

APPENDIX F

Potential Hazards Information/Attestation Sheets

- CRA-Asbestos Air Sampling Report
- Potential Hazards Identification
- Potential Hazards Awareness
- Fire Zone 2 – Powerhouse Complex - Sketch
- Health & Safety – Attestation Forms



**CONESTOGA-ROVERS
& ASSOCIATES**

96 White Oak Drive East, Sault Ste. Marie, ON P6B 4J8
Telephone : 705-254-2438 Facsimile : 705-254-2430
www.CRAworld.com

February 16, 2011

Reference No. 71648-01

Mr. Dennis Boston
Algoma Industrial Ltd.
59 Yates Avenue
Sault Ste. Marie, ON
P6C 1G1

Dear Mr. Boston;

Re: Asbestos Air Sampling Activities- January 28, 2011 & February 4, 2011
Sault Ste. Marie Canal National Historic Site - Stores Building
Sault Ste. Marie, Ontario

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) was retained by Algoma Industrial Ltd. (Algoma) to provide clearance and occupational health and safety air sampling services within the Stores Building located at 1 Canal Street within the Sault Ste. Marie Canal National Historic Site in Sault Ste. Marie, Ontario (Building/Site).

The air sampling activities conducted on January 28, 2011, were to identify the presence, if any, of asbestos fibres within the Type 3 asbestos abatement enclosure on the second floor of the Site after Type 3 Asbestos remedial activities were completed. CRA understands that clearance sampling was necessary prior to dismantling the enclosure, in accordance with Ontario Regulation (O. Reg.) 278/05, which was erected as part of the abatement activities completed by Algoma Industrial Ltd. (AIL) to remove asbestos containing insulation within the attic space of the Building. The Type 3 enclosure spanned the entire second floor of the Building and was maintained under negative pressure according to AIL Personnel during all remedial activities and was in operation during clearance sampling.

Subsequent, air sampling activities were conducted on February 4, 2011 to identify the presence, if any, of asbestos fibres within the first floor of the Site to be protective of the health and safety of the Site's occupants.

2.0 CLEARANCE AIR SAMPLING

Clearance air sampling was conducted in accordance with Ontario Regulation (O. Reg. 278/05) and the National Institute for Occupational Safety and Health (NIOSH) Method 7400 for Asbestos and other fibres by PCM. Samples were collected utilizing an air sampling train



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consisting of an air sampling pump equipped with a cellulose ester filter and using aggressive sampling methods (i.e., airflow inside the enclosure was generated using a battery-operated leaf blower to dislodge settled dust before and during sample collection). Pumps were calibrated to a flow rate of 15 litres per minute with a collection time of 160 minutes per sample and a total sample volume of 2400 litres as required by O. Reg. 278/05. The samples were submitted under Chain-of-Custody procedures to EMSL Analytical Inc., in Mississauga, Ontario, and analyzed by phase contrast microscopy (PCM) for fiber content.

3.0 OCCUPATIONAL HEALTH AND SAFETY AIR SAMPLING

Occupational health and safety air sampling was conducted by CRA within the first floor of the Site in accordance with the NIOSH Method 7400 for Asbestos and other fibres by PCM. Samples were collected utilizing an air sampling train consisting of an air sampling pump equipped with a cellulose ester filter. Pumps were calibrated to a flow rate of 15 litres per minute with a collection time of 27 minutes per sample and a total sample volume of 405 litres as required by NIOSH 7400. The samples were submitted under Chain-of-Custody procedures to EMSL Analytical Inc., in Mississauga, Ontario and analyzed by phase contrast microscopy (PCM) for fiber content.

4.0 RESULTS

Asbestos fibre results from all clearance and occupational health and safety samples were below the 0.01 fibres per cubic centimeter (f/cc) Type 3 asbestos abatement clearance criteria as detailed in O.Reg 278/05 and well below the occupational exposure limit of 0.1 f/cc set forth within Ontario Regulation 833/90 "Control of Exposure to Biological or Chemical Agents". A summary of the air sampling results is provided in Table 1. The analytical laboratory reports are attached as Attachment A.

