Centre d'excellence en approvisionnement
FRANCOachat

REQUEST FOR QUOTATION

#26-27 - RFQ - Interior Renovations - Collège Francais - CSViamonde

ADDENDUM #1

Issue Date: March 9th, 2026

Submission Date: April 1st, 2026 at 2:00:00 p.m. (local time)

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#26-27 - RFQ - Interior Renovations - Collège Francais – CSViamonde

ADDENDUM #1

March 16, 2026

This addendum will form part of the terms, conditions and specifications outlined in the Request for Quotation - #26-27 - RFQ - Interior Renovations - Collège Francais - CSViamonde. All other components of the RFQ shall remain as provided.

Section #1 – Additions & Replacements

Replace:

B. MATERIAL DISCLOSURES
N/A

With:

B. MATERIAL DISCLOSURES

Please refer to the following document: Appendix D - DSS Report - Collège Francais - RFQ #26-27.pdf

Section #2 – Document Addition

Addition:

Add: Appendix D - DSS Report - Collège Francais - RFQ #26-27.pdf

(Please see document below this addendum)

*****END OF ADDENDUM #1*****

Designated Substance and Hazardous Materials Survey – Pre-Renovation

École secondaire Collége Français
100 Carlton Street, Toronto, Ontario

Client Project No.: 30324043

March 12, 2026

Arcadis Project No. 30324043

Designated Substance and Hazardous Materials Survey - Pre-Renovation

École secondaire Collége Français, 100 Carlton Street, Toronto, Ontario

March 12, 2026

Arcadis Project No. 30324043

Prepared By:
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Version Control

Issue	Revision No.	Date Issued	Page No.	Description	Reviewed By
01	00	03/12/26	All	Final Report	Ada Nguyen

Contents

Tables

Appendices

Acronyms and Abbreviations

ACM	Asbestos-Containing Materials
Arcadis	Arcadis Professional Services (Canada) Inc.
DSHMS	Designated Substance Survey and Hazardous Materials Survey
EACC	Environmental Abatement Council of Canada
HCE	Halocarbon-Containing Equipment
NIOSH	National Institute for Occupational Safety and Health
OHS	Occupational Health and Safety
PACM	Potentially Asbestos-Containing Materials
PCBs	Polychlorinated Biphenyls
PLM	Polarized Light Microscopy
TEM	Transmission Electron Microscopy
USEPA	United States Environmental Protection Agency

Executive Summary

Arcadis Professional Services (Canada) Inc. (Arcadis) was retained by the Conseil scolaire Viamonde (CSV) to conduct a pre-renovation designated substance and hazardous materials survey (DSHMS) of École secondaire Collége Français located at 100 Carlton Street, Toronto, Ontario.

The objective of the assessment was to identify specified designated substance and hazardous materials (DSHMs) in preparation for building renovation. This assessment is intended to be used for renovation purposes only and may not provide sufficient detail for long term management of hazardous materials as required by Health and Safety regulations. The results of this assessment are intended for use with a properly developed scope of work and performance specification.

The project consisted of a limited intrusive assessment of the specified project area as shown on the floor plans included in Appendix D.

The designated substance and hazardous materials (DSHMs) considered during this assessment included the following:

- Asbestos-containing materials (ACM)
- Paint (lead)
- Lead products
- Silica
- Mercury
- Polychlorinated Biphenyls (PCBs)
- Halocarbon-Containing Equipment (HCE)
- Suspect visible mould

Arcadis performed the assessment on February 26, 2026. The assessment was conducted by Dwayne Kellyman of Arcadis.

Summary of Findings

Asbestos: No asbestos-containing materials (ACM) were confirmed present in the assessed area.

Potentially Asbestos-Containing Materials (PACM): No materials presumed to contain asbestos are present in the assessed area.

Lead: No materials were identified with levels of lead that exceeded criteria in the assessed area.

Silica: Crystalline silica is a presumed component of concrete, mortar, brick, masonry, ceramic tiles, grout and mortar bed and gypsum board finishes where present in the assessed area.

Mercury: Mercury vapor is present in fluorescent lamps where present in the assessed area.

Polychlorinated Biphenyls (PCBs): Based on visual observations (evidence of T-8 fixtures) the building has been comprehensively re-lamped and will not contain PCB ballasts.

Halocarbon-Containing Equipment: Building related cooling, refrigeration or fire suppression equipment suspected to be HCE was not observed.

Suspect Visible Mould: No suspect visible mould was identified in the assessed area.

Recommendations

We recommend the following on the basis of the findings of the designated substance and hazardous materials (DSHMs) outlined in this report.

General

1. Ensure that all asbestos-containing materials identified not impacted by the proposed renovations are managed in place. The Ontario Regulation 278/05 Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations provides guidance in asbestos management programs including risk assessment, development of safe work procedures, worker instructions, development and implementation of Asbestos Management Plans and record keeping.
2. O. Reg. 278/05 requires the owner to give any other person who is an occupier of the building written notice of any information in the survey record that relates to the area occupied by the person; and to give any employer with whom the owner arranges or contracts for work written notice of the information in the survey record if the work may involve material mentioned in the record, or may be carried out in close proximity to such material; and advise the workers employed by the owner who work in the building of the information if the workers may do work that involves the material, or is to be carried out in close proximity to such materials.
3. Investigate any items excluded from the scope of work of this report. Ideally this investigation will be performed as part of the development of the specifications, or at a minimum immediately prior to commencing renovations when the areas are no longer occupied. Specifically the following materials/areas need to be investigated:
   a. Ceramic tile grout and mortar beds
4. Provide this report and the detailed plans and specifications to the contractor prior to bidding or commencing work.
5. Retain a qualified consultant to specify, inspect and verify the successful removal of hazardous materials.
6. Update the asbestos inventory upon completion of the abatement and removal of asbestos-containing materials.

Remediation Work

No asbestos-containing materials or presumed asbestos-containing materials were observed at the time of the assessment.

Renovation Work Involving Hazardous Materials

1. Prepare plans and performance specifications for hazardous building materials handling and removal required for the planned renovation work. The specifications should include the scope of work, safe work practices, personal protective equipment, respiratory protection, and disposal of waste materials. Provide this report and the detailed plans and specifications to the contractor prior to bidding or commencing work.
2. Remove all asbestos-containing materials (ACM) in the designated work area prior to renovation, alteration, maintenance or demolition work. If the identified ACM will not be removed prior to

commencement of the work, disturbance of ACM must follow the appropriate asbestos precautions for the classification of work being performed. Asbestos-containing materials must be disposed of at a landfill approved to accept asbestos waste.

3. Test PACM if impacted by the proposed renovations or demolition. If PACM is not tested, it must be treated as ACM.
4. If work activities may cause exposure to paint containing elevated levels of metal (lead) conduct a risk assessment for exposure, develop an exposure control plan, write safe work procedures, and implement controls. The Ontario Ministry of Labour, Immigration, Training and Skills Development Guideline, Lead on Construction Projects provides guidance in assessment and control of lead exposure, which can be used as a guide for other metals.
5. Items painted with paints containing elevated levels of lead may be a hazardous waste. Test lead-painted materials for leachable lead and other metals prior to disposal. Dispose of painted non-metallic materials exceeding the criteria for leachable lead as hazardous waste. Well adhered paints containing elevated levels of lead on metal substrates do not require leachable lead analysis as the materials can be recycled with the paint intact.
6. Lead-containing items [lead-acid batteries, others] should be recycled when taken out of service or prior to building demolition.
7. If silica-containing materials will be affected by sanding, drilling, chipping, grinding, cutting, sawing, sweeping, demolition or blasting, develop a silica exposure control plan to address control methods and personal protective equipment requirements in order to reduce worker exposure to a level as low as reasonably achievable below the occupational exposure limit prescribed in the Ontario Occupational Health and Safety Regulations Guidance is provided in the Ontario Ministry of Labour, Immigration, Training and Skills Development Guideline, Silica on Construction Projects Silica control methods can include construction of barriers or enclosure systems to restrict access to and contain the work area; the use of wet methods; local exhaust ventilation when practical; and the use of personnel protective equipment.
8. Recycle and reclaim mercury from fluorescent lamps and thermostats when taken out of service. Do not break lamps or separate liquid mercury from components. Liquid mercury is classified as a hazardous waste and must be disposed of in accordance with local regulations.
9. When light fixtures are removed from service, ensure a qualified person examines the light ballasts for PCB content. If ballasts are not clearly labelled as “non-PCB” or are suspected to contain PCBs, package, and ship ballasts for destruction at a federally permitted facility. Liquid in oil transformers should be sampled for classification purposes. Capacitors suspected to contain PCBs must be disposed of as hazardous waste when removed from service. Dispose of non-liquid PCB materials as hazardous waste when they are removed from the building. Materials with PCB concentration above 50 mg/kg have an end of use date of December 31, 2025 and to comply with PCB Regulations (SOR/2008-273) must be removed and replaced by this date. Liquid containing PCBs less than 50 mg/kg may remain n pace until the day on which the liquid is removed from the equipment.

