

**DESIGNATED SUBSTANCES AND HAZARDOUS
BUILDING MATERIALS ASSESSMENT**

**MILL COURTLAND COMMUNITY CENTRE
216 MILL STREET, KITCHENER, ON**



JULY 9, 2023

PROJECT #: 100103.026

Prepared for:

Corporation of the City of Kitchener

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Prepared by:

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EXECUTIVE SUMMARY

ONWARD Environmental Inc. (ONWARD) was retained by the Corporation of the City of Kitchener (Client) to complete an assessment for designated substances and hazardous building materials at the Mill Courtland Community Centre buildings located at 216 Mill Street in Kitchener, Ontario.

The assessment is required in advance of planned renovation of the subject buildings to meet the requirements of the Ontario Occupational Health and Safety Act and Regulations.

The assessment was completed by Sean Hauck of ONWARD on June 14, 2023. The assessor was initially accompanied by Kristina Schneider and the subject areas were unoccupied during the ONWARD site visit.

KEY FINDINGS

Designated substances and hazardous building materials were identified to be present as summarized below.

Asbestos

Based on the findings of the assessment, asbestos was not identified to be present within the subject areas examined. Refer to **Appendix 3** for a summary of building components and materials that were assessed for asbestos. Refer to **Section 4.1.3** of the report for a list of additional building materials that if uncovered should be suspected to contain asbestos.

Lead

Low levels of lead (i.e. <0.1% lead by weight) were confirmed to be present in paints tested.

Lead is presumed to be present in the following materials where present:

- all other paints and coatings (in addition to those tested)
- batteries (i.e. emergency lighting, exit signs etc.)
- cable and wire sheathing
- cast iron pipes, pipe gaskets and connections
- solder used on domestic waterlines, bell fittings for cast iron pipes

Mercury

Mercury is suspected to be present in the following materials where present:

- fluorescent light tubes (vapour form)
- compact fluorescent lights (vapour form)
- thermostats (liquid form within the mercury switch)
- paints and adhesives (in stable form)

Silica

Silica may be present in the following materials common to buildings:

- concrete and cement
- masonry and mortar
- tiles (including ceramic, concrete, etc.) and grout
- block walls
- ceiling tiles
- drywall
- paints

Polychlorinated Biphenyls (PCB)

PCB-containing equipment was not observed to be present.

Ozone-Depleting Substances (ODS)

Equipment suspected to contain ODS include the following:

- HVAC unit
- refrigerator
- window-mounted A/C units

Mould

At the time of the assessment, no visible mould growth was observed on accessible building finishes examined.

SUMMARY OF RECOMMENDATIONS

General Recommendations

- A copy of this designated substances and hazardous building materials assessment report should be kept on the premises during the renovation process.
- Ensure workers have awareness training with respect to the hazards of asbestos, lead, silica and mercury on a project.

Recommendations for Renovation or Demolition Projects

Asbestos

- Undertake additional material testing and intrusive investigation if extensive renovations or demolition of the building is planned.
- If suspect asbestos-containing materials (refer to Section 4.1.3) are uncovered during renovation or demolition work, work that may disturb the material should cease immediately. Samples of the materials should be collected and tested for asbestos content. Materials confirmed to contain asbestos

should be removed prior to further disturbance in accordance with O.Reg. 278/05 work procedures. Alternatively, the suspect materials can be presumed to be asbestos-containing and removed following O.Reg. 278/05 work procedures.

- In accordance with the requirements of O.Reg. 278/05, the Ministry of Labour, Joint Health and Safety Committee, building owner(s) and contractors should be notified when previously unidentified friable material that is confirmed to be asbestos-containing (i.e. Aircell® pipe insulation, parging cement pipe fitting insulation, etc.) is discovered during demolition and construction work.

Lead

- The safe work practices provided in the following documents should be followed for the disturbance of lead-containing materials:
 - “Lead on Construction Projects”, Ministry of Labour, April 2011
 - “Lead Guideline for Construction, Renovation, Maintenance or Repair”, Environmental Abatement Council of Canada (EACC), October 2014
- Building materials containing lead should be tested for leachable lead prior to disposal as they may be subject to classification as hazardous waste.
- Lead-containing batteries should be recycled when taken out of service.

Mercury

- Avoid damage to mercury-containing equipment.
- Complete removal and proper disposal of mercury-containing equipment is required when the equipment is taken out of service or prior to renovation work.
- Mercury is a hazardous waste and should be disposed of in accordance with the requirements of O.Reg. 347/90. As a preferred alternative, mercury-containing equipment can be sent for recycling.

Silica

- The safe work practices provided in the following document should be followed for the disturbance of silica-containing materials:
 - “Silica on Construction Projects”, Ministry of Labour, April 2011

Polychlorinated Biphenyls (PCB)

Recommendation not required.

Ozone-Depleting Substances (ODS)

- Equipment containing or suspected to contain ODS refrigerants should be decommissioned by a licenced refrigeration technician prior to removal.

Mould

Mould recommendation not required.

Refer to **Section 5.0** of the report for more detailed recommendations.

The findings and recommendations provided in the Executive Summary must be read and understood within the context of the full report including all standard limitations.

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1.0 INTRODUCTION

ONWARD Environmental Inc. (ONWARD) was retained by the Corporation of the City of Kitchener (Client) to complete an assessment for designated substances and hazardous building materials at the Mill Courtland Community Centre buildings located at 216 Mill Street in Kitchener, Ontario.

The assessment is required in advance of planned renovation of the subject buildings to meet the requirements of the Ontario Occupational Health and Safety Act and Regulations (refer to Appendix 1, Regulatory Framework). In accordance with these requirements, the assessment is intended to identify designated substances requiring special attention prior to their disturbance. Additionally, the report identifies the potential presence of hazardous building materials such as mould, polychlorinated biphenyls (PCB) and ozone-depleting substances. These were included in the assessment as there are regulations, standards and best-practices in place governing their management.

The assessment was completed by Sean Hauck of ONWARD on June 14, 2023. The assessor was initially accompanied by Kristina Schneider and the subject areas were unoccupied during the ONWARD site visit.

2.0 ASSESSMENT APPROACH

2.1 Scope of Work

ONWARD assessed the subject areas for designated substances including asbestos, lead, mercury, and silica that may be incorporated in the building's structure and finishes.

Additionally, ONWARD assessed for the following hazardous materials:

- Mould
- Polychlorinated Biphenyls (PCB)
- Ozone Depleting Substances (ODS)

The assessment excluded the following designated substances that are not typically incorporated into building materials:

- Arsenic
- Acrylonitrile
- Benzene
- Coke oven emissions
- Ethylene oxide
- Isocyanates
- Vinyl chloride (i.e. monomer form)

2.2 Methodology

Details on the methodology that were used during the assessment are provided in **Appendix 1**.

2.3 Extent of the Assessment

The assessment was limited to accessible areas within the following buildings (hereafter referred to as the subject areas):

- Mill Courtland Community Centre building (Building A)
- portable (Building B)
- sheds (Building C, D, E and F)

2.4 Areas Not Inspected

The following areas were not accessible for inspection for the reasons provided:

- spaces above ceilings or within wall cavities without access hatches – intrusive testing was not conducted

2.5 Standard Limitations

Unless explicitly included in the project scope of work, ONWARD's assessment excludes the following:

- sub-grade materials and equipment (i.e. buried storage tanks, drums, vessels, conduits, pipes etc.)
- interior surfaces of ductwork (i.e. insulation, woven tape on duct joints etc.)
- building contents including non-fixed equipment, stored items, furniture, appliances, etc.
- building and structural components that are subject to damage if sampled
- energized equipment and systems

3.0 SITE INFORMATION

3.1 Relevant Historic Reports

No historic reports were available for review.

