIOR

Completion Report for Studies **15116**
GMF number:
Name of lead applicant **Town of Arnprior**
(municipality or other partner)
Name, title, full address, phone, fax and e-mail address of lead technical contact for this study **Deanna Nicholson, Environmental Engineering Officer, 105 Elgin Street W Arnprior, ON, K7S 0A8 613-623-4231 613-623-9960 dnicholson@arnprior.ca**
Date of the report **November 3, 2017**

1. Introduction

- a. Describe the process that you undertook to make this feasibility study a reality, from concept, to council approval, to RFP, to final deliverable.
- b. What were the objectives of the Feasibility Study (what was it seeking to determine)?
- c. What approach (or methodology) was used in the Feasibility Study to meet these objectives?
- d. Please describe any public consultations conducted as part of the Feasibility Study and their impact on the Study.

The Town of Arnprior undertook a Phase II Environmental Site Assessment on a brownfield property located on a double lot at 30 – 36 McGonigal Street West. The objective of the Phase II ESA / Feasibility Study was to gain an understanding of the environmental liabilities at the Site in order to aid the Town in deciding whether or not the Town wished to purchase the property and help identify barriers to eventual re-development.

To initiate the project, the Town undertook a Phase I ESA first to determine whether or not a Phase II ESA was warranted. Both the Phase I and Phase II ESA's followed the staged procedure as set out in O. Reg. 153/04. The completion of the Phase II ESA to O. Reg. 153/04 standards (as opposed to only CSA standards) will mean that the results of the Feasibility Study will allow the Town to file for a Record of Site Condition (RSC) once the Site is remediated to the O. Reg 153/04 standards.

The lead technical contact for the project was Deanna Nicholson, the Environmental Engineering Officer for the Town of Arnprior. The project was overseen by the Town of Arnprior's CAO, Michael Wildman and was undertaken by Jp2g Consultants Inc. Jp2g's main project manager Andrew Buzza, a Senior Hydrogeologist, was responsible for the coordination and completion of Phase II ESA activities by the consulting firm.

Additionally, a Pre-Demolition Hazardous Materials Building Assessment was undertaken as part of this project by a second consulting Firm, Pinchin Ltd. Pinchin's project manager and field technician was Gordon Gillespie.

2. The Feasibility Study

Project Preparation

In October 2015, Mrs. Deanna Nicholson (née Streifel) presented to the Council of the Town of Arnprior, a "Brownfield Action Plan" with a number of proposed steps to encourage the sale, remediation and re-development of three brownfield properties (all former gas stations) in the Town of Arnprior. One of the steps proposed in the Action Plan, specifically for the property located at 30-36 McGonigal Street West, was to undertake a Phase I and Phase II Environmental Site Assessment, if the property were to fail to sell during the tax sale process.

In preparation for the presentation of staff's "Brownfield Action Plan", Mrs. Nicholson contacted the FCM to inquire about the GMF program and the grant supports available for Phase II ESA projects. Information on the FCM-GMF program was included in the Action Plan presented to Council with the prospect of receiving a GMF grant, potentially in the amount of up to 50% being highlighted during the presentation. The potential for significant grant funding was a large selling point for Arnprior Town Council.

Although anticipated by Town staff due to the threat of unknown environmental liabilities at 30 – 36 McGonigal St W, the first two steps in staff's proposed action plan (to proceed with the tax sale process and openly advertise the Brownfield Financial Tax Incentive Program during that process) were unsuccessful. As such, Town staff and Council began to evaluate whether or not it was in the interest of the Town to acquire the property for the Town.

Council Approval

Arnprior Council decided that pending positive results of a Phase I and Phase II ESA, that the Town of Arnprior would purchase the property in order to showcase Brownfield redevelopment in our Downtown core. As Arnprior was also in the process of undertaking our "Downtown Revitalization" project, the largest self-funded capital project in Arnprior history, the acquisition of the subject site, located prominently in the Downtown core, was a logical move.

In the spring of 2016, Council approved the undertaking of the Phase I and II ESA for the subject Site. Immediately following Council approval Mrs. Nicholson began to prepare the GMF grant submission package. Work on the Phase I and then Phase II ESA began as soon as Council approval was provided and the submission of the grant was acknowledged by FCM.