Please refer to Section 4.0 of this report for detailed recommendations regarding administrative, renovation or demolition activities.

Findings of this report are subject to our standard Limitations, as outlined in Section 6.0.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

1 Introduction

1.1 Purpose

Arcadis Professional Services (Canada) Inc. (Arcadis) was retained by the Conseil scolaire Viamonde (CSV) to conduct a pre-renovation designated substance and hazardous materials survey (DSHMS) of École secondaire Collége Français located at 100 Carlton Street, Toronto, Ontario.

The objective of the assessment was to identify specified designated substance and hazardous materials (DSHMs) in preparation for building renovation. This assessment is intended to be used for renovation purposes only and may not provide sufficient detail for long term management of hazardous materials as required by Health and Safety regulations. The results of this assessment are intended for use with a properly developed scope of work and performance specification.

The project consisted of a limited intrusive assessment of the specified project area as shown on the floor plans included in Appendix D.

Arcadis performed the assessment on March 9, 2026. The assessment was conducted by Dwayne Kellyman of Arcadis.

1.2 Scope of Work

The scope of work for the project, as referenced in the Arcadis proposal dated February 25, 2026, identifies the requirement to conduct a DSHMS within the study area. Specifically, the scope of work included:

- Review of previous documents related to the work, including floor plans and previous reports.
- Development of sampling strategy to address any identified gaps.
- Conduct initial walk-through inspection to visually identify potential designated substance and hazardous materials (DSHMs).
- Conduct a comprehensive, limited intrusive DSHMS on interior and exterior finishes of the site.
- Submit representative samples of suspect materials identified to accredited laboratories for analysis.
- Evaluation and interpretation of field findings and sample analytical results to develop conclusions and recommendations pertaining to hazardous building materials identified and to provide a summary of the locations of DSHMs.

For the purpose of this assessment, designated substance and hazardous materials (DSHMs) are defined as follows:

- Asbestos-containing materials (ACM)
- Paint (lead)
- Lead products
- Silica

- Mercury
- Polychlorinated Biphenyls (PCBs)
- Halocarbon-Containing Equipment (HCE)
- Suspect visible mould

The assessment was restricted to accessible locations of the buildings. Concrete block walls were investigated for vermiculite by coring small holes in select locations. Roof access and assessment was not included as part of the DSHMS.

A general description of the building included in this DSHMS is provided in Table 1 below:

Table 1: Building Description

Building Name	Address	Total Inside Gross m²	Year Constructed/ Significant renovations or additions	Building Description
École secondaire Collége Français	100 Carlton Street, Toronto, Ontario	-	1974 (Original Construction) / 1994 (Addition)	A three-storey building with a 3-level below grade parking garage

2 Background Information

Background information for the Site includes the following:

- Survey of Asbestos-Containing Materials, École secondaire Collége Français, 100 Carlton Street, Toronto, Ontario, April 21, 2023 prepared by Arcadis.

2.1 Exclusions

No areas or items were excluded during this assessment.

3 Results

The following section summarizes the findings of the assessment and provides a general description of the designated substances and hazardous materials (DSHMs) identified, approximate quantity and their locations. Laboratory certificates of analysis are provided in Appendix C. Floor plans indicating locations of asbestos-containing materials and room numbers are provided in Appendix D. Appendix E provides information on applicable regulation and guidelines. Refer to Appendix F for the survey methodology.

3.1 Asbestos

During the course of our assessment, representative bulk samples of material were collected by Arcadis staff. The samples were forwarded to EMSL in Mississauga, Ontario for asbestos analyses. EMSL holds a current Certificate of Accreditation for Bulk Asbestos Fibre Analysis under the Voluntary Accreditation Program (NVLAP). Bulk sampling was performed in general accordance with the requirements specified in the ASTM E2356 Standard, and O. Reg. 278/05. Please refer to the Asbestos Summary Table in Appendix A for additional details.

3.1.1 Suspect Building Materials Not Found

The following types of building materials may historically contain asbestos but were not observed in the assessed area and are not discussed in the report findings:

- Spray-applied fireproofing or thermal insulation
- Texture finishes (acoustic/decorative)
- Thermal systems insulation
- Vermiculite
- Plaster
- Vinyl sheet flooring
- Firestopping
- Leveling compound
- Caulking, putty and mastics
- Roofing products

3.1.2 Ceiling Tiles

One distinct type of ceiling tile (CT) is present in the assessed area, as follows:

Table 2: Results of Analyses of Bulk Samples for Asbestos in CT

Size, Type, Pattern,	Locations (Total Quantity in Square Meters)	Sample Number	Asbestos Type
2’ x 4’ ceiling tile – random pinhole and fissure style	Rooms 132, 133C, 133E, 133H, 134 and 135	2-A to 2-C	None detected

3.1.3 Drywall Joint Taping Compound

Gypsum board with drywall joint taping compound (DJTC) is present as a wall finish throughout the assessed area. The DJTC was previously sampled in the 1994 addition of the building and determined to be non-asbestos.

3.1.4 Vinyl Floor Tile and Associated Mastic

Four types of vinyl floor tile (VFT) are present in the assessed area, as follows:

Table 3: Results of Analyses of Bulk Samples for Asbestos in VFT

Size, Pattern, Colour	Locations (Total Quantity in Square Meters)	Sample Number	Asbestos Type (tile)	Asbestos Type (mastic)
12"x 12" VFT- blue with blue fleck and associated mastic	Rooms 132, 133B, 133C, 133D, 133E, 133G, 133H, 134, 135 and 136	2A to 2C, 3A to 3C	None detected (PLM) None detected (TEM)	None detected

The vinyl floor tiles and mastic are non-friable and are in good condition. The tiles are installed over a cement substrate. Mastic was analyzed for asbestos content where it was present on the tiles, however a comprehensive testing program for mastic was not performed.

3.1.5 Caulking, Putty and Mastic

Three types of caulking are present in the assessed area, as follows:

Table 4: Results of Analyses of Bulk Samples for Asbestos in Caulking, Putty, and Mastic

Colour/Material	Locations (Total Quantity in Linear Meters)	Sample Number	Asbestos Type
Interior door caulking - brown in colour	All doors in the assessed area	6A to 6C and 7A to 7C	None detected (PLM) None detected (TEM)

NOTE:
(1) Sample results derived from a report prepared by Arcadis for Conseil scolaire Viamonde titled "*Survey of Asbestos-Containing Materials, École secondaire Collége Français, 100 Carlton Street, Toronto, Ontario* dated April 21, 2023.

3.1.6 Other Building Materials

Mortar is present on interior brick wall finishes throughout the assessed area. The material was previously sampled and determined to be non-asbestos (samples 13A to 13C).

Block filler paint is present on concrete block finishes throughout the assessed area. The material was previously sampled and determined to be non-asbestos (samples 8A to 8C).

3.2 Paint

During the course of our site investigation, representative bulk samples of predominant paint types were collected by Arcadis staff. The samples were forwarded to EMSL in Mississauga, Ontario for analyses for lead content. EMSL holds a current Certificate of Accreditation for Lead in Paint under the Canadian Association for Laboratory Accreditation (CALA). Results of bulk sample analysis in paint content are provided in the table below. Samples in bold exceed the criteria.