3.2 Description of Assessed Area

The following describes existing conditions known to be present or encountered during the assessment:

Building	General Information	Construction Materials
Mill Courtland Community Centre (Building A)	<ul style="list-style-type: none"> - <i>usage</i>: community centre - <i>no. of levels</i>: 1 - <i>total area (sf)</i>: ~8,704 - <i>age of construction</i>: 1993 	<ul style="list-style-type: none"> - <i>foundation</i>: poured concrete foundation walls and floor - <i>building structure</i>: concrete block and metal construction - <i>exterior cladding</i>: brick, E.I.F.S., vinyl soffit - <i>interior finishes</i>: drywall, lay-in ceiling tiles, texture ceiling finish (popcorn pattern)

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Building	General Information	Construction Materials
		<ul style="list-style-type: none"> - <i>flooring</i>: painted concrete, vinyl floor tiles, ceramic - <i>roofing system</i>: sloped asphalt shingles and asphalt rolled roofing - <i>building insulation</i>: loose-fill/blown-in cellulose, fibreglass batt, expanded spray foam - <i>heating & cooling</i>: HVAC, electric baseboard heating
Portable (Building B)	<ul style="list-style-type: none"> - <i>usage</i>: education - <i>no. of levels</i>: 1 - <i>total area (sf)</i>: ~450 - <i>age of construction</i>: post-1995 	<ul style="list-style-type: none"> - <i>foundation</i>: na - <i>building structure</i>: wood-framed - <i>exterior cladding</i>: metal siding and plywood skirting - <i>interior finishes</i>: drywall - <i>flooring</i>: vinyl floor tiles - <i>roofing system</i>: rolled asphalt - <i>building insulation</i>: fibreglass batt - <i>heating & cooling</i>: electric baseboard heating and window-mounted A/C units
Sheds (Buildings, C, D, E and F)	<ul style="list-style-type: none"> - <i>usage</i>: storage - <i>age of construction</i>: post-1995 	<ul style="list-style-type: none"> - <i>foundation</i>: na - <i>building structure</i>: wood-framed - <i>exterior cladding</i>: wood siding - <i>interior finishes</i>: exposed wood framing - <i>flooring</i>: plywood sheathing - <i>roofing system</i>: sloped asphalt shingles - <i>building insulation</i>: na or rigid foam board & expanded spray foam - <i>heating & cooling</i>: na

4.0 FINDINGS AND DISCUSSION

The findings of the assessment for designated substances and hazardous building materials are provided below.

4.1 Asbestos

The assessment involved a review of each building component and material that was suspected to contain asbestos. For ease of reference, each component and material was assigned a unique “Building Component & Material” (BCM) number. A summary of all building components and materials that were assessed are provided in **Appendix 3**. The summary includes the following information:

- BCM Reference #
- identification of each building component or material under review
- a description of the material

- whether the material is friable or not (based on the definition provided in the asbestos regulation)
- sample reference numbers and analytical results
- comments
- photographs depicting the material or building component
- recommendations

A copy of the laboratory Certificate of Analysis for asbestos testing is provided in **Appendix 4**.

4.1.1 Asbestos-Containing Materials (Confirmed)

Based on the findings of the assessment, asbestos was not identified to be present within the subject areas examined.

4.1.2 Asbestos-Containing Materials (Presumed)

No building materials are listed as being presumed to contain asbestos.

4.1.3 Asbestos-Containing Materials (Suspected)

The following building materials may contain asbestos but were not specifically observed during the assessment and may become uncovered during renovation activities:

- vermiculite in block wall cavities or perimeter wall assemblies (i.e., air gap space)
- concealed caulking, sealants, mastics, adhesives

These are listed as suspect materials **that require special attention should they be encountered during planned renovation activities**. If encountered, work that may disturb the material should stop immediately. Samples of the materials should be collected and tested for asbestos content. As noted in the recommendations section below, materials confirmed to contain asbestos should be removed prior to further disturbance in accordance with O.Reg. 278/05 work procedures.

4.2 Lead

4.2.1 Paint and Surface Coatings

All paint and surface applications are presumed to be lead-containing. Paints were noted to be in good condition throughout. At the request of the Client, ONWARD sampled select surfaces as listed below for lead analysis.

The following table summarizes paint and surface coatings that were sampled and tested for lead content including a description of the samples, analytical results and locations where they occur.

Sample No.	Sampled Location	Description of Application	General Condition	Lead Content	Interpretation*
P01	Janitor's closet	Beige paint on drywall	Good	0.001% (1 ppm)	Low Lead Content
P02	Mechanical room	Red paint on concrete floor	Good	0.0153% (15.3 ppm)	Low Lead Content
P03	Gymnasium	Off-white paint on concrete block wall	Good	< 0.0005% (0.5 ppm)	Low Lead Content
P04	Kitchen	Tan paint on drywall	Good	0.0008% (0.8 ppm)	Low Lead Content
P05	Entrance vestibule	Beige paint on concrete block wall	Good	0.0006% (0.6 ppm)	Low Lead Content
P06	Exterior guard rail	Yellow paint on guard rail	Good	0.0025% (2.5 ppm)	Low Lead Content
P07	Exterior guard rail	Turquoise paint on guard rail	Good	0.0213% (21.3 ppm)	Low Lead Content
P08	Exterior metal door	Brown paint on metal door	Good	0.0013% (1.3 ppm)	Low Lead Content
P09	Electrical room	White paint on drywall	Good	< 0.0005% (0.5 ppm)	Low Lead Content
P10	Lounge	Cream paint on drywall	Good	< 0.0005% (0.5 ppm)	Low Lead Content
P11	Lounge	Off-white paint on drywall	Good	0.001% (1 ppm)	Low Lead Content
P12	Portable	White paint on metal door	Good	< 0.0005% (0.05 ppm)	Low Lead Content
P13	Portable	Grey paint on wood skirting	Good	< 0.0005% (0.5 ppm)	Low Lead Content
P14	Main entrance metal doors	White paint on metal door	Good	< 0.0001% (0.1 ppm)	Low Lead Content

* Based on interpretation provided by the Environmental Abatement Council of Canada (EACC) Lead Guideline for Construction, Renovation, Maintenance and Repair document.

Locations where paint samples were collected are indicated in the floor plans provided in **Appendix 2**.

A copy of the laboratory Certificate of Analysis for lead paint chip testing is provided in **Appendix 5**.

The result(s) of testing completed were compared with the recommendations provided by the Environmental Abatement Council of Canada (EACC) "Lead Guideline for Construction, Renovation, Maintenance or Repair" document dated October 2014.

Paint and Surface Coatings with a Low Lead Content

As stated in the EACC lead guideline, paints or surface coatings containing less than or equal to 0.1% lead by weight (1,000 µg/g or 1,000 mg/kg or 1,000 ppm lead) are considered low-level lead paints or surface coatings.

4.2.2 Other Presumed Lead-Containing Materials

Lead is presumed to be present in the following building materials:

- batteries (i.e. emergency lighting, exit signs etc.)
- cable and wire sheathing
- cast iron pipe gaskets and connections
- pipes, solder used on domestic water lines, bell fittings for cast iron pipes



Photo 1: Emergency lighting with suspect lead-acid batteries.

4.3 Mercury

Mercury is suspected to be present in the following materials:

- fluorescent light tubes (vapour form)
- compact fluorescent lights (vapour form)
- thermostats (liquid form within the mercury switch)
- paints and adhesives (in stable form)



Photo 2: Thermostat with mercury bulb.

4.4 Silica

The following common building materials may contain crystalline silica and are present within the assessed area.

- concrete and cement
- masonry and mortar
- tiles (including ceramic, concrete, etc.) and grout
- block walls
- ceiling tiles
- drywall
- paints

4.5 Polychlorinated Biphenyls (PCB)

PCB-containing equipment was not observed to be present.

4.6 Ozone Depleting Substances (ODS)

Equipment suspected to contain ODS include the following:

- rooftop HVAC unit
- refrigerator
- window-mounted A/C units



Photo 3: Rooftop HVAC unit.

4.7 Mould

At the time of the assessment, no visible mould growth was observed on accessible building finishes examined.