5.0 CONCLUSIONS & RECOMMENDATIONS

The purpose of air sampling was to determine if the areas surrounding the asbestos removal project were contaminated with asbestos fibres when the asbestos was removed. Based on the analytical results, all samples collected were below the clearance criteria of 0.01 f/cc and exposure criteria of 0.1 f/cc.



**CONESTOGA-ROVERS
& ASSOCIATES**

February 16, 2011

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Reference No. 71648-01

Should you have any questions or require additional information, please do not hesitate to contact the undersigned at (705) 254-2438.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

A handwritten signature in black ink, appearing to read 'Kyle Malo', written in a cursive style.

Kyle Malo, A.Sc.T.
KM/lb /1
Encl.

TABLE 1
ASBESTOS AIR SAMPLING RESULTS
SAULT STE. MARIE CANAL NATIONAL HISTORIC SITE - STORES BUILDING
SAULT STE. MARIE ONTARIO

Ontario Regulation 2789/05 Clearance Results

SAMPLE ID	TIME RUN (minutes)	PUMP RATE (L/min)	TOTAL VOLUME (Litres)	SAMPLE LOCATION	CLEARANCE CRITERIA ⁽¹⁾ (f/cm3)	PCM RESULTS (f/cm3)
AS-71648-012811-KM-001	160	15	2400	South Second Floor	0.01	0.003
AS-71648-012811-KM-002	160	15	2400	Middle Second Floor	0.01	0.004
AS-71648-012811-KM-003	160	15	2400	North Second Floor	0.01	0.002

Ontario Regulation 833/90 Occupational Health and Safety Results

SAMPLE ID	TIME RUN (minutes)	PUMP RATE (L/min)	TOTAL VOLUME (Litres)	Sample Location	EXPOSURE LIMITS ⁽²⁾ (f/cm3)	PCM RESULTS (f/cm3)
AS-71648-020411-KM-001	27	15	405	North First Floor	0.1	<0.007
AS-71648-020411-KM-002	27	15	405	East Room First Floor	0.1	<0.007

Notes:

- 1) Clearance Criteria is based on Ontario Regulation 278/05 "Designated Substances - Asbestos on Construction Projects and in Buildings and Repair Operations".
- 2) Exposure Limits are based on Ontario Regulation 833/90 "Control of Exposure to Biological or Chemical Agents".

ATTACHMENT A
ANALYTICAL DATA



EMSL Canada Inc.

10 Falconer Drive, Unit #3, Mississauga, ON L5N 3L8

Phone: 289-997-4602 Fax: (289) 997-4607 Email: torontolab@emsl.com

Attn: **Katherine Pritchard**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON N2V 1C2

Fax: Project: **71648-01** Phone: (519) 884-0510

Customer ID: 55CRAC22
Customer PO:
Received: 01/31/11 10:49 AM
EMSL Canada Or 551100244
EMSL Canada Pr
Analysis Date: 1/31/2011

Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method, Revision 3, Issue 2, 8/15/94


Sample	Location	Sample Date	Volume (liters)	Fibers	Fields	LOD (fib/cc)	Fibers/mm ²	Fibers/cc	Notes
1 551100244-0001	AS-71648-012811-KM-01	1/28/2011	2400.00	16	100	0.001	20.4	0.003	
2 551100244-0002	AS-71648-012811-KM-02	1/28/2011	2400.00	19.5	100	0.001	24.8	0.004	
3 551100244-0003	AS-71648-012811-KM-03	1/28/2011	2400.00	12	100	0.001	15.3	0.002	

No discernable field blanks submitted with this sample set.

Initial report from 01/31/2011 18:52:21

Analyst(s)

Kevin Pang (3)



Kevin Pang
or other approved signatory

Limit of detection is 7 fibers/mm². Interlaboratory Sr values: 5-20 fibers = 0.35, 21-50 fibers = 0.30, 51-100 fibers = 0.20. The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears not responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.
Samples analyzed by EMSL Canada Inc. 10 Falconer Drive, Unit #3, Mississauga ON



EMSL Canada Inc.