Table 5: Results of Analyses of Bulk Samples for Lead in Paint

Sample ID	Sample Location	Substrate Material	Sample Description	Condition	Analytical Results (ppm)
					Lead (Criteria - 90 ppm)
P-1	Room 133A	Wood	Black floor paint	Good	<64
P-1	Room 119	Drywall	White wall paint	Good	<90 (1)
P-2	Room D-P1	Concrete block	Beige wall paint	Good	10 (1)

NOTE:
(1) Sample results derived from a report prepared by Arcadis for CSV entitled *Pre-Renovation Designated Substances and Hazardous Materials Survey, Collège français, 100 Carlton Street, Toronto, Ontario* dated March 29, 2022.

Surfaces in "fair" condition should be repaired and/or monitored but are not considered to be lead-containing paint hazards.
Surfaces in "poor" condition are considered to be lead-containing paint hazards and should be addressed through abatement or interim controls.

Where one colour of paint is indicated in the sample descriptions in the table above, only one layer of paint was observed. Where multiple colours are indicated in the sample description, multiple layers of paint were observed. Similarly painted areas throughout the building are presumed to contain lead at the same concentrations as noted above.

3.3 Lead Products

Materials presumed to contain lead were observed in the assessed area including:

- Electrical components including wiring connectors, grounding conductors, and solder.
- Glazing on ceramic tiles, in the solder (in buildings built pre-1986) on the seals of bell joints of any cast iron drainpipe and in the solder on the sweated-on joints between copper pipe and fittings.

3.4 Silica

Crystalline silica is a presumed component of the following materials where present in the assessed area:

- poured or pre-cast concrete
- masonry and mortar
- brick and brick mortar
- ceramic tiles, grout and mortar bed
- gypsum board and taping compound

3.5 Mercury

Mercury vapor is present in fluorescent lamps where present in the assessed area.

3.6 Polychlorinated Biphenyls (PCBs)

Based on visual observations (evidence of T-8 fixtures) the building has been comprehensively re-lamped and will not contain PCB ballasts.

3.7 Halocarbon-Containing Equipment (HCE)

Building related cooling, refrigeration or fire suppression equipment suspected to be HCE was not observed.

3.8 Suspect Visible Mould

Suspect visible mould and/or water staining was not observed during the assessment.

4 Recommendations

We recommend the following on the basis of the findings of the designated substance and hazardous materials (DSHMs) outlined in this report

4.1 General

1. Ensure that all asbestos-containing materials identified are managed in place. The Ontario Regulation 278/05 Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations provides guidance in asbestos management programs including risk assessment, development of safe work procedures, worker instructions, development and implementation of Asbestos Management Plans and record keeping.
2. O. Reg. 278/05 requires the owner to give any other person who is an occupier of the building written notice of any information in the survey record that relates to the area occupied by the person; and to give any employer with whom the owner arranges or contracts for work written notice of the information in the survey record if the work may involve material mentioned in the record, or may be carried out in close proximity to such material; and advise the workers employed by the owner who work in the building of the information if the workers may do work that involves the material, or is to be carried out in close proximity to such materials.
3. Investigate any items excluded from the scope of work of this report. Ideally this investigation will be performed as part of the development of the specifications, or at a minimum immediately prior to commencing renovations when the areas are no longer occupied. Specifically the following materials/areas need to be investigated:
   a. ceramic tile grout and mortar beds.
4. Provide this report and the detailed plans and specifications to the contractor prior to bidding or commencing work.
5. Retain a qualified consultant to specify, inspect and verify the successful removal of hazardous materials.
6. Update the asbestos inventory upon completion of the abatement and removal of asbestos-containing materials.

4.2 Remediation Work

No materials warranting remedial action at this time.

4.3 Renovation Work Involving Hazardous Materials

1. Prepare plans and performance specifications for hazardous building materials handling and removal required for the planned renovation work. The specifications should include the scope of work, safe work practices, personal protective equipment, respiratory protection, and disposal of waste materials. Provide this report and the detailed plans and specifications to the contractor prior to bidding or commencing work.
2. Remove all asbestos-containing materials (ACM) in the designated work area prior to renovation, alteration, maintenance or demolition work. If the identified ACM will not be removed prior to commencement of the work, disturbance of ACM must follow the appropriate asbestos precautions for the classification of work being performed. Asbestos-containing materials must be disposed of at a landfill approved to accept asbestos waste.
3. Test PACM if impacted by the proposed renovations or demolition. If PACM is not tested, it must be treated as ACM.
4. If work activities may cause exposure to paint containing elevated levels of metal (lead) conduct a risk assessment for exposure, develop an exposure control plan, write safe work procedures, and implement controls. The Ontario Ministry of Labour, Immigration, Training and Skills Development Guideline, Lead on Construction Projects provides guidance in assessment and control of lead exposure, which can be used as a guide for other metals.
5. Items painted with paints containing elevated levels of lead may be a hazardous waste. Test lead-painted materials for leachable lead and other metals prior to disposal. Dispose of painted non-metallic materials exceeding the criteria for leachable lead as hazardous waste. Well adhered paints containing elevated levels of lead on metal substrates do not require leachable lead analysis as the materials can be recycled with the paint intact.
6. Lead-containing items [lead-acid batteries, others] should be recycled when taken out of service or prior to building demolition.
7. If silica-containing materials will be affected by sanding, drilling, chipping, grinding, cutting, sawing, sweeping, demolition or blasting, develop a silica exposure control plan to address control methods and personal protective equipment requirements in order to reduce worker exposure to a level as low as reasonably achievable below the occupational exposure limit prescribed in the Ontario Occupational Health and Safety Regulations Guidance is provided in the Ontario Ministry of Labour, Immigration, Training and Skills Development Guideline, Silica on Construction Projects Silica control methods can include construction of barriers or enclosure systems to restrict access to and contain the work area; the use of wet methods; local exhaust ventilation when practical; and the use of personnel protective equipment.
8. Recycle and reclaim mercury from fluorescent lamps and thermostats when taken out of service. Do not break lamps or separate liquid mercury from components. Liquid mercury is classified as a hazardous waste and must be disposed of in accordance with local regulations.

9. When light fixtures are removed from service, ensure a qualified person examines the light ballasts for PCB content. If ballasts are not clearly labelled as “non-PCB” or are suspected to contain PCBs, package, and ship ballasts for destruction at a federally permitted facility. Liquid in oil transformers should be sampled for classification purposes. Capacitors suspected to contain PCBs must be disposed of as hazardous waste when removed from service. Dispose of non-liquid PCB materials as hazardous waste when they are removed from the building. Materials with PCB concentration above 50 mg/kg have an end of use date of December 31, 2025 and to comply with PCB Regulations (SOR/2008-273) must be removed and replaced by this date. Liquid containing PCBs less than 50 mg/kg may remain n pace until the day on which the liquid is removed from the equipment.

5 References

The following legislation and documents were referenced in completing the assessment and this report:

1. Occupational Health and Safety Act, (OSHA), R.S.O. 1990, c. O.1.
2. ASTM E2356 Standard Practice for Comprehensive Buildings Asbestos Surveys, 2018 Edition.
3. Ontario Regulation 278/05 – Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations, O. Reg. 278/05
4. R.R.O. 1990, Reg. 347: General - Waste Management
5. Ozone Depleting Substances and Other Halocarbons, O Reg. 463/10.
6. Ontario Ministry of Labour, Immigration, Training and Skills Development (MLITSD) “*A Guide to the Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations*”, November 2022
7. Federal Halocarbon Regulations, 2022, SOR/2022-110, under Canadian Environmental Protection Act, 1999.
8. PCB Regulations, SOR/2008-273, as amended up to October 31, 2021, under Canadian Environmental Protection Act, 1999.
9. Identification of Lamp Ballasts Containing PCBs. Report EPS 2/CC/2 (revised), Environment Canada, August 1991.
10. Surface Coating Materials Regulations, SOR/2016-193, as amended up to December 19, 2022, under Canada Consumer Product Safety Act.
11. Guideline, Lead on Construction Projects, Ontario Ministry of Labour, Immigration, Training and Skills Development, 2011.
12. Environmental Abatement Council of Canada Lead Guidelines for Construction, Renovation, Maintenance or Repair, October 2014
13. Transportation of Dangerous Goods Regulations, SOR/2001-286, Transportation of Dangerous Goods Act, 1992.
14. Mould Guidelines for the Canadian Construction Industry, Canadian Construction Association, 2018 Edition.