5.0 RECOMMENDATIONS

5.1 General Recommendations

The following general recommendations apply to the management of designated substances and hazardous materials identified within the subject areas examined:

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- A copy of this designated substances and hazardous building materials assessment report should be kept on the premises during the renovation process.
- In addition to specific recommendations provided below, apply the following good general work practices on construction/demolition projects:
 - Avoid dry-sweeping and use of compressed air for cleaning surfaces. Alternatively, high-efficiency particulate air (HEPA) vacuums are recommended for cleaning up dust settled on surfaces.
 - Implement good personal hygiene measures including:
 - prohibiting eating drinking or use of tobacco products in work areas
 - washing hands and face before eating, drinking, or smoking outside of work areas
 - changing into disposable or washable work clothes at the worksite
 - showering (if possible) and changing into clean clothes before leaving the worksite to prevent contamination of other work areas, cars, and homes
 - Ensure workers have awareness training with respect to the hazards of asbestos, lead, silica and mercury on a project.

5.2 Recommendations for Renovation and Demolition Projects

5.2.1 Asbestos

- Undertake additional material testing and intrusive investigation if extensive renovations or demolition of the building is planned.
- If suspect asbestos-containing materials are uncovered during renovation work, work that may disturb the material should cease immediately. Samples of the materials should be collected and tested for asbestos content. Materials confirmed to contain asbestos should be removed prior to further disturbance in accordance with O.Reg. 278/05 work procedures. Alternatively, the suspect materials can be presumed to be asbestos-containing and removed following O.Reg. 278/05 work procedures.
- In accordance with the requirements of O.Reg. 278/05, the Ministry of Labour, Joint Health and Safety Committee, building owner(s) and contractors should be notified when previously unidentified friable material that is confirmed to be asbestos-containing (i.e. Aircell® pipe insulation, parging cement pipe fitting insulation, etc.) is discovered during demolition and construction work.

5.2.2 Lead

General Recommendations

- Building materials containing lead should be tested for leachable lead prior to disposal as they may be subject to classification as hazardous waste.
- Lead-containing batteries should be recycled when taken out of service.

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Non-Aggressive Disturbance of Paint and Coating Applications with a Low Lead Content

- General dust suppression measures should be implemented to ensure worker exposure does not exceed the TWA exposure value for nuisance dusts.
- General health and safety precautions should be implemented including but not limited to:
 - prohibiting eating, drinking, smoking and chewing in the work area
 - providing washing facilities for workers to wash hands and face

Aggressive Disturbance of Paint and Coating Applications with a Low Lead Content

- The safe work practices provided in the following documents should be followed for the aggressive disturbance of paint or surface coatings with a low lead content:
 - “Lead on Construction Projects”, Ministry of Labour, April 2011
 - “Lead Guideline for Construction, Renovation, Maintenance or Repair”, Environmental Abatement Council of Canada (EACC), October 2014

The guidelines referenced above provide specific recommendations for controlling lead hazards on construction projects including i) engineering controls; ii) work practices; iii) hygiene practices; iv) protective clothing and equipment; v) work classifications; vi) training; and, vii) medical surveillance.

- Lead exposure monitoring should be considered to determine the adequate level of protection that may be required, if any, for project-specific tasks that disturb lead-containing materials. In the absence of such monitoring, the use of personal protective equipment including respirators and implementation of other safe work practices are recommended to reduce the potential for over-exposure to lead dust.
- The safe work practices provided in the following documents should be followed for the disturbance of lead-containing materials:
 - “Lead on Construction Projects”, Ministry of Labour, April 2011
 - “Lead Guideline for Construction, Renovation, Maintenance or Repair”, Environmental Abatement Council of Canada (EACC), October 2014

The guidelines referenced above provide specific recommendations for controlling lead hazards on construction projects including i) engineering controls; ii) work practices; iii) hygiene practices; iv) protective clothing and equipment; v) work classifications; vi) training; and, vii) medical surveillance.

5.2.3 Mercury

- Avoid damage to mercury-containing equipment.
- Complete removal of mercury-containing equipment is required when the equipment is taken out of service or prior to renovation work.
- Mercury-containing equipment can be sent for recycling.

- Mercury is a hazardous waste and should be disposed of in accordance with the requirements of O.Reg. 347/90.

5.2.4 Silica

- The safe work practices provided in the following document should be followed for the disturbance of silica-containing materials:

- “Silica on Construction Projects”, Ministry of Labour, April 2011

The guideline provides specific recommendations for controlling silica hazards on construction projects including i) engineering controls; ii) work practices; iii) hygiene practices; iv) protective clothing and equipment; v) work classifications; vi) training; and, vii) medical surveillance.

- Silica exposure monitoring should be considered to determine the adequate level of protection that may be required, if any, for project-specific tasks that disturb silica-containing materials. In the absence of such monitoring, the use of personal protective equipment including respirators and implementation of other safe work practices, housekeeping and hygiene measures are recommended to reduce the potential for over-exposure to silica dust during drilling, cutting, grinding, sawing, sanding, scarifying, sweeping or other demolition activities that disturb silica-containing materials.

5.2.5 Polychlorinated Biphenyls (PCB)

No recommendation required.

5.2.6 Ozone-Depleting Substances (ODS)

- Equipment containing or suspected to contain ODS refrigerants should be decommissioned by a licenced refrigeration technician prior to removal.

5.2.7 Mould

No recommendation required.

6.0 CLOSURE

Limitations with respect to the assessment methodology are provided in **Appendix 1**.

The work performed by ONWARD is conducted by trained professional and technical staff in accordance with generally accepted engineering and scientific practices current at the time and geographic location the work is performed.

The findings of the assessment represent the best technical judgment of ONWARD based on the information made available by the Client and on the site conditions encountered by ONWARD at the date and time the work was performed. The findings are limited to the areas assessed based on the mutually agreed to scope of work. The extent of the area that was assessed may be limited by various

factors including building construction and conditions, subsurface conditions, concealed or obscured areas, weather, building usage, occupancy and other factors. Due to the nature of the investigation and the limited data available, ONWARD cannot warrant against undiscovered environmental liabilities. Conclusions presented in the report or other information provided should not be construed as legal advice.

No warranty is either expressed or implied, or intended by this agreement or by furnishing oral or written reports or findings. ONWARD's liability will be limited to the lesser of the fees paid or actual damages incurred by the Client. ONWARD will not be responsible for any consequential or indirect damages and can only be liable for damages resulting from the negligence of ONWARD.

The report and other information provided by ONWARD is intended for Client use only unless the Client, in writing to ONWARD, requests the report and other information to be provided to a third party or unless disclosure by ONWARD is required by law. Unless consented to by ONWARD, which consent may be reasonably and/or arbitrarily withheld, only the Client shall be entitled to rely on the documents provided by ONWARD in the performance of the services. The documents relate solely to the services for which ONWARD has been retained and shall not be used or relied upon by the Client or any third party for any variation or extension of the services, any other project or any other purpose.

We trust the report is in accordance with your expectations. If any conditions become apparent that differ significantly from our understanding of conditions as presented in this report, we request that we be notified immediately to reassess the conclusions provided herein.

Should you have any questions or require clarification on any aspect of this assessment, please feel free to contact the undersigned at any time.

Thank you for choosing ONWARD.

Sincerely,

ONWARD ENVIRONMENTAL INC.



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APPENDIX 1

Regulations, Methodology & References

1.0 REGULATORY FRAMEWORK

Under Ontario Regulation 490/09 (O.Reg.490/09) of the Occupational Health and Safety Act (OHSA), there are eleven designated substances that are regulated and must be controlled for on a construction, renovation or demolition project. Of the eleven substances, four are commonly associated with buildings. These include asbestos, lead, mercury and silica. Under Section 30 of the OHSA, before beginning a project, an owner is obligated to determine whether any designated substances are present at the project site and to provide a list of designated substances to prospective contractors bidding on the work. Additionally, Ontario Regulation 278/05 (O.Reg. 278/05) specifically regulates the disturbance of asbestos-containing materials (ACM) on construction projects and requires building owners to inform contractors of the presence of ACMs prior to requesting tenders or contracting the work. Contractors are in turn obligated to inform their sub-contractors of the presence of these materials.