10 Falconer Drive, Unit #3, Mississauga, ON L5N 3L8

Phone: 289-997-4602 Fax: (289) 997-4607 Email: torontolab@emsl.com

Attn: **Katherine Pritchard**
Conestoga-Rovers & Associates, Ltd.
651 Colby Drive
Waterloo, ON N2V 1C2

Fax: Project: **071648** Phone: (519) 884-0510

Customer ID: 55CRAC22
Customer PO:
Received: 02/07/11 12:15 PM
EMSL Canada Or 551100315
EMSL Canada Pr
Analysis Date: 2/7/2011


Test Report: Fiber Count by Phase Contrast Microscopy (PCM), NIOSH 7400 Method, Revision 3, Issue 2, 8/15/94

<i>Sample</i>	<i>Location</i>	<i>Sample Date</i>	<i>Volume (liters)</i>	<i>Fibers</i>	<i>Fields</i>	<i>LOD (fib/cc)</i>	<i>Fibers/mm²</i>	<i>Fibers/cc</i>	<i>Notes</i>
AS-71648-020411-KM-01 551100315-0001		2/4/2011	405.00	<5.5	100	0.007	<7.01	<0.007	
AS-71648-020411-KM-02 551100315-0002		2/4/2011	405.00	<5.5	100	0.007	<7.01	<0.007	

No discernable field blanks submitted with this sample set.

Report Amended: 02/08/2011 11:25:20 Replaces the Inital Report 02/08/2011 09:01:35. Reason Code: Client-Other (see report comment)

Analyst(s)
Kevin Pang (2)



Kevin Pang
or other approved signatory

Limit of detection is 7 fibers/mm². Interlaboratory Sr values: 5-20 fibers = 0.35, 21-50 fibers = 0.30, 51-100 fibers = 0.20. The laboratory is not responsible for data reported in fibers/cc, which is dependent on volume collected by non-laboratory personnel. Results have been blank corrected as applicable. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears not responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.
Samples analyzed by EMSL Canada Inc. 10 Falconer Drive, Unit #3, Mississauga ON

Potential Hazards Identification:

Stores Building
Foundation Stabilization
Building Restoration 2014

Sault Ste. Marie Canal
National Historic Site of Canada

Parks Canada wants to stress the importance of the following potential hazards related to the work that will take place in conjunction with the above noted project. These are the most obvious potential hazards identified but aren't necessary a comprehensive list. The contractor has to be vigilant of other hazards and will be required to provide their site specific Hazard Assessment for the project.

- Work being done during all seasons throughout construction period, including the winter. The area is open to; sun, rain, wind, and cold, therefore there is a risk of every weather related stress including sunstroke, heat exhaustion, through hypothermia and frostbite.
- Precautions for working conditions including, but not limited to:
 - Demolition
 - Shoring unstable structures
 - Removal of unstable structures, sub assemblies, and or wall sections
 - Working with unstable and heavy stones
 - Working at heights
 - Working from specialized scaffold
 - Working in water
 - Working in trenches
 - Working near unstable structures
 - Working on uneven surfaces
 - Hot work for metals: welding cutting grinding shaping
 - Working with concrete, cement, mortars and mixes dry and wet
 - Working with compressed air and or gases
 - Working with hot water heating system components
 - Working around electrical services
- Slippery surfaces might result from the surrounding condition.
- Working with electric powered tools around water needs special attention and measures to prevent electrocution.
- Hazards to workers present in the vicinity of mobile equipment such as: backhoe, Bobcat, Mini Excavators, Jack Hammers, Pneumatic tools and trucks.
- Hazards associated with hoisting and material handling machinery, lifting equipment, mechanical pulling devices, wenches, and block and tackle will need to be assessed.
- Parks Canada employees might have to come on site from time to time for various monitoring purposes. Those employees will be submitted to the same safety measures required on the construction site, nevertheless their presence will have to be considered in the contractors H&S plan.