15. Environmental Abatement Council of Canada Mould Abatement Guidelines, Edition 3 (2015).
16. Guideline, Silica on Construction Projects, Ontario Ministry of Labour, Immigration, Training and Skills Development, November 2022.

6 Limitations and Service Constraints

The opinions, conclusions and recommendations presented in this report are limited to the information obtained during the performance of the specific scope of service identified in the report. To the extent that Arcadis relied upon any information prepared by other parties not under direct contract to Arcadis, no representation as to the accuracy or completeness of such information is made. This report is an instrument of professional service and the services described in the report were performed in accordance with generally accepted standards and level of skill and care ordinarily exercised by members of the profession working under similar conditions including comparable budgetary and schedule constraints. No warranty, guarantee or certification express or implied, is intended or given with respect to Arcadis' services, opinions, conclusions or recommendations.

Arcadis' observations, the results of any testing and Arcadis' opinions, conclusions and recommendations apply solely to conditions existing at the specific times when and specific locations where Arcadis' investigative work was performed. Arcadis affirms that data gathered and presented in this report was collected in an appropriate manner in accordance with generally accepted methods and practices. Arcadis cannot be responsible for decisions made by our client solely on the basis of economic factors. Observation and testing activities such as those conducted by Arcadis are inherently limited and do not represent a conclusive or complete characterization. Arcadis analyzed only the substances, conditions and locations described in the report at the time indicated. Conditions in other parts of the project site, building or area may vary from conditions at the specific locations where observations were made and where testing was performed by Arcadis. Additionally, other building material hazards which were not identified by Arcadis, may also be present un-accessed areas and in walls, ceilings, cavities, and floors.

This report is expressly for the sole and exclusive use of the Client for whom this report was originally prepared and for the particular purpose outlined in the report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk. This report must be presented in its entirety.

Appendix A

Asbestos Summary Table

Appendix A – Asbestos Summary Table								
Level	**Room**	**Material**	**Asbestos Content**	**Location Within Space**	**Estimated Quantity**	**Friable or Non-Friable**	**Condition**	**Comments**
No asbestos-containing materials are present in the assessed area.								

Appendix B

Asbestos Bulk Sample Table

Appendix B – Asbestos Sample Table			
Sample No.	**Sample Location**	**Sample Description**	**Asbestos Content**
1A	Room 133A	Mastic under plywood	None Detected (PLM) None Detected (TEM)
1B	Room 133A	Mastic under plywood	None Detected
1C	Room 133A	Mastic under plywood	None Detected
2A	Room 133D	12” Vinyl floor tile – blue with blue fleck	None Detected (PLM) None Detected (TEM)
2B	Room 133G	12” Vinyl floor tile – blue with blue fleck	None Detected
2C	Room 132	12” Vinyl floor tile – blue with blue fleck	None Detected
3A	Room 133D	Black mastic under 12” vinyl floor tile	None Detected (PLM) None Detected (TEM)
3B	Room 133G	Black mastic under 12” vinyl floor tile	None Detected
3C	Room 132	Black mastic under 12” vinyl floor tile	None Detected
4A	Room 133F	2”x2” ceramic floor tile - grout	None Detected
4B	Room 133J	2”x2” ceramic floor tile - grout	None Detected
4C	Room 134A	2”x2” ceramic floor tile - grout	None Detected
5A	Room 133F	2”x2” ceramic floor tile – mortar bed	None Detected
5B	Room 133J	2”x2” ceramic floor tile – mortar bed	None Detected
5C	Room 134A	2”x2” ceramic floor tile – mortar bed	None Detected
1A	Room 100	Interior window caulking - brown in colour	None Detected [1]
1B	Room 215	Interior window caulking - brown in colour	None Detected [1]
1C	Room 308	Interior window caulking - brown in colour	None Detected [1]
2A	Room 100	Exterior window caulking – brown in colour	None Detected [1]
2B	Room 101	Exterior window caulking – brown in colour	None Detected [1]
2C	Room 107	Exterior window caulking – brown in colour	None Detected [1]
3A	Room 120	Concrete block-filler paint	None Detected [1]
3B	Room 216	Concrete block-filler paint	None Detected [1]
3C	Room 316	Concrete block-filler paint	None Detected [1]
4A	Room P-103	Paint on concrete	None Detected [1]
4B	Room P-203	Paint on concrete	None Detected [1]
4C	Room P-303	Paint on concrete	None Detected [1]
5A	Room P-104	Gasket	None Detected [1]
5B	Room P-104	Gasket	None Detected [1]
5C	Room P-104	Gasket	None Detected [1]
6A	Room 129	Interior door caulking - brown in colour (era 1994)	None Detected [1]
6B	Room 129	Interior door caulking - brown in colour (era 1994)	None Detected [1]

Appendix B – Asbestos Sample Table			
Sample No.	**Sample Location**	**Sample Description**	**Asbestos Content**
6C	Room 129	Interior door caulking - brown in colour (era 1994)	None Detected [1]
7A	Room 133K	Interior door caulking - brown in colour (era 1994)	None Detected [1]
7B	Room 133K	Interior door caulking - brown in colour (era 1994)	None Detected [1]
7C	Room 133K	Interior door caulking - brown in colour (era 1994)	None Detected [1]
8A	Room 129	Concrete block-filler paint (era 1994)	None Detected [1]
8B	Room 133K	Concrete block-filler paint (era 1994)	None Detected [1]
8C	Room 129	Concrete block-filler paint (era 1994)	None Detected [1]
9A	Exit S06	Exterior door caulking – brown in colour (era 1994)	None Detected [1]
9B	Exit S06	Exterior door caulking – brown in colour (era 1994)	None Detected [1]
9C	Exit S06	Exterior door caulking – brown in colour (era 1994)	None Detected [1]
10A	Exit S07	Exterior door caulking – grey in colour (era 1994)	None Detected [1]
10B	Exit S07	Exterior door caulking – grey in colour (era 1994)	None Detected [1]
10C	Exit S07	Exterior door caulking – grey in colour (era 1994)	None Detected [1]
11A	West Elevation	Expansion joint caulking – grey in colour (era 1994)	None Detected [1]
11B	West Elevation	Expansion joint caulking – grey in colour (era 1994)	None Detected [1]
11C	West Elevation	Expansion joint caulking – grey in colour (era 1994)	None Detected [1]
12A	West Elevation	Exterior block mortar	None Detected [1]
12B	West Elevation	Exterior block mortar	None Detected [1]
12C	West Elevation	Exterior block mortar	None Detected [1]
13A	Room 129	Interior concrete block mortar (era 1994)	None Detected [1]
13B	Room 133K	Interior concrete block mortar (era 1994)	None Detected [1]
13C	Room 129	Interior concrete block mortar (era 1994)	None Detected [1]
14A	Room 129	Drywall joint compound (era 1994)	None Detected [1]
14B	Room 129	Drywall joint compound (era 1994)	None Detected [1]
14C	Room 129	Drywall joint compound (era 1994)	None Detected [1]
2A-JC	305	Drywall joint compound	**2.3% Chrysotile [1]**
8A-PL	S02	Plaster texture coat	None Detected [1]
8B-PL	S02	Plaster texture coat	None Detected [1]
8C-PL	S02	Plaster texture coat	None Detected [1]
9A-PF	P1 garage	Fireproofing (grey wool-like)	None Detected [1]