Regulations and guidelines are also in place for the management of hazardous materials such as mould, polychlorinated biphenyls (PCBs) and ozone depleting substances (ODS) that may be present in a building and that can be potentially disturbed on a project.

2.0 GENERAL METHODOLOGY

ONWARD undertook a room-by-room walkthrough of the subject areas to assess each space for the presence of designated substances and hazardous materials that may be present in building materials based on the defined scope of work. Samples of building materials that were collected were submitted for laboratory analysis.

ONWARD's assessment was non-intrusive in nature (i.e. no demolition of building components such as walls, finishes, etc. to view concealed spaces was performed). Ceiling spaces were examined by lifting lay-in ceiling tiles. Wall cavities were not inspected (no access hatches present). The relocation of building contents such as shelving, wall mounted materials, stored items or other items restricting our ability to fully inspect areas was not undertaken.

Details on the methodology employed during the assessment are provided in the following sections.

2.1 Asbestos

ONWARD assessed the subject areas for asbestos-containing building materials. During the assessment, representative samples of building materials that are suspected to contain asbestos were collected in accordance with the requirements of Ontario Regulation 278/05 (O.Reg. 278/05). The approach used to determine which building materials are suspected to contain asbestos and require confirmatory testing is based on an understanding of "last use" dates after which asbestos was banned or phased out for a particular type of building material plus a few years to allow for uncertainty.

The condition and approximate quantity of visually encountered potential asbestos-containing material (ACMs) were recorded along with information on the accessibility and visibility of the ACMs. These criteria were used in evaluating the presence and risk posed by the ACMs based on evaluation and risk criteria provided in the Public Works and Government Services Canada (PWGSC) document entitled “Deputy Ministers Directive 057 – Asbestos Management” (Last Revised June 16th, 1999).

Bulk samples collected were submitted for analysis following EPA 600/R-93/116 test method. The samples were submitted to EMC Scientific Inc. (EMC), a NVLAP¹ accredited laboratory. Building materials identified to be non-asbestos are subject to the limitations of the analytical method used.

The number of bulk samples collected is based on the requirements of O.Reg. 278/05 (Table 1, Bulk Material Samples). The regulation specifies the minimum number of samples of a particular building material that should be collected and tested to consider a material non-asbestos-containing. The number of samples will vary between 3 and 7 per set depending on the type of building material.

A “positive stop” option is used during the laboratory analysis of the bulk samples. The “positive stop” option involves consecutively testing a series of samples of a particular building material until test results indicate the presence of asbestos. When this occurs, the remaining samples are not tested. If none of the samples in a sample set test positive for asbestos, the building material under consideration is identified as non-asbestos. This is a cost-effective method of limiting the number of samples that are ultimately tested.

Depending on the project scope of work, age of construction and/or access limitations, some building materials may or may not be sampled and tested for asbestos content per the rationale provided in the following sections.

2.1.1 Roofing Materials

Roofing materials have been known to contain asbestos. The following common roofing products may contain asbestos: felts; flashing; underlayment; roofing paper; vapour retardants; mastic; adhesives; caulking; coatings; sealants; and decking.

Intrusive sampling of roofing materials was not undertaken (outside scope of work).

2.2.1 Drywall Joint Compound

Drywall joint compound (DJC) may contain asbestos based on date of installation (i.e. pre-1986 after which the use of asbestos-containing drywall joint compound was banned). DJC was not sampled.

¹ National Voluntary Laboratory Accreditation Program

2.2 Lead

Samples of paint applications and surface coating were collected for lead content testing following EPA SW-846 3rd Ed. Method No. 3050B/Method No. 7420. Testing was undertaken by a laboratory accredited by the American Industrial Hygiene Association Laboratory Accreditation Program, LLC (AIHA-LAP, LLC). The results are compared with the recommendations provided by the Environmental Abatement Council of Canada (EACC) Lead Guideline for Construction, Renovation, Maintenance and Repair document.

The potential presence of lead in equipment such as batteries, sheeting, flashing was recorded.

2.3 Mercury

Equipment, including thermostat switches, light tubes, pressure gauges etc. that are suspected to contain liquid mercury or mercury vapour were visually assessed. Equipment was not disassembled to determine the presence of mercury. Laboratory testing for mercury was not undertaken.

2.4 Silica

Building components (i.e. cement, concrete, ceramics, masonry, mortar etc.) that may contain crystalline silica were visually assessed and reported on but not quantified. Laboratory testing for crystalline content was not undertaken.

2.5 Polychlorinated Biphenyls

Electrical equipment suspected to contain PCBs were visually assessed and reported on based on the age of the equipment, equipment labels and/or historic information made available to ONWARD. For health and safety reasons, the ballasts of individual lamp fixtures were not inspected as the fluorescent light fixtures may be energized. Laboratory testing of equipment and/or their contents was not undertaken.

2.6 Ozone Depleting Substances (ODS)

Fixed building equipment (i.e. coolers, air conditioners, chillers etc.) likely to contain ozone-depleting substances were identified based on manufacturer's labels, name plates and historic information provided by the Client.

2.7 Mould

The presence of mould impacted building materials was identified where visually accessible at the time of the assessment. Indicators of potential mould growth such as water damage, staining, delamination, efflorescence were reported. Concealed areas were not assessed. Confirmatory bulk or air testing was not undertaken.

3.0 REFERENCES

The assessment was completed based on information obtained from the following references:

- Occupational Health and Safety Act, R.S.O. 1990
- Environmental Protection Act, R.S.O. 1990
- Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05
- Designated Substances, Ontario Regulation 490/09, Occupational Health and Safety Act
- General – Waste Management, Ontario Regulation 347/90, Environmental Protection Act
- Surface Coating Materials Regulations, SOR/2005-109, Hazardous Products Act
- Lead on Construction Projects, Ministry of Labour Guidance Document, Occupational Health and Safety Act
- Silica on Construction Projects, Ministry of Labour Guidance Document
- EACC Mould Abatement Guidelines, Edition 3 (2015)
- Alert – Mould in Workplace Buildings, Ontario Ministry of Labour

APPENDIX 2

Floor Plans

BUILDING F
(SHED)

BUILDING E
(SHED)

BUILDING D
(SHED)

BUILDING C
(SHED)