June 10, 2014

Barry Guzzo
Technical Services Coordinator NOFU
Parks Canada

Potential Hazardous Material Identification:

Stores Building Foundation Stabilization Building Restoration 2014

Sault Ste. Marie Canal National Historic Site of Canada

Please find some suggestions regarding Designated Substance Risks for inclusion of the Tender Package for the Rehabilitation project regarding the Stores Foundation Stabilisation.

Asbestos

Here is the report which indicates the results of air sampling actually carried out in the stores building. Please be conscious of the content and intent of the letter contained herein. This information is valid as stated in the letter and is the appropriate information to the best of my knowledge.



Asbestos air sampling result_Algonia Industrial ltd_Post Abatement.pdf

Lead Paint

Lead paint will be present through many of the painted surfaces of this building. Evidence can easily be detected with local testing, and will exceed acceptable limits where OSH is concerned. Please proceed accordingly. Our experience on site is that where lead is present it is also well above the Ministry of labour guideline levels and must be treated accordingly.

Testing and observations to date regarding ground testing was not specific to hazardous materials to my knowledge. Having said that, there was no specific Hazardous Material suspicious material found during any drilling or excavating to date.

Silica

This project will be affected by MOL regulations regarding control of Silica on this construction project.

Polychlorinated Biphenyls (PCB's)

To the best of our knowledge, PCB's were removed from the building.

The highest risk areas for any potential remaining PCB's would be in the remaining electrical transform equipment.

The lights had the ballasts replaced some time ago, but care and caution will be required during such removals in case any units were overlooked.

Urea Formaldehyde Foam Insulation

This has been identified in the overhead steel culvert supported between the Stores Building and the Powerhouse Building.

A suspect location would also be between the Stores Building and the Carpentry Shop where these same services extend in a culvert underground.

Work in this area will require some minor investigations and confirmation of existence of the material in the underground culvert.

Petroleum Hydrocarbons

There were formerly in ground Petroleum heating fuel storage in the area just west of the Stores Building at the site which now has the Public Washroom above.

Such Tank was removed and testing plus subsequent test reveal no petroleum hydrocarbons present in this area.

Distribution supply lines may well remain sub terrain and will require compliant care and caution as such lines may be exposed through construction requirements.

Benzene

Potential sources of benzene could be sourced outside of the building in the form of ventilation of the Above Ground Storage Tanks located South and East of the Stores Building. Mills, industries, and vehicular emissions in close proximity to the site may also impact on such exposures. The extent of such risks are unknown.

Coke Oven Emissions

While a risk of exposure pending prevailing winds exists, the extent is unknown.

Other Hazardous Materials

Other items containing such contents would be stored supplies in the welding shop or storage cabinets in the building.

Examples of such items, but, not limited to would be:

- Paints and Primers
- Paint Thinners
- Silicone spray lubricants
- Contact cement and cleaner
- Lubricants
- Roofing Cement
- Various bonding agents
- Plastic glazing compounds
- Cleaning supplies

Purpose for basic maintenance supplies

This information is provided to the best of my knowledge.

The actual work risk hazard analysis for the project would need to be developed by the Contractor.