Appendix B – Asbestos Sample Table			
Sample No.	**Sample Location**	**Sample Description**	**Asbestos Content**
9B-PF	P1 garage	Fireproofing (grey wool-like)	None Detected [1]
9C-PF	P1 garage	Fireproofing (grey wool-like)	None Detected [1]
S.03	P2 garage	Cement sewer pipe (transite)	**30% Chrysotile [1]**
1-A	Room 119	12’ Vinyl floor tile – Beige with light brown flecks	None Detected (PLM) [1] None Detected (TEM)
1-B	Room 119	12’ Vinyl floor tile – Beige with light brown flecks	None Detected [1]
1-C	Room 119	12’ Vinyl floor tile – Beige with light brown flecks	None Detected [1]
2-A	Room 119	Black mastic under VFT	None Detected (PLM) [1] None Detected (TEM)
2-B	Room 119	Black mastic under VFT	None Detected [1]
2-C	Room 119	Black mastic under VFT	None Detected [1]
3-A	Room 119	Baseboard – color brown	None Detected (PLM) [1] None Detected (TEM)
3-B	Room 119	Baseboard – color brown	None Detected [1]
3-C	Room 119	Baseboard – color brown	None Detected [1]
4-A	Room 119	Baseboard mastic – color brown	None Detected (PLM) [1] None Detected (TEM))
4-B	Room 119	Baseboard mastic – color brown	None Detected [1]
4-C	Room 119	Baseboard mastic – color brown	None Detected [1]
1-A	Room 119	Drywall joint compound on drywall wall located between Rooms 115 and 119	None Detected [1]
1-B	Room 119	Drywall joint compound on drywall wall located between Rooms 115 and 119	None Detected [1]
1-C	Room 119	Drywall joint compound on drywall wall located between Rooms 115 and 119	None Detected [1]
2-A	Stair A1	Concrete block mortar	None Detected (PLM) [1] None Detected (TEM)
2-B	Stair A2	Concrete block mortar	None Detected [1]
2-C	Stair A3	Concrete block mortar	None Detected [1]
1-A	Room 115	2’ x 4’ ceiling tile – white coloured with textured finish	None Detected [1]
1-B	Room 115	2’ x 4’ ceiling tile – white coloured with textured finish	None Detected [1]
1-C	Room 115	2’ x 4’ ceiling tile – white coloured with textured finish	None Detected [1]

Appendix B – Asbestos Sample Table			
Sample No.	**Sample Location**	**Sample Description**	**Asbestos Content**
2-A	Room 223	2’ x 4’ ceiling tile –random pinhole and fissure style	None Detected (1)
2-B	Room 323	2’ x 4’ ceiling tile –random pinhole and fissure style	None Detected (1)
2-C	Room 113	2’ x 4’ ceiling tile –random pinhole and fissure style	None Detected (1)

NOTES:

(1) Sample results derived from a report prepared by Arcadis for CSV entitled *Survey of Asbestos-Containing Materials, École secondaire Collége Français, 100 Carlton Street, Toronto, Ontario* dated April 21, 2023.

Appendix C

Laboratory Certificates of Analysis

EMSL Canada Inc.

2756 Slough Street Mississauga, ON L4T 1G3
Phone/Fax: (289) 997-4602 / (289) 997-4607
http://www.EMSL.com / torontolab@emsl.com

EMSL Canada Order 552604661
Customer ID: 55CLEG25
Customer PO: 30324043
Project ID:

Attn: Dwayne Kellyman
Arcadis Professional Svcs (Canada) Inc.
8133 Warden Ave, Unit 300
Markham, ON L6G 1B3

Phone: (905) 940-6161
Fax:
Collected:
Received: 3/10/2026
Analyzed: 3/12/2026

Proj: 30324043/ Ecole secondaire College Francais

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 1A **Lab Sample ID:** 552604661-0001

Sample Description: Mastic under plywood/ Room 133A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/12/2026	Brown/Black	0.0%	100%	None Detected	
TEM Grav. Reduction	3/12/2026	Brown/Black	0.0%	100.0%	None Detected	

Client Sample ID: 1B **Lab Sample ID:** 552604661-0002

Sample Description: Mastic under plywood/ Room 133A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Brown/Black	10.0%	90.0%	None Detected	

Client Sample ID: 1C **Lab Sample ID:** 552604661-0003

Sample Description: Mastic under plywood/ Room 133A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Brown/Black	10.0%	90.0%	None Detected	

Client Sample ID: 2A **Lab Sample ID:** 552604661-0004

Sample Description: 12" Vinyl floor tile- blue with blue fleck/ Room 133D

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/12/2026	White/Blue	0.0%	100%	None Detected	
TEM Grav. Reduction	3/12/2026	White/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 2B **Lab Sample ID:** 552604661-0005

Sample Description: 12" Vinyl floor tile- blue with blue fleck/ Room 133G

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Blue	0.0%	100.0%	None Detected	

Client Sample ID: 2C **Lab Sample ID:** 552604661-0006

Sample Description: 12" Vinyl floor tile- blue with blue fleck/ Room 132

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Blue	0.0%	100.0%	None Detected	

Client Sample ID: 3A **Lab Sample ID:** 552604661-0007

Sample Description: Black mastic under 12" vinyl floor tile/ Room 133D

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	3/12/2026	Black	0.0%	100%	None Detected	
TEM Grav. Reduction	3/12/2026	Black	0.0%	100.0%	None Detected	

EMSL Canada Inc.

2756 Slough Street Mississauga, ON L4T 1G3
Phone/Fax: (289) 997-4602 / (289) 997-4607
http://www.EMSL.com / torontolab@emsl.com

EMSL Canada Order 552604661
Customer ID: 55CLEG25
Customer PO: 30324043
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Client Sample ID: 3B ***Lab Sample ID:*** **552604661-0008**

Sample Description: Black mastic under 12" vinyl floor tile/ Room 133G

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Black	0.0%	100.0%	None Detected	

Client Sample ID: 3C ***Lab Sample ID:*** **552604661-0009**

Sample Description: Black mastic under 12" vinyl floor tile/ Room 132

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Black	0.0%	100.0%	None Detected	

Client Sample ID: 4A ***Lab Sample ID:*** **552604661-0010**

Sample Description: 2"x2" ceramic floor tile- grout/ Room 133F

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 4B ***Lab Sample ID:*** **552604661-0011**

Sample Description: 2"x2" ceramic floor tile- grout/ Room 133J

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 4C ***Lab Sample ID:*** **552604661-0012**

Sample Description: 2"x2" ceramic floor tile- grout/ Room 134A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 5A ***Lab Sample ID:*** **552604661-0013**

Sample Description: 2"x2" ceramic floor tile- mortar bed/ Room 133F

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 5B ***Lab Sample ID:*** **552604661-0014**

Sample Description: 2"x2" ceramic floor tile- mortar bed/ Room 133J

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 5C ***Lab Sample ID:*** **552604661-0015**

Sample Description: 2"x2" ceramic floor tile- mortar bed/ Room 134A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	3/11/2026	Gray	0.0%	100.0%	None Detected	

EMSL Canada Inc.

2756 Slough Street Mississauga, ON L4T 1G3
Phone/Fax: (289) 997-4602 / (289) 997-4607
http://www.EMSL.com / torontolab@emsl.com

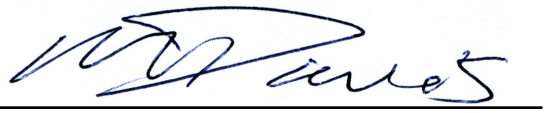
EMSL Canada Order 552604661
Customer ID: 55CLEG25
Customer PO: 30324043
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05

Analyst(s):

Diana Costantino	PLM (2)
Khue Nguyen	TEM Grav. Reduction (3)
Kira Ramphal	PLM Grav. Reduction (3)
Nickesh Mistry	PLM (10)

Reviewed and approved by:



Matthew Davis or other approved signatory
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This is a summary report; official reports are available on LabConnect or upon request and relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Initial report from: 03/12/202614:03:23

EMSL Canada Inc.
2756 Slough Street, Mississauga, ON L4T 1G3
Phone/Fax: (289) 997-4602 / (289) 997-4607
http://www.EMSL.com torontolab@emsl.com

EMSL Canada Or	552604662
CustomerID:	55CLEG25
CustomerPO:	30324043
ProjectID:	

Attn: **Dwayne Kellyman**
Arcadis Professional Svcs (Canada) Inc.
8133 Warden Ave, Unit 300
Markham, ON L6G 1B3

Phone: (905) 940-6161
Fax:
Received: 3/10/2026 09:00 AM
Collected:

Project: **30324043 / École Secondaire Collége Français**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client SampleDescription	*Collected*	*Analyzed*	*Weight*	*RDL*	*Lead Concentration*
P-1		3/10/2026	0.2505 g	64 mg/Kg	<64 mg/Kg
552604662-0001	Site: Paint on Wood Stage Room 133A				