Procurement

The Town of Arnprior has a standing offer list for Consulting Service providers, for which a competitive selection process was completed in 2014. Jp2g Consultants Inc. was identified as a Consulting firm on our standing offer list capable of completing a Phase I and Phase II ESA meeting O Reg, 153/04 standards. Additionally, Jp2g was also the Consultant undertaking much of the civil work for the Downtown Revitalization project. Jp2g was requested to provide a quote to undertake a Phase I and Phase II ESA (meeting O. Reg. 153/04 standards), with the intention of filing for a Record of Site Condition once the Site was determined to meet the regulatory standards.

Additionally, Pinchin Ltd. completed a Pre-Demolition Hazardous Materials Building Assessment on the single remaining building at the Site. Pinchin is an environmental consulting firm that the Town has successfully worked with many times in the past. The work plan undertaken by Pinchin was relatively small (under \$5,000), and as per the Town of Arnprior's Procurement Policy, did not require the completion of a competitive tendering process.

On Site Investigation

Throughout the spring and summer of 2016, Jp2g and Pinchin completed each of their respective on-site work plans. The deliverable for the Pre-Demolition Hazardous Materials Building Assessment was received from Pinchin on June 29, 2016.

Jp2g undertook their drilling and test pit program on April 21 and 25, 2016 (respectively) wherein a total of seven boreholes were drilled (four of which housed constructed monitoring wells) by Strata Drilling Group and ten test pits were dug using a backhoe supplied by the Town of Arnprior. Other field activities undertaken by Jp2g included groundwater monitoring events on April 26 and June 21, 2016. Jp2g provided the final Phase II report in December 2016; however the Town was provided with preliminary soil and groundwater results in May 2016, as the preliminary results were relied upon by the Town when considering the purchase of the property.

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).*

Report Results

Phase II ESA

Results of the Phase II ESA indicated that contaminated soil and groundwater were present on the Site. Results of the soil and groundwater testing confirmed the presence of the following contaminants at the Site at levels greater than the standards.

Soil (Boreholes 3 and 6 and Test Pit 10)

- PHCs: F1 petroleum hydrocarbons

- BTEX: Ethylbenzene and Xylene
- PAHs: Naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene
- VOCs: 1,1,2,2-tetrachloroethane

Groundwater (Borehole 6)

- PHCs: F1 petroleum hydrocarbons and F2 petroleum hydrocarbons
- VOCs: Chloroform and 1,1,1,2-tetrachloroethane

All soil impacts were determined to be located in the northern corner of the site in the area of the former belowground gasoline storage tank and dispensing island. The contaminants identified in soil and groundwater were determined to be related to petroleum contamination. Full results of the Feasibility Study can be found in the executive summary section of the report titled “*Phase II Environmental Site Assessment 30-36 McGonigal Street West*” on pages I and II.

Pre-Demolition Hazardous Materials Building Assessment

Result of Pinchin’s Pre-Demolition Hazardous Materials Building Assessment established that asbestos and lead were present in building materials. A full discussion of the results can be found in the executive summary section on pages i and ii of the report titled “*Pre-Demolition Hazardous Building Materials Assessment 30-36 McGonigal Street, Arnprior, ON*”; however a short summary of the results are also provided below.

Building materials containing asbestos and/or lead were found in the following locations:

- Potentially friable asbestos in red floral patterned vinyl sheet flooring, containing chrysotile asbestos,
- Non-friable beige 12” x 12” vinyl floor tiles, containing chrysotile asbestos,
- Non-friable tar, containing chrysotile asbestos present on the roof systems,
- Lead was confirmed present in select paints/surface coatings in pipe fittings.
- Three paint finishes were found to exceed the allowable leachate levels for lead.

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).

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

Financial Findings and Recommendations

Jp2g identified two site management options based on the results of the intrusive soil and groundwater investigation; full redevelopment through remediation and redevelopment through partial remediation and land use controls. Ranges of indicative values as an order of magnitude were provided on page 33 - Table 4 of the report (and below), to compare the relative costs of each approach. Actual costs of remediation were not calculated as part of the Phase II ESA workplan, but were provided by Jp2g as part of the next Phase of the project, Remediation Monitoring.