June 10, 2014

Barry Guzzo
Technical Services Coordinator NOFU
Parks Canada

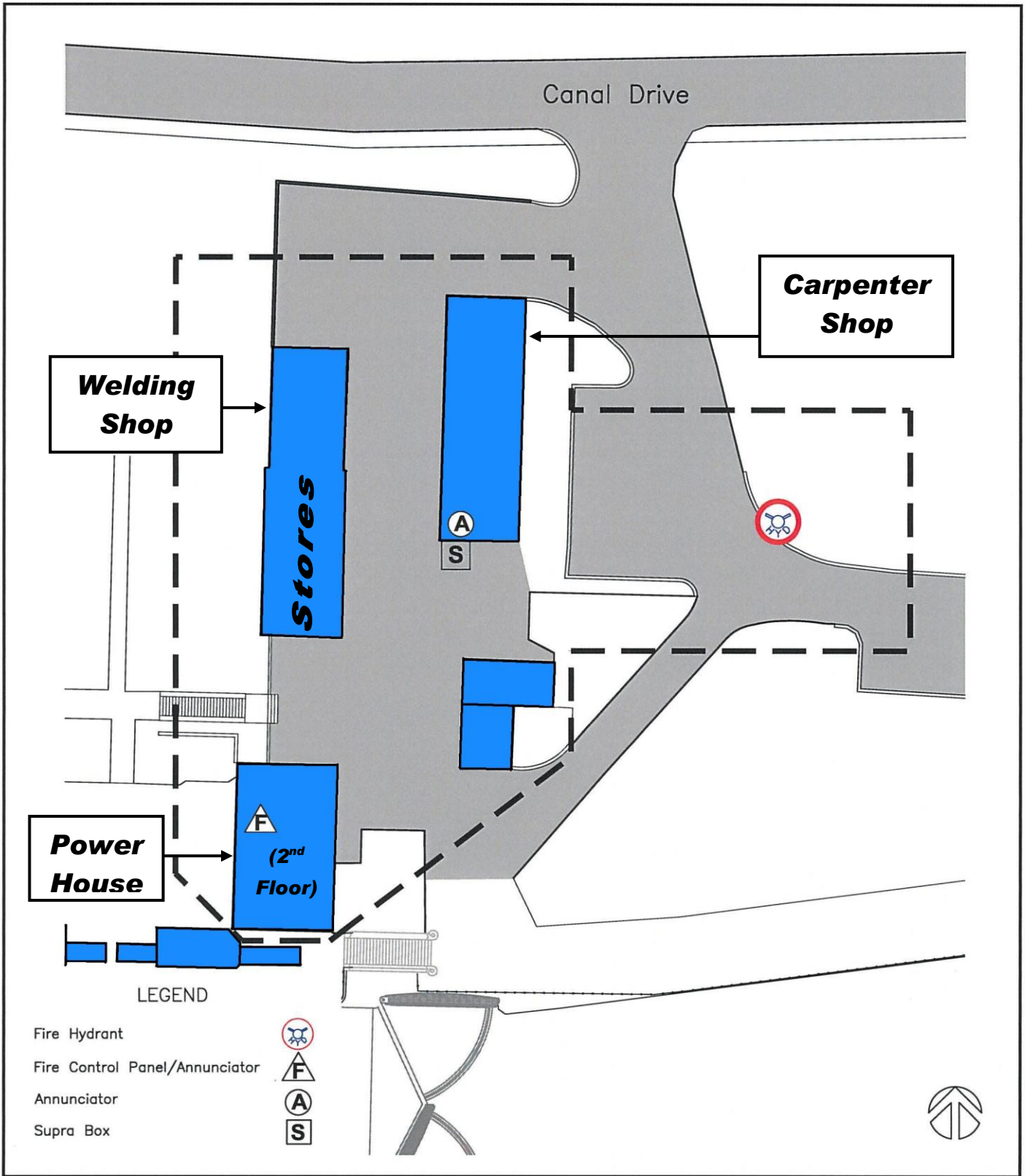
Hazard Potentials

Hazard	Description
Exposure (cold)	<p>The site is located in a natural open area with little to no barriers to block wind and snow. During cold weather periods, high winds will generate high wind chill factors. These winds and wind chill will produce surface ice unexpectedly.</p> <p>These conditions increase probability that individuals working in the outdoors could be susceptible to cold weather injuries such as frost bite or exposure related health issues.</p> <p>High wind and snow conditions can also generate snow drifts which may cover or conceal trip or fall hazards.</p>
Exposure (heat)	<p>During summer months high humidity can increase probability of heat exposure related injury or ailment.</p> <p>Due to the lack of shade or direct or indirect shelter from sun and heat there is an increased risk to individuals working outdoors.</p> <p>Lack of readily available potable water on the site, and areas which provide little relief from summer heat and humidity increase the possibility to heat related health issues when working outdoors.</p>
Trip or fall	<p>Uneven terrain increases possibility of fall or trip related injuries.</p> <p>The presence of wood decking and ramps located within the worksite and along scaffolding set up on the interior and exterior of the work site are normally slippery or snow covered.</p>
Access	<p>The construction worksite(s) will have formal human access points, and the contractor will provide safe and regular access to the work site(s). This situation means that there is a possibility of injury to individuals on foot or in vehicles entering or leaving the worksite site.</p> <p>The road width will only allow one way traffic flow. Vehicles using the established or existing roadways should show caution when moving inside the site to ensure safe passage and movement within the site boundaries.</p> <p>The Parks Canada site has a lot of inherent public traffic and activity. This will need to be a consideration of all assessments and controls as developed by the contractor.</p> <p>The contractor shall maintain Project workplace barriers so long as the project is active and until Completion of the project is signed off.</p>
Fire or Open Flames	<p>The nature of the material used means that any open flame could potentially cause damage to buildings and structures. Care shall be taken to ensure sparks or open flames are kept at a safe distance from material which could cause a fire.</p>
Fire Hydrants	<p>Water supply/hydrants for the purpose of fire fighting are located throughout the site. They are identified as regular fire hydrants, and during the winter they may be equipped with metal flags to identify their location and to prevent them from being buried in snow.</p> <p>The hydrants should be kept clear and should be avoided to reduce the possibility of damage which could affect the ability for the fire department to access an adequate supply of water.</p>