Rowena Fanto, Lead Supervisor
or other approved signatory

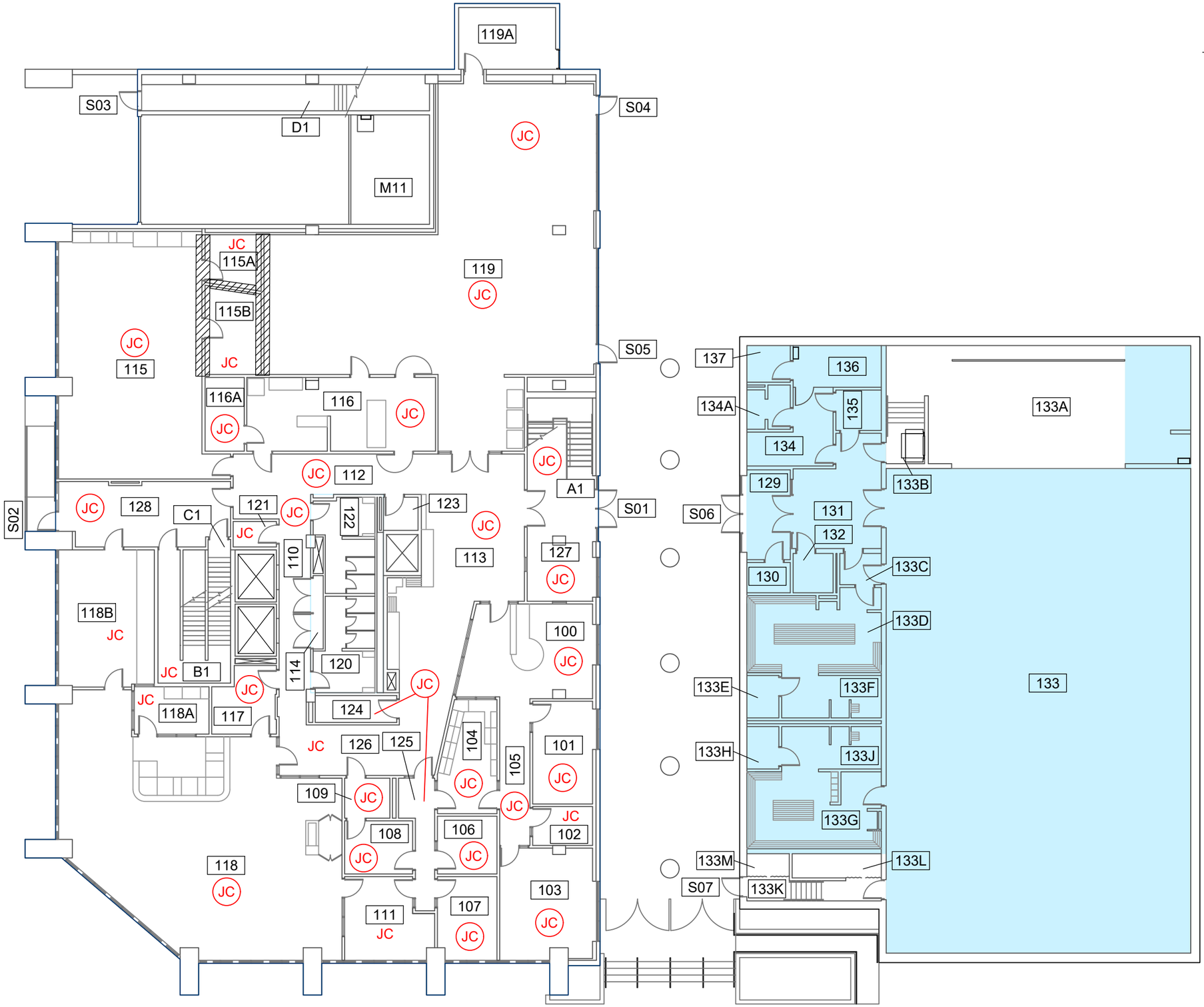
EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. * Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.0064% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON AIHA LAP, LLC-ELLAP Accredited #196142

Report Amended: 03/12/2026 08:16:51 Replaces the Inital Report 03/12/2026 08:16:01. Reason Code: report in mg/kg

Appendix D

Floor Plans



LEGEND:

124	FUNCTIONAL SPACE
◯	THROUGHOUT FUNCTIONAL SPACE
JC	ASBESTOS DRYWALL JOINT COMPOUND
▨	DRYWALL APPLICATIONS DO NOT CONTAIN ASBESTOS
▭	STUDY AREA

NOTES:

1.

REVISIONS:

No.	Date:	By:	Revisions

REFERENCE:

1.

ARCADIS

CONSEIL SCOLAIRE VIAMONDE

DESIGNATED SUBSTANCES AND HAZARDOUS MATERIAL SURVEY - PRE-RENOVATION

LOCATIONS OF ASBESTOS-CONTAINING MATERIALS

ÉCOLE SECONDAIRE COLLÉGE FRANÇAIS
100 rue,CARLETON,TORONTO,ONTARIO

FIRST FLOOR PLAN

Drawn By: M.K.R	Approved By: D.K	Project No: 30324043	
Date: MARCH 2026	Scale: N.T.S	Drawing No: 30324043-1	

Appendix E

Regulations and Guidelines

Canada Labour Code

Requirements related to disclosing the presence of hazardous substances (including designated substances) in federal government buildings are specified in Part II of the Canada Labour Code, sections 125(1)y and 125(1)(z.14), which state that employers shall:

- *"ensure that the activities of every person granted access to the workplace do not endanger the health and safety of employees [Section y]; and*
- *take all reasonable care to ensure that all of the persons granted access to the workplace, other than the employer's employees, are informed of every known or foreseeable health or safety hazard to which they are likely to be exposed in the workplace [Section z.14]".*

Canada Occupational Health and Safety Regulations

The requirement for employees to keep and maintain a record of all hazardous substances that are used, produced, handled or stored for use in the work place and the criteria to employ in carrying out an investigation into potential exposure to a hazardous substance are specified in Part X – Hazardous Substances – of the Canada Occupational Health and Safety Regulations.

Asbestos

Occupational Health and Safety (OHS) for federal employees is regulated by the Canada Labour Code (CLC) Part II. The *Canada Occupational Health and Safety Regulations (COHSR), Part X, Hazardous Substances* covers specific requirements related to the management and control of asbestos-containing materials (ACM). The COHSR, Part X, Hazardous Substances, states an employer shall ensure that an employee's exposure to a concentration of airborne asbestos fibres is as close to zero as possible, but in any event the employer shall ensure that the concentration does not exceed the value for airborne asbestos fibres adopted by the American Conference of Governmental Industrial Hygienists in its publication entitled *Threshold Limit Values (TLV) and Biological Exposure Indices (BEI)*, as amended from time to time (currently 0.1 fibre/cm^3 or f/cc). There are also specific requirements for hazard prevention detailed in the Hazard Prevention Program (HPP) in the CLC.

For the purposes of this report, the following federal requirements will be followed, unless provincial requirements are more stringent. Federal legislation and policy referenced in this report includes:

- Canada Labour Code, R.S.C., 1985, c. L-2.
- Canada Occupational Health and Safety Regulations Part X, Hazardous Substances; SOR/86-304
- Public Services and Procurement Canada Standard on Asbestos Management, 2024
- Public Services and Procurement Canada Directive on Asbestos Management, 2024
- Department of National Defence Standard on the Management of Asbestos-Containing Material in DND Immovables, October 1, 2024
- Government of Canada Technical Guideline to Asbestos Exposure Management Program, January 2018
- Transportation of Dangerous Goods Regulations, SOR/2001-286

The management and requirements for the potential disturbance of asbestos in buildings is also regulated at the provincial level under the Ontario Occupational Health and Safety Act (OHSA), and Regulation 278/05 – Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations. Asbestos-containing material is defined as a material that contains 0.5 per cent or more asbestos by dry weight.