Parameters	Full Remediation	Partial Remediation and Land Use Controls
Cost without RSC	\$\$\$	\$\$
Time to completion without RSC	2 months depending on groundwater concentrations	2 months
Long term contaminant management	None once both soil and groundwater are remediated to generic standards	On-going monitoring of risk management measures as part of the property operation and maintenance (O&M)
Additional effort to file RSC	Months to file once both soil and groundwater are remediated to generic standards	Option to file a RSC through the risk assessment process is uncertain. It might be difficult to get a Ministry approved risk assessment without reducing the site contamination through some active form of remediation.

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?

Based on the results of the Phase II ESA, and the fact that contamination was shown to be limited to the northern corner of the site, the Town ultimately decided to purchase the property and undertake “full redevelopment through remediation” option. Full remediation of the Site was selected because it will provide the Town will the least number of barriers to sell and re-develop the property in the future. The Town’s next step was to request a proposal from Jp2g to undertake Remediation Monitoring for the physical remediation of the Site.

The Town envisions that remediation and re-development of property as a parking lot in the immediate future will provide five key benefits to the Town:

1. Potential hazards to human and environmental health related to hydrocarbon contamination will be removed.
2. The Site is located in a high traffic area within the zone of the Town's Downtown Revitalization project and the removal of the dilapidated building will contribute substantially to an improvement of the overall look and feel of this key business area.
3. The Town's financial position with respect to the Site will be improved as the administrative burden of managing a property in significant tax arrears will be removed. Additionally, the property will now have the potential to return to a status where taxes are being generated for the Town if the Town decides to sell the property in the future for redevelopment.
4. A new municipal parking facility in an area with increasing foot traffic, but limited on street parking, will greatly benefit local businesses and residents.
5. Several other Brownfield properties are located within a short distance of this Site. This project stands as an example of a successful exercise in Brownfield redevelopment and will hopefully encourage other private developers to undertake a similar path.

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?

1. Municipalities should be aware that when budgeting for a Phase II ESA, a consultant may provide a proposal for a 'best case scenario' such as a site with minimal soil and groundwater contamination and ideal soil conditions for drilling. Whereas in reality many things don't go as planned and will likely require change orders, which can become costly. Examples of such costly add-ons include unexpected sources of contamination not identified in the Phase I ESA contaminated drill cuttings and purge water that require special disposal and the requirement for additional lab testing over and above the suites typical required. Municipalities should request that contingency estimates be built into each Phase II ESA proposal so that additional expenses do not come as a surprise.
2. When filling out your GMF application, leave plenty of time in your application for each phase or work, much more than you think necessary. Weather delays early in your project can severely affect your entire schedule.

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

One challenge that was faced by our project was that contamination was found to extend beneath the existing Site building. This meant that in order to complete the intrusive piece of the investigation (soil and groundwater sampling), the Phase II work could not be finished until some of the 'remediation phase' of the project was undertaken. As soon as the *Pre-Demolition Hazardous Materials Building Assessment* was completed, the demolition of the Site building was undertaken. Jp2g was then able to return to the Site to collect the remaining soil and groundwater samples required.

The second challenge faced by this project was that the Town included in its GMF grant application, funding for the filing of a Record of Site condition for the Site. With the results of the Phase II ESA in hand, the Town undertook a soil remediation program at the Site in late 2016 and early 2017. Despite this remediation work, including the removal of a significant volume of soil from the Site, groundwater contamination continues to exceed the O. Reg. 153/04 standards, which is delaying the filing of the record of Site Condition for the Site. The Town anticipates that a RSC will be filed in approximately 2 years, which will allow some time for contaminant concentrations in groundwater to stabilize.

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.

The Phase II ESA developed for this Site is not currently available on the Town's website; however, it may become available in the future once the report for the remediation phase of the project is also completed.

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).

The Town is in the process of updating our Official Plan and the section of the new Official Plan related to Brownfield redeveloped has been significantly overhauled. Once the updated Official Plan is approved by the County of Renfrew, the new policies included in the plan will be available for other municipalities to consider for their own plans.

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