Parks Canada
 Sault Ste. Marie Canal National Historic Sites of Canada
 Stores Building Foundation Stabilization Project 2014

Public access	During the site operating season the site is visited by large numbers of the public. This condition could create a potential for incident or injury. During this visiting period caution should be used as the site contains numerous blind spots and hidden areas where public could emerge unexpectedly into the path of a vehicle or equipment.
Explosives	The national historic site prohibits the use of explosives. Authority for storage and or use of any explosives must be documents and approved in advance of any such activities.
Excavations and River Water Level Elevation Above Work Site Level Elevation	While working in situations of below grade excavations, the work site is below the surrounding river water levels. In this state, the work area may be deemed as a confined workspace. Also air stratification factors may be required to be monitored. Care must be taken to ensure appropriate systems are implemented to protect all workers at this location.
Hazard Potentials	See the section on Potential Hazards Identification. The contractor will need to assess these examples and identify their own concerns accordingly. As such, the contractor will ensure the Site Specific Health and Safety Plan will also reflect and address these identified issues.
Hazardous Material	Parks Canada at the Sault Ste. Marie Canal, has supplied information to the best of our knowledge to aid the contractor in the development of their required Site Specific Health and Safety Plan. Please refer to this information as required.
Site Specific Hazard Assessment	The contents as provided by Parks Canada Agency cannot be used as a complete and comprehensive list by the contractor. The contractor shall apply applicable Health and Safety legislation as necessary as part of their work, including monitoring and reporting.

Fire Zone 2, Powerhouse Complex



FILE NAME: Fire Plan.dwg

<p>Public Works and Government Services Canada Travaux publics et Services gouvernementaux Canada</p> <p>Client Service Team for Parks Canada Ontario Region Équipe des services à la clientèle pour Parcs Canada Région de l'Ontario</p>	<p>Title/Titre Fire Zone 2, Powerhouse Complex</p>		<p>Scale/Échelle 1 : 500</p>
	<p>Project/Projet Sault Ste. Marie Canal National Historic Site of Canada</p>		<p>Project No/No De Projet 306155</p>
	<p>Drawn By/Tracé Par D. Ryan</p>	<p>Date/Date 17.12.04</p>	<p>Dwg Ref No/No De Dessin COSSM 04/R56</p>
	<p>Designed By/à Dessain Ryan/Guzzo</p>	<p>Checked By/Vérfifié Par B. Guzzo</p>	<p>Sheet No/No de Feuille 3</p>

Attestation and Proof of Compliance with Occupational Health and Safety (OHS)

Submission of this completed form, satisfactory to Parks Canada, is a condition of gaining access to the work place.