Disposal of asbestos waste (friable and non-friable materials) is governed by Ontario Regulation 278/05 and by R.R.O. 1990, Reg. 347: General - Waste Management. O.Reg. 278/05 classifies asbestos work operations into three types (Type 1, 2 and 3) and specifies procedures to be followed in conducting asbestos abatement work. The Federal Transportation of Dangerous Goods Regulation set out the requirements for the proper transport of asbestos waste in Ontario.

Paint

In Canada, the Surface Coating Materials Regulations (SOR/2016-193) under the federal Hazardous Products Act provides a concentration of metals that must not be exceeded in surface coatings that are presently sold in this country. Where no criteria is listed, the laboratory detection limit is used.

The *National Plumbing Code* allowed lead as an acceptable material for pipes until 1975 and in solder until 1986.

The Ontario Ministry of Labour, Immigration, Training and Skills Development *Guideline, Lead on Construction Projects*, dated April 2011, provides guidance in the measures and procedures that should be followed when handling lead containing materials during construction projects. In the guideline, lead-containing construction operations are classified into three groups – Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of lead. Any operation that may expose a worker to lead that is not a Type 1, Type 2, or Type 3b operation, is classified as a Type 3a operation.

The *Environmental Abatement Council of Canada (EACC) Lead Guideline* for Construction, Renovation, Maintenance or Repair, October 2014, states the following:

- Paints or coatings containing less than or equal to 0.1% lead by weight (1,000 ppm) are considered low-level lead paints. If these materials are disturbed in a non-aggressive manner, performed using normal dust control procedures, then worker protection from the inhalation of lead is not required.
- Paints or coatings containing between 0.1% and 0.5% (5,000 ppm) lead by weight are considered lead-containing paints. Tasks performed that disturb these materials must be completed using precautionary measures and procedures specified in the guideline.
- Construction operations involving lead-based paints with concentrations greater than 0.5% lead must always be completed in accordance with precautionary measures and procedures specified in the guideline.

For building materials that are to be disposed of at a landfill, all lead-based paints and associated substrate (concrete, plaster, wood, etc.) must undergo Toxicity Characteristic Leachate Properties (TCLP) testing to determine disposal procedures. The disposal of lead-containing paint is regulated under the Federal Transportation of Dangerous Goods Regulations and by the Ontario Ministry of the Environment, Conservation and Parks.

PCB

The management of equipment classified as waste and containing Polychlorinated Biphenyls (PCBs) at concentrations of 50 parts per million (mg/kg) or greater is regulated by Ontario Regulation 362*, Waste Management – PCBs*. Under this regulation, PCB waste is defined as any waste material containing PCBs in concentrations of 50 mg/kg or greater. Any equipment containing PCBs at or greater than this level, such as transformers, switchgear, light ballasts and capacitors, which is removed from service due to age, failure or as a result of decommissioning, is considered to constitute a PCB waste. Although current federal legislation (effective 1 July 1980) has prohibited the manufacture and sale of new equipment containing PCBs since that time, continued operation of equipment supplied prior to this date and containing PCBs is still permitted. Handling, storage and disposition of such

equipment is, however, tightly regulated and must be managed in accordance with provincial and federal government requirements as soon as it is taken out of service or becomes unserviceable

Removal of in-service equipment containing PCBs, such as fluorescent light ballasts, capacitors and transformers, is subject to the requirements of the federal *PCB Regulations* (discussed below).

The *PCB Regulations*, which came into force on 5 September 2008, were made under the *Canadian Environmental Protection Act*, 1999 (CEPA 1999) with the objective of addressing the risks posed by the use, storage and release to the environment of PCBs, and to accelerate their destruction. The *PCB Regulations* set different end-of-use deadlines for equipment containing PCBs at various concentration levels.

The Regulations Amending the PCB Regulations and Repealing the Federal Mobile PCB Treatment and Destruction Regulations were published on 23 April 2014, in the Canada Gazette, Part II, and came into force on 1 January 2015. The most notable part of the amendments is the addition of an end-of-use deadline date of 31 December 2025 for specific electrical equipment located at electrical generation, transmission and distribution facilities.

When the PCB materials are classified as waste, jurisdiction falls under the Ontario Ministry of the Environment, Conservation and Parks (MECP) and O.Reg. 362. All remedial and PCB management work must be carried out under the terms of the Director's Instruction issued by an MECP District Office (for quantities of PCB fluid greater than 50 litres). The PCB waste stream, regardless of quantity, must be registered with the MECP, in accordance with O.Reg. 347, *General - Waste Management*. O.Reg. 362 applies to any equipment containing greater than 1 kg of PCBs.

The Federal Transportation of Dangerous Goods Regulation sets out the requirements for the proper transport of PCB waste across provincial boundaries.

Suspect Visible Mould

At present, there are no specific laws or regulations governing acceptable levels of mould in buildings. The lack of specific regulatory standards is due in part to an inability to establish exposure-response relationships. Variation in individual susceptibility, limitations in sampling and analytical techniques, and the vast number of fungal agents and their products make it difficult to establish safe levels of exposure for all individuals. With a lack of defined exposure criteria, current Health Canada and other agency guidelines on the assessment and control of mould contamination in public buildings are largely based on prudent avoidance (i.e., remove any indoor growth or amplification site of mould, regardless of the concentration of moulds or their products in the indoor environment).

Although there are currently no regulations in Canada pertaining specifically to mould in buildings, occupational health and safety regulations typically require employers to take every precaution reasonable in the circumstances for the protection of workers.

Control of exposure to mould is required under Section 25(2)(h) of the Ontario *Occupational Health and Safety Act*, which states that employers shall take every precaution reasonable in the circumstances for the protection of workers. Recommended work practices are outlined in the following documents:

- Canadian Construction Association. Mould Guidelines for the Canadian Construction Industry. Standard Construction Document CCA 82 2004.
- Environmental Abatement Council of Canada (EACC) Mould Abatement Guideline Edition 3, 2015.

Mercury

In Canada, the Surface Coating Materials Regulations (SOR/2005-109) under the federal *Hazardous Products Act* provides a concentration of mercury that must not be exceeded in surface coatings that are presently sold in this country. This value was set at 10 ppm in 2005. However, it is important to note that there is not a direct correlation between the concentration of mercury in a material to the potential occupational exposure if the material is disturbed.

Waste light tubes generated during renovations or building demolition and waste mercury from equipment must either be recycled or disposed of in accordance with the requirements of Ont. Reg. 347 - *Waste Management, General*. Waste mercury in amounts less than 5 kg (per month) are exempt from the generator registration requirements prescribed by O.Reg. 347 – *Waste Management – General*. Waste mercury from mercury switches or gauges should, however, be properly collected and shipped to a recycling facility or disposed of as a hazardous waste. Removal of mercury-containing equipment (e.g., switches, gauges, controls, etc.) should be carried out in a manner which prevents spillage and exposure to workers.

Silica

The Ontario Ministry of Labour, Immigration, Training and Skills Development *Guideline, Silica on Construction Projects*, dated November 2022, provides guidance in controlling exposure to silica dust during construction activities. In the guideline, silica-containing construction operations are classified into three groups - Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of respirable crystalline silica in the form of cristobalite, tridymite, quartz and tripoli.

Additional precautionary measures should also be implemented for certain types of materials (e.g., plaster and texture coat materials, including non-asbestos applications, concrete block, etc.). For minor disturbances such as drilling, a HEPA-filtered attachment should be used. For removal of more than a minor amount of material, enclosures should be constructed for dust control and separation of the work area from adjacent areas.