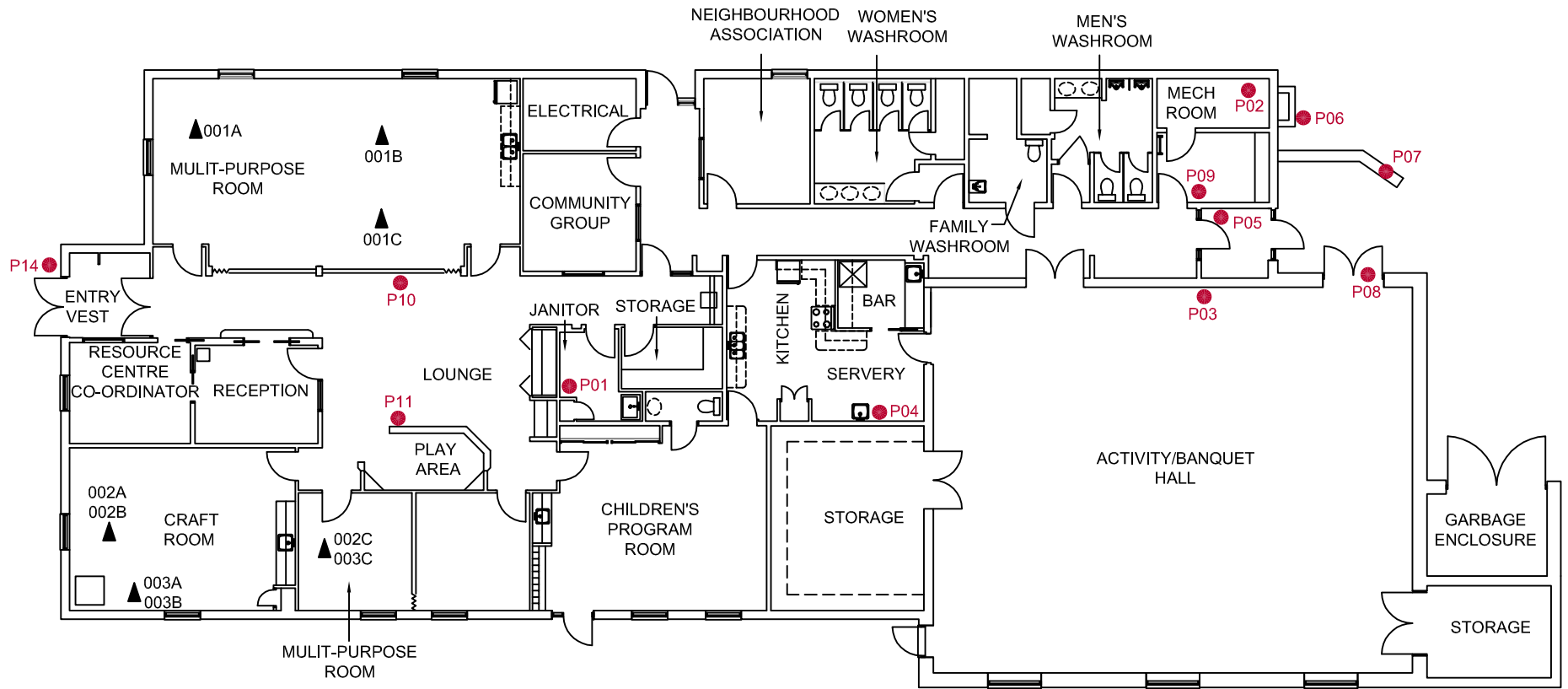
BUILDING B
(PORTABLE)

BUILDING A
(MILL COURTLAND
COMMUNITY CENTRE)

SITE PLAN

NOTES: 1. DRAWING CONTAINS COLOURED ELEMENTS THAT MAY NOT BE VISIBLE ON BLACK AND WHITE COPIES.
2. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO AN ONWARD ENVIRONMENTAL INC. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

DESIGNATED SUBSTANCES & HAZARDOUS BUILDING MATERIALS ASSESSMENT 216 MILL STREET, KITCHENER, ONTARIO	Project No.:	100103.026	Dwg. No.: 1	
	Scale:	N.T.S.		
	Date:	23/07/07		
	Dwn. By:	CD ^{ON2023070042} _{CS}		
	App'd By:	SH		
Client:	CORPORATION OF THE CITY OF KITCHENER, 131 GOODRICH DRIVE, KITCHENER, ONTARIO N2C 2E8			



BUILDING A MAIN LEVEL

LEGEND

- ▲ BULK SAMPLING LOCATION (FOR ASBESTOS)
- PAINT SAMPLING LOCATION (FOR LEAD)

NOTES: 1. DRAWING CONTAINS COLOURED ELEMENTS THAT MAY NOT BE VISIBLE ON BLACK AND WHITE COPIES.

2. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO AN ONWARD ENVIRONMENTAL INC. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

DESIGNATED SUBSTANCES & HAZARDOUS BUILDING MATERIALS ASSESSMENT

216 MILL STREET, KITCHENER, ONTARIO

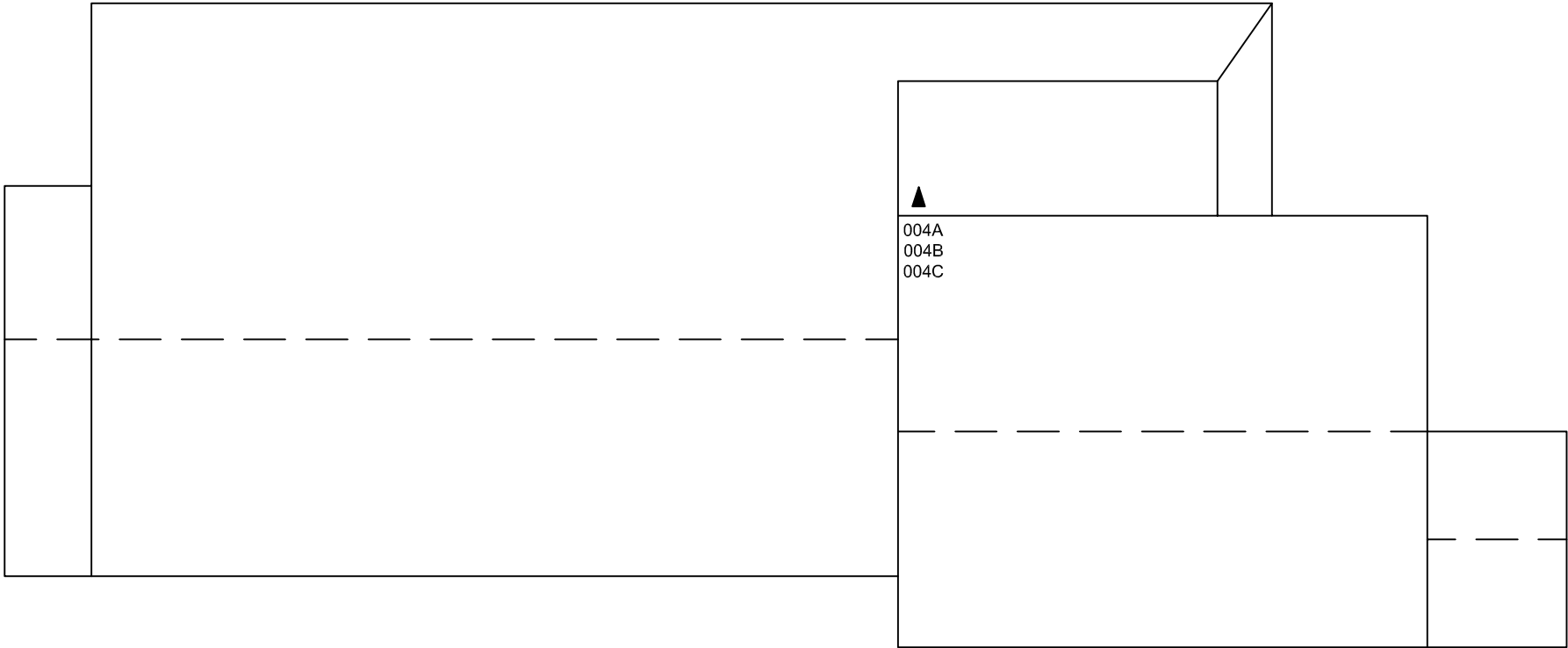
Client: CORPORATION OF THE CITY OF KITCHENER, 131 GOODRICH DRIVE, KITCHENER, ONTARIO N2C 2E8

Project No.:	100103.026
Scale:	N.T.S.
Date:	23/07/07
Dwn. By:	CD ON2023070043 ST/CS
App'd By:	SH

Dwg. No.:

2

ONWARD
ENVIRONMENTAL



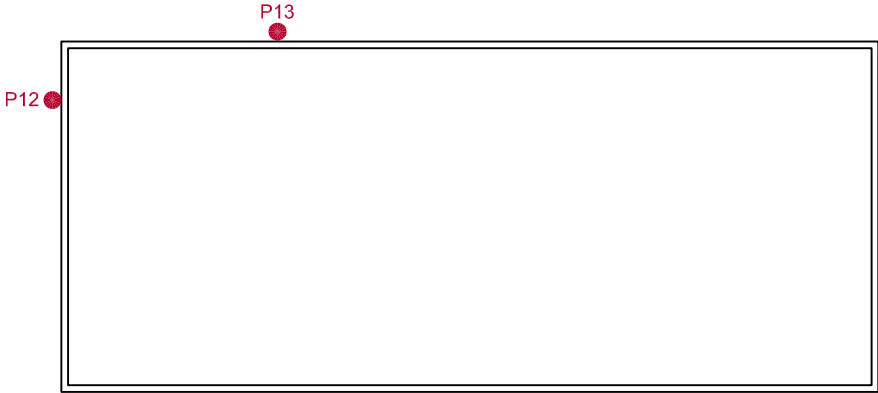
BUILDING A
ROOF PLAN

LEGEND

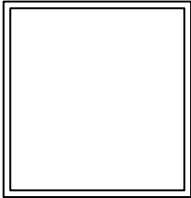
▲ BULK SAMPLING LOCATION
(FOR ASBESTOS)

NOTES: 1. DRAWING CONTAINS COLOURED ELEMENTS THAT MAY NOT BE VISIBLE ON BLACK AND WHITE COPIES.
2. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO AN ONWARD ENVIRONMENTAL INC. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

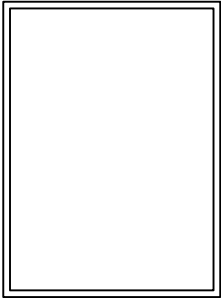
DESIGNATED SUBSTANCES & HAZARDOUS BUILDING MATERIALS ASSESSMENT 216 MILL STREET, KITCHENER, ONTARIO		Project No.:	100103.026	Dwg. No.:	3	
		Scale:	N.T.S.			
		Date:	23/07/07			
		Dwn. By:	CD ^{ON2023070044} _{CS}			
Client:	CORPORATION OF THE CITY OF KITCHENER, 131 GOODRICH DRIVE, KITCHENER, ONTARIO N2C 2E8	App'd By:	SH			



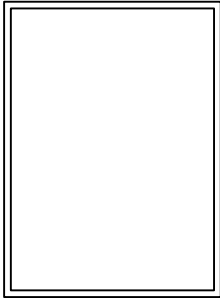
BUILDING B
(PORTABLE)



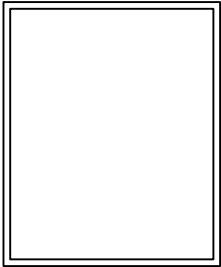
BUILDING C
(SHED)



BUILDING D
(SHED)



BUILDING E
(SHED)



BUILDING F
(SHED)

LEGEND

● PAINT SAMPLING LOCATION (FOR LEAD)

NOTES: 1. DRAWING CONTAINS COLOURED ELEMENTS THAT MAY NOT BE VISIBLE ON BLACK AND WHITE COPIES.
2. THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO AN ONWARD ENVIRONMENTAL INC. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

<div>DESIGNATED SUBSTANCES & HAZARDOUS BUILDING MATERIALS ASSESSMENT</div> <div>216 MILL STREET, KITCHENER, ONTARIO</div>		<div>Project No.:</div> <div>100103.026</div>	<div>Dwg. No.:</div> <div>4</div>	<div>ONWARD ENVIRONMENTAL</div>
		<div>Scale:</div> <div>N.T.S.</div>		
		<div>Date:</div> <div>23/07/07</div>		
		<div>Dwn. By:</div> <div>CD_{CS} ON2023070045</div>		
<div>Client:</div> <div>CORPORATION OF THE CITY OF KITCHENER, 131 GOODRICH DRIVE, KITCHENER, ONTARIO N2C 2E8</div>	<div>App'd By:</div> <div>SH</div>			

APPENDIX 3
Building Components and Materials
Inventory - Asbestos

Building Component and Materials (BCM) Inventory

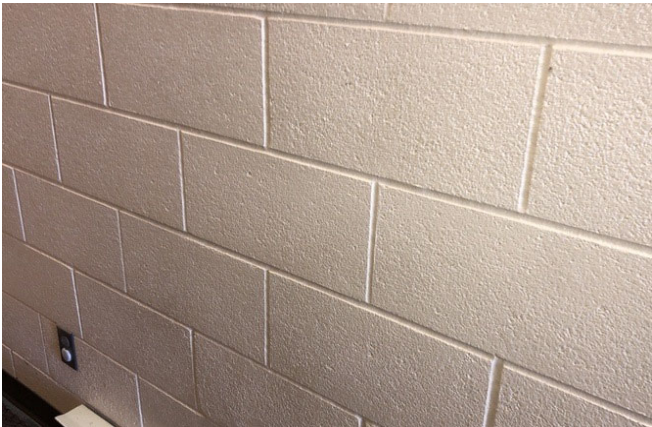
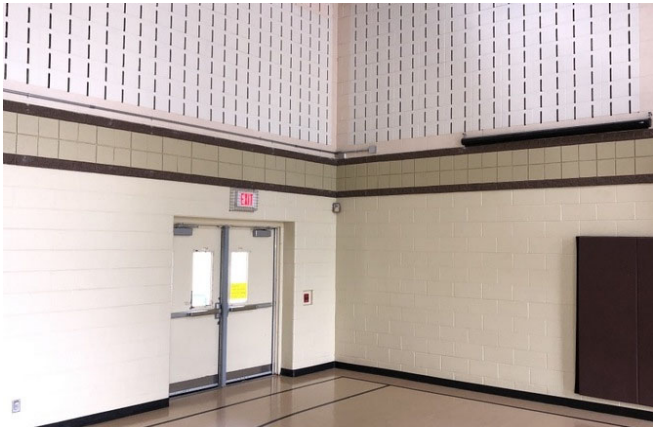
BCM # 1 VERMICULITE INSULATION

Description: *Possibly present within block wall cavities or perimeter wall assemblies (i.e., air gap space).*

Colour: *na*
Friable: *na*

Samples: *ns*
Lab Result: *na*

Comment: *Destructive testing of block wall cavities was not conducted. Concealed asbestos vermiculite insulation could be present within cavities.*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
--	Where Present	nq	na	na	A	No		Manage in place. Examine block wall cavities prior to disturbance for the presence of vermiculite insulation. If ACM, remove following O.Reg. 278/05 Type 3 procedures.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 2 TEXTURE CEILING FINISH (POPCORN PATTERN)

Description: *Present at various locations.*

Colour: *White*

Friable: na

Samples: 001a to c

Lab Result: *None detected*

Comment: *Texture ceiling finish tested does not contain asbestos.*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

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BCM - building component and material
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PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 3 VINYL FLOOR TILE

Description: 12"x12", checker pattern, present at a few locations.

Colour: Grey off-white

Friable: na

Samples: 002a to c & 003a to c

Lab Result: *None detected*

Comment: Floor tiles and mastic tested do not contain asbestos.