Instructions:

Prime contractor must sign this form for all projects undertaken at Parks Canada work places.

This form is to be administered by the Project Manager and completed by the Prime Contractor **AFTER** contract award.

Parks Canada recognizes that federal OHS legislation places certain specific responsibilities upon Parks Canada as owner of the work place. In order to meet those responsibilities, Parks Canada is implementing a contractor safety regime that will ensure that roles and responsibilities assigned under Part II of the *Canada Labour Code* and the *Canada Occupational Health and Safety Regulations* are implemented and observed when involving contractor(s) to undertake works in Parks Canada work places.

Project Title Stores Building Structural Stabilization 2014

Project Location Sault Ste. Marie Canal
National Historic Site of Canada
Parks Canada
1 Canal Drive
Sault Ste. Marie Ontario
P6A 6W4

Person / Role	Contact Information / Address	Phone / Email
Parks Canada Project Lead		
Prime Contractor		
Subcontractor(1)		

Subcontractor(2)		
Subcontractor(3)		
Subcontractor(4) (add additional fields as required)		

General Description of Work to be Completed – (See attachment if applicable)

Mark "Yes" where applicable.

	A meeting has been held to discuss hazards and access to the work place and all known and foreseeable hazards have been identified to the contractor and/or subcontractor(s)
	The contractor and/or its subcontractor(s) will comply with all federal and provincial/territorial legislation and Parks Canada's policies and procedures, regarding occupational health and safety.
	The contractor and/or its subcontractor(s) will provide all prescribed safety materials, equipment, devices and clothing.
	The contractor and/or its subcontractor(s) will ensure that its employees are familiar with and use all prescribed safety materials, equipment, devices and clothing at all times.
	The contractor and/or its subcontractor(s) will ensure that its activities do not endanger the health and safety of Parks Canada employees.
	The contractor and/or its subcontractor(s) has inspected the site and has carried out a hazard assessment and has put in place a health and safety plan and informed its employees accordingly, prior to the commencement of the work.
	Where a contractor and/or its subcontractor(s) will be storing, handling or using hazardous substances in the work place, it will place warning signs at access points warning persons of the presence of the substances and any precautions to be taken to prevent or reduce any hazard of injury or death.
	The contractor and/or its subcontractor(s) will ensure that its employees are instructed in respect of any emergency procedures applicable to the site.

I, _____ (contractor), certify that I have read, understood and attest that my firm, employees and all sub-contractors will comply with the requirements set out in this document and the terms and conditions of the contract.

President – General Contractor

Name (Print) _____ Signature _____ Date / /
 DD / MM / Year

I, _____ (sub contractor), certify that I have read, understood and attest that my firm, employees will comply with the requirements set out in this document as per the terms and conditions of the contract and submit all requirements as per the requirements of the contract and the general contractor's Health and Safety Plan requirements.

President – Sub Contractor (1)

Name (Print) _____ Signature _____ Date / /
 DD / MM / Year

I, _____ (sub contractor), certify that I have read, understood and attest that my firm, employees will comply with the requirements set out in this document as per the terms and conditions of the contract and submit all requirements as per the requirements of the contract and the general contractor's Health and Safety Plan requirements.

President – Sub Contractor (2)

Name (Print) _____ Signature _____ Date / /
 DD / MM / Year

I, _____ (sub contractor), certify that I have read, understood and attest that my firm, employees will comply with the requirements set out in this document as per the terms and conditions of the contract and submit all requirements as per the requirements of the contract and the general contractor's Health and Safety Plan requirements.

President – Sub Contractor (3)

Name (Print) _____ Signature _____ Date / /
DD / MM / Year

I, _____ (sub contractor), certify that I have read, understood and attest that my firm, employees will comply with the requirements set out in this document as per the terms and conditions of the contract and submit all requirements as per the requirements of the contract and the general contractor's Health and Safety Plan requirements.

President – Sub Contractor (4)

Name (Print) _____ Signature _____ Date / /
DD / MM / Year