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
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na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 4 CAULKING/MASTIC

Description: *Present at exterior brick and former HVAC ducting interface.*

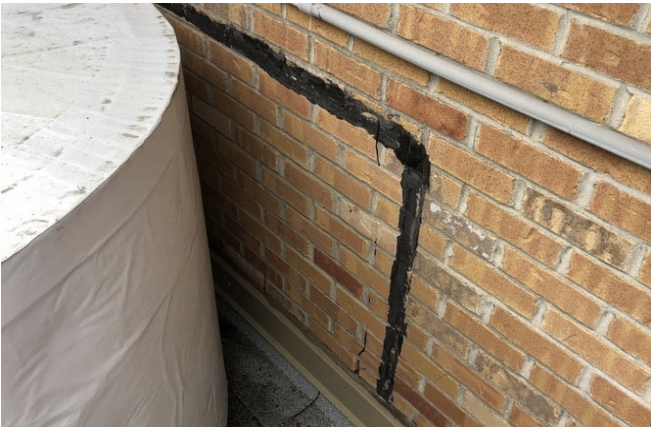
Colour: *Black*

Friable: na

Samples: 004c

Lab Result: *<0.5% Chrysotile*

Comment: *Chrysotile asbestos was detected in one sample analyzed however the amount was less than 0.5% which is below the cut-off threshold within Ontario for a building material to be deemed asbestos-containing.*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

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- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
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na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 5 DUCT INSULATION

Description: *Ducting is either uninsulated or insulated with fibreglass.*

Colour: Yellow

Friable: na

Samples: ns

Lab Result: *na*

Comment: *Fibreglass does not contain asbestos.*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

- Notes:
- nq - not quantified
 - na - not applicable
 - ns - not sampled
 - sf - square feet
 - lf - linear feet
 - F - friable
 - NF - non friable
 - PFM - potentially friable material
 - BCM - building component and material
 - ACM - asbestos-containing material
 - PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 6 RUBBER DUCTWORK FLEXIBLE CONNECTIONS

Description: *Present on HVAC ducting.*

Colour: *Yellow*

Friable: *na*

Samples: *ns*

Lab Result: *na*

Comment: *Rubber flex joints do not contain asbestos.*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 7 PIPE INSULATION (FIBREGLASS)

Description: *Present on straight sections of piping and fittings (i.e., elbows and hangers) jacketed with paper or pvc at various locations.*

Colour: Yellow

Friable: na

Samples: ns

Lab Result: *na*

Comment: *Fibreglass does not contain asbestos.*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

- Notes:
- nq - not quantified
 - na - not applicable
 - ns - not sampled
 - sf - square feet
 - lf - linear feet
 - F - friable
 - NF - non friable
 - PFM - potentially friable material
 - BCM - building component and material
 - ACM - asbestos-containing material
 - PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 8 CEILING OR LAY-IN TILES

Description: 24"x48", random pinhole short fissure pattern, present at various locations.

Colour: White

Friable: na

Samples: ns

Lab Result: na

Comment: Ceiling tiles do not contain asbestos (date stamp 1993 or 2019).



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 9 CERAMIC TILES

Description: *Present at various locations.*

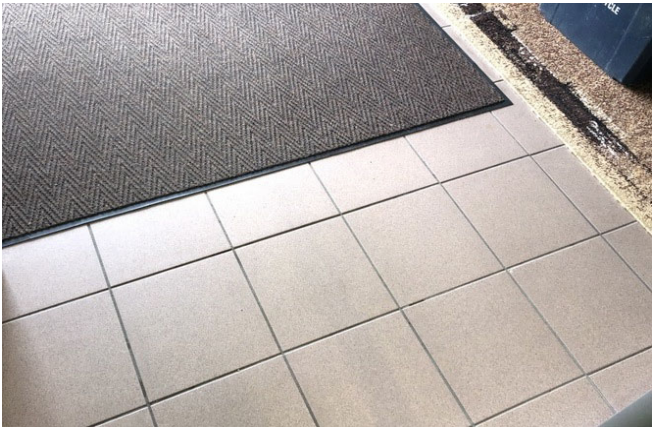
Colour: *na*

Friable: *na*

Samples: *ns*

Lab Result: *na*

Comment: *Ceramic tiles are not suspect to contain asbestos.*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 10 DRYWALL JOINT-FILL COMPOUND

Description: *Present as a wall and ceiling finish.*

Colour: *White*

Friable: *na*

Samples: *ns*

Lab Result: *na*

Comment: *Drywall joint-fill compound is not suspect to contain asbestos (installed 1993).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

- Notes:
- nq - not quantified
 - na - not applicable
 - ns - not sampled
 - sf - square feet
 - lf - linear feet
 - F - friable
 - NF - non friable
 - PFM - potentially friable material
 - BCM - building component and material
 - ACM - asbestos-containing material
 - PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 11 BUILDING INSULATIONS

Description: *Loose-fill/blown-in cellulose, fibreglass batt and expanded spray foam insulations were observed.*

Colour: *Yellow grey brown*
Friable: na

Samples: *ns*
Lab Result: *na*
Comment: *Cellulose, fibreglass batt and expanded spray foam are not suspect to contain asbestos (installed 1993).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 12 SHEET FLOORING

Description: *Various types present.*

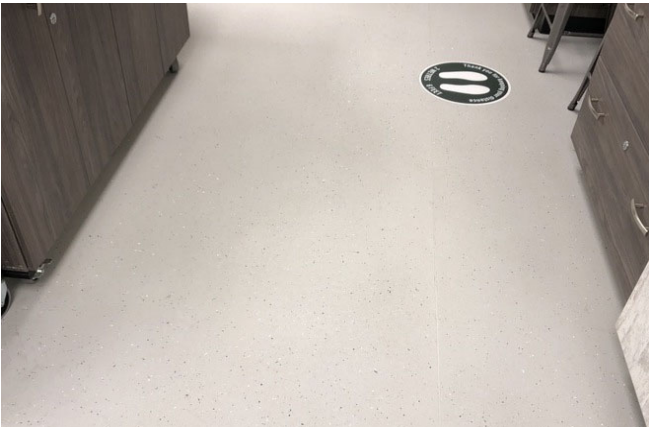
Colour: *na*

Friable: *na*

Samples: *ns*

Lab Result: *na*

Comment: *Sheet flooring is not suspect to contain asbestos (installed 1993 or post and no paper backing observed in areas examined).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

- Notes:
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 - na - not applicable
 - ns - not sampled
 - sf - square feet
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 - F - friable
 - NF - non friable
 - PFM - potentially friable material
 - BCM - building component and material
 - ACM - asbestos-containing material
 - PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 13 VINYL FLOOR TILE

Description: 12"x12", present in the janitor's closet.

Colour: Beige off-white tan with fleck

Friable: na

Samples: ns

Lab Result: na

Comment: Floor tiles are not suspect to contain asbestos (installed post 2010).



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
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Visibility (Vis.)

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- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

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sf - square feet
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PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 14 ASPHALT SHINGLES & ROLLED ASPHALT ROOFING

Description: *Building A exterior.*

Colour: *Brown grey*

Friable: na

Samples: *ns*

Lab Result: *na*

Comment: *Asphalt shingles and rolled roofing are not suspect to contain asbestos (installed 1993).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

- Notes:
- nq - not quantified
 - na - not applicable
 - ns - not sampled
 - sf - square feet
 - lf - linear feet
 - F - friable
 - NF - non friable
 - PFM - potentially friable material
 - BCM - building component and material
 - ACM - asbestos-containing material
 - PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 15 ROLLED ASPHALT ROOFING

Description: *Building B exterior.*

Colour: *Grey*

Friable: *na*

Samples: *ns*

Lab Result: *na*

Comment: *Asphalt rolled roofing is not suspect to contain asbestos (installed post 1995).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 16 VINYL FLOOR TILE

Description: 12"x12", present throughout the portable Building B.

Colour: na

Friable: na

Samples: ns

Lab Result: na

Comment: Floor tiles and mastic are not suspect to contain asbestos (installed post 1995).



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 17 DRYWALL JOINT-FILL COMPOUND

Description: *Present as a wall and ceiling finish, portable Building B.*

Colour: *White*

Friable: na

Samples: ns

Lab Result: *na*

Comment: *Drywall joint-fill compound is not suspect to contain asbestos (installed post 1987).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

- Notes:
- nq - not quantified
 - na - not applicable
 - ns - not sampled
 - sf - square feet
 - lf - linear feet
 - F - friable
 - NF - non friable
 - PFM - potentially friable material
 - BCM - building component and material
 - ACM - asbestos-containing material
 - PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 18 ASPHALT SHINGLES

Description: *Building D exterior.*

Colour: *na*
Friable: *na*

Samples: *ns*
Lab Result: *na*

Comment: *Asphalt shingles are not suspect to contain asbestos (installed post 1995).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 19 ASPHALT SHINGLES

Description: *Building E exterior.*

Colour: *na*
Friable: *na*

Samples: *ns*
Lab Result: *na*

Comment: *Asphalt shingles are not suspect to contain asbestos (installed post 1995).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 20 BUILDING INSULATION

Description: *Building E, rigid foam board and expanded spray foam were observed.*

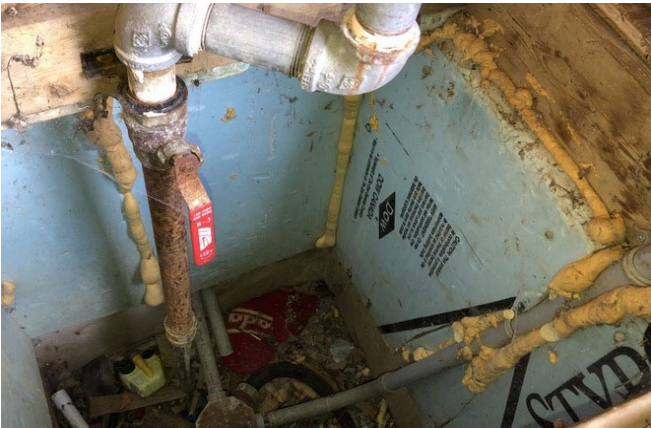
Colour: *Blue yellow*

Friable: na

Samples: ns

Lab Result: *na*

Comment: *Rigid foam board and expanded spray foam insulations do not contain asbestos (installed post 1995).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 21 ASPHALT SHINGLES

Description: *Building F exterior.*

Colour: *na*

Friable: *na*

Samples: *ns*

Lab Result: *na*

Comment: *Asphalt shingles are not suspect to contain asbestos (installed post 1995).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

Building Component and Materials (BCM) Inventory

BCM # 22 ASPHALT SHINGLES

Description: *Building C exterior.*

Colour: *na*

Friable: *na*

Samples: *ns*

Lab Result: *na*

Comment: *Asphalt shingles are not suspect to contain asbestos (installed post 1995).*



Summary of ACMs and PACMs

Location #	Area Description	Quantity	Condition	Damaged Qty.	Acc.	Vis.	Comments	Recommendation
								No action required.

Accessibility (Acc.)

- A - Areas of the building within reach (from floor level) of all building users
- B - Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder
- C - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos
- D - Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall, or equipment, etc., is required to reach the asbestos

Visibility (Vis.)

- Yes - Suspect material is visible without opening hatches or lifting ceiling tiles
- No - Suspect material can only be viewed if access hatches are opened or ceiling tiles lifted.

Notes:
nq - not quantified
na - not applicable
ns - not sampled
sf - square feet
lf - linear feet
F - friable
NF - non friable
PFM - potentially friable material
BCM - building component and material
ACM - asbestos-containing material
PACM - presumed asbestos-containing material

APPENDIX 4

Laboratory Analytical Report – Asbestos

Laboratory Analysis Report

To:

Sean Hauck
ONWARD Environmental Inc.
30 Forest Edge Trail
Kitchener, ON
N2P 2L9

EMC LAB REPORT NUMBER: A92815

Job/Project Name: 216 Mill Street, Kitchener

Analysis Method: Polarized Light Microscopy – EPA 600

Date Received: Jun 20/23

Date Analyzed: July 4/23

Analyst: Katelyn Stolte

Reviewed By: Malgorzata Sybydlo

Job No: 100103.026

Number of Sample: 12

Date Reported: July 4/23

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
001a	A92815-1	Texture ceiling finish (popcorn pattern)	White, texture coat	ND			100
001b	A92815-2	Texture ceiling finish (popcorn pattern)	White, texture coat	ND			100
001c	A92815-3	Texture ceiling finish (popcorn pattern)	White, texture coat	ND			100
002a	A92815-4	Vinyl floor tile, 12"x12", grey, checker pattern	Grey, vinyl floor tile	ND			100
002b	A92815-5	Vinyl floor tile, 12"x12", grey, checker pattern	Grey, vinyl floor tile	ND			100
002c	A92815-6	Vinyl floor tile, 12"x12", grey, checker pattern	Grey, vinyl floor tile	ND			100
003a	A92815-7	Vinyl floor tile 12"x12", off-white and mastic, checker pattern	2 Phases: a) Off white, vinyl floor tile b) Yellow, mastic	ND ND		1	100 99
003b	A92815-8	Vinyl floor tile 12"x12", off-white and mastic, checker pattern	2 Phases: a) Off white, vinyl floor tile b) Yellow, mastic	ND ND		1	100 99
003c	A92815-9	Vinyl floor tile 12"x12", off-white and mastic, checker pattern	2 Phases: a) Off white, vinyl floor tile b) Yellow, mastic	ND ND		1	100 99

EMC LAB REPORT NUMBER: A92815
Client's Job/Project Name/No.: 100103.026
Analyst: Katelyn Stolte

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
004a	A92815-10	Black caulking/mastic at exterior brick and HVAC interface / Roof level	Black, caulking	ND		5	95
004b	A92815-11	Black caulking/mastic at exterior brick and HVAC interface / Roof level	Black, caulking	ND		5	95
004c	A92815-12	Black caulking/mastic at exterior brick and HVAC interface / Roof level	Black, caulking	Chrysotile	<0.5	5	95

Note:

1. Bulk samples are analyzed using Polarized Light Microscopy (PLM) and dispersion staining techniques. The analytical procedures are in accordance with EPA 600/R-93/116 method.
2. The results are only related to the samples analyzed. **ND** = None Detected (no asbestos fibres were observed), **NA** = Not Analyzed (analysis stopped due to a previous positive result).
3. This report may not be reproduced, except in full without the written approval of EMC Scientific Inc. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.
4. The Ontario Regulatory Threshold for asbestos is 0.5%. The limit of quantification (LOQ) is 0.5%.
5. Vinyl floor tiles may contain very fine asbestos fibres which the PLM method cannot detect. TEM analysis may be necessary to confirm the absence of asbestos.

APPENDIX 5

Laboratory Analytical Report – Lead

C.O.C.: ---

REPORT No. B23-03924

Report To:

EMC Scientific Inc.
5800 Ambler Dr. #100,
Mississauga ON L4W 4J4 Canada

Attention: Alister Haddad

Caduceon Environmental Laboratories

2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 21-Jun-23

JOB/PROJECT NO.: 216 Mill St., Kitchener


DATE REPORTED: 28-Jun-23

P.O. NUMBER: 100103.026

SAMPLE MATRIX: Paint Chips

WATERWORKS NO.

Parameter		Lead				
Units		% by wt				
R.L.		0.0005				
Reference Method		EPA 6010				
Date Analyzed/Site		27-Jun-23/O				
Client I.D.	Sample I.D.	Date Collected				
P01 - Beige on drywall	B23-03924-1	19-Jun-23	0.001			
P02 - Red on concrete floor	B23-03924-2	19-Jun-23	0.0153			
P03 - Off-white on concrete block gymnasium	B23-03924-3	19-Jun-23	< 0.0005			
P04 - Tan on drywall, kitchen	B23-03924-4	19-Jun-23	0.0008			
P05 - Beige on concrete block wall	B23-03924-5	19-Jun-23	0.0006			
P06 - Yellow on metal railing	B23-03924-6	19-Jun-23	0.0025			
P07 - Turquoise on railing	B23-03924-7	19-Jun-23	0.0213			
P08 - Brown on metal door	B23-03924-8	19-Jun-23	0.0013			
P09 - White on drywall wall	B23-03924-9	19-Jun-23	< 0.0005			
P10 - Cream on drywall wall	B23-03924-10	19-Jun-23	< 0.0005			
P11 - Off-white on drywall wall	B23-03924-11	19-Jun-23	0.001			
P12 - White on metal door, portable	B23-03924-12	19-Jun-23	< 0.0005			
P13 - Grey on portable wood skirting	B23-03924-13	19-Jun-23	< 0.0005			
P14 - White on metal door frame	B23-03924-14	19-Jun-23	< 0.001			



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Steve Garrett

Director of Laboratory Services

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from