Halocarbon Containing Equipment (HCE)

Ontario Regulation 463/10 – *Ozone Depleting Substances and Other Halocarbons*, applies to the use, handling and disposal of Class 1 ozone-depleting substances, including various chlorofluorocarbons (CFCs), halons and other halocarbons, Class 2 ozone-depleting substances, including various hydrochlorofluorocarbons (HCFCs) and halocarbons, and other halocarbons, including fluorocarbons (FCs) and hydrofluorocarbons (CFCs). The most significant requirements for handling of ozone-depleting substances (ODS') and other Halocarbons, which include, for example, refrigerants used in refrigeration equipment and chillers, include the following:

- certification is required for all persons testing, repairing, filling, or emptying equipment containing ODS' and other halocarbons;
- the discharge of a Class 1 ODS or anything that contains a Class 1 ODS to the natural environment or within a building is prohibited;
- the making, use of, selling of or transferring of a Class 1 ODS is restricted to certain conditions;
- the discharge of a solvent or sterilant that contains a Class 2 ODS is prohibited;
- the making, use of, selling of or transferring of a solvent or sterilant that contains a Class 2 ODS is restricted to certain conditions;
- fire extinguishing equipment that contains a halon may be discharged to fight fires, except fires for firefighting training purposes;

- portable fire extinguishing equipment that contains a halon may be used or stored if the extinguisher was sold for use for the first time before 1 January 1996;
- records of the servicing and repair of equipment containing ODS' and other halocarbons must be prepared and maintained by the owner of the equipment; and
- equipment no longer containing ODS' and other halocarbons must be posted with a notice completed by a certified person.

Ontario Regulation 347, *General – Waste Management*, has also been amended to provide for more strict control of CFCs. The requirements under the amended regulation apply primarily to the keeping of records for the receipt or recycling of CFC waste.

On federal land, aboriginal land and federal works, buildings and undertakings, the Federal Halocarbon Regulations, 2022 (SOR/2022-110) applies. The regulations prohibit the release of halocarbons contained in refrigeration systems, air conditioning systems, fire extinguishers (except to fight a fire that is not a fire caused for training purposes) or containers or equipment used in the re-use, recycling, reclamation or storage of a halocarbon.

The regulations also impose restrictions on the servicing and dismantling, disposing of or decommissioning of any system containing halocarbons and requires the recovery of halocarbons into an appropriate container by a certified person. The regulation also details an owner's record-keeping obligations.

The Federal Transportation of Dangerous Goods Regulation set out the requirements for the proper transport of halocarbon waste in Ontario.

Other Biological Hazards

Hantaviruses are found in the droppings, urine and saliva of infected rodents and humans can contract the virus from breathing in airborne particles or from being bitten. In Canada, a hantavirus capable of causing disease in humans – named Sin Nombre virus – has been identified in deer mice. Although the risk in Canada is low, when it happens, the disease can be very severe.

Exposure to hantaviruses can cause a rare, but often fatal, disease called Hantavirus pulmonary syndrome (HPS). The earliest documented case of HPS in Canada was contracted in Alberta in 1989. Since then, there have been over 70 confirmed cases. Most of the cases occurred in western Canada (Manitoba, Saskatchewan, Alberta, and British Columbia), except for one case in Quebec.[1]

Hantavirus is typically transmitted by breathing particles in air from the droppings, urine and saliva of infected rodents. However, there have been a small number of reported cases of HPS believed to have been contracted through rodent bites.

Workers removing accumulations of bird or bat droppings are at risk of exposure to airborne fungal spores (and other microbial hazards) likely to be released when this material is disturbed. Bird and bat droppings should be presumed to be contaminated with the fungi Histoplasma capsulatum, Cryptococcus neoformans, and other infectious hazards. The spores of some of these organisms can remain infectious for decades after their growth in the guano has ceased. Many of these microorganisms are known to cause respiratory infections in workers exposed during construction or maintenance disturbance.

[1] Health Canada – "It's Your Health – Hantaviruses" – August 2009.

Toxic and Flammable Chemical

Toxic and Flammable chemicals are regulated in Ontario under Part IV of OSHA. If a worker is or may be exposed to a chemical agent, or biological agent designated as a toxic substance, the employer must ensure that the identity of the chemical agent or toxic agent, its possible effects on worker health and safety and any precautions required to protect the health and safety of the worker are clearly indicated by labels, SDSs, or other similar means and the information required is clearly communicated to the worker. Written procedures must be prepared and implemented to eliminate or minimize a risk of exposure to a chemical agent or toxic agent by any route that could cause an adverse health effect, and to address emergency and cleanup procedures in the event of a spill or release of a chemical agent or toxic agent.

Radioactive Materials

Radioactive Materials are regulated in Ontario under Radiation Protection Regulations SOR/2003-203 and Nuclear Substances and Radiation Devices Regulations, SOR/2000-207, s. 6, as amended up to March 13, 2015, under Nuclear Safety and Control Act. An exposure control plan is required if a worker's radiation exposure exceeds or may exceed the applicable action level.

Urea Formaldehyde Foam Insulation

Urea-formaldehyde foam insulation was a type of expanding foam insulation mixed on-site and injected into wall cavities in homes and buildings, particularly during the 1970s. Developed in Europe in the 1950s and used widely in North America from the mid-1970s, UFFI was banned in Canada due to health concerns about the release of formaldehyde, a potential carcinogen.

Other Designated Substances

Vinyl Chloride

Vinyl chloride vapours may be released from polyvinyl chloride (PVC) products in the event of heating or as a result of decomposition during fire. PVC is used in numerous materials that may be found in building construction, including, for example, piping, conduits, siding, window and door frames, plastics, garden hoses, flooring and wire and cable protection.

Ontario has two main regulations for vinyl chloride: a workplace regulation (R.R.O. 1990, Reg. 846) that sets an occupational exposure limit and requires employers to manage risk, and an air quality regulation (O. Reg. 419/05) that establishes stringent standards for ambient air concentrations near facilities, which supersedes previous federal regulations

Arsenic

Arsenic is a heavy metal used historically in pesticides and herbicides. The primary use in building construction materials was its use in the wood preservative chromated copper arsenate (CCA). CCA was used to pressure treat lumber since the 1940s. Pressure-treated wood containing CCA is no longer being produced for use in most settings.

In Canada, the federal regulation of arsenic involves multiple aspects, including the Canadian Environmental Protection Act, 1999 (CEPA) for environmental releases, Health Canada's Guidelines for Canadian Drinking Water Quality for water safety, the Food and Drugs Act for contaminants in food and drugs, and the Canada Consumer Product Safety Act for consumer products.

Isocyanates

Isocyanates are a class of chemicals used in the manufacture of certain types of plastics, foams, coatings and other products. Isocyanate-based building construction materials may include rigid foam products such as foam-core panels and spray-on insulation and paints, coatings, sealants and adhesives. Isocyanates may be inhaled if they are present in the air in the form of a vapour, a mist or a dust. In Ontario, isocyanate regulations are governed by O. Reg. 490/09 (Designated Substances), which requires employers to implement a control program if workers are likely to be exposed to isocyanates.

Benzene

Benzene is a clear, highly flammable liquid used mainly in the manufacture of other chemicals. The commercial use of benzene as a solvent has practically been eliminated, however it continues to be used as a solvent and reactant in laboratories.

Ethylene Oxide

Ethylene oxide is a colourless gas at room temperature. It has been used primarily for the manufacture of other chemicals, as a fumigant and fungicide and for sterilization of hospital equipment.

Coke Oven Emissions

Coke oven emissions are airborne contaminants emitted from coke ovens and are not a potential hazard associated with building construction materials.

Appendix F

Survey Methodology

Sampling activities were conducted in accordance with Arcadis' Standard Operation Procedures which take into account current federal and provincial regulations pertaining to such work (i.e., sampling procedures, required number of samples and laboratory analytical procedures).

Representative bulk samples were collected of accessible suspect paint, and asbestos-containing materials in sufficient quantities for laboratory analysis. Samples were sealed in polyethylene zip-lock bags labeled with the sample number, suspect material description, and sample location. As part of sampling procedures, sampling tools were cleaned between sample collection events to avoid the potential for cross-contamination of samples.

All sample bags were compiled in order and placed into a single container accompanied with a chain of custody form outlining the project information, date, building location, number of samples, and sample description. Samples were submitted to the analytical laboratory in a sealed container via courier.

Asbestos

Asbestos has been widely used in buildings, both in friable applications (materials which can be crumbled, pulverized or powdered by hand pressure, when dry) such as pipe and tank insulation, sprayed-on fireproofing and acoustic texture material and in non-friable manufactured products such as floor tile, gaskets, cement board and so on. The use of asbestos in friable applications was curtailed around the mid-1970s and, as such, most buildings constructed prior to the mid to-late 1970s contain some form of friable construction material with an asbestos content. Asbestos vermiculite has been reported to be used up until about 1990. The use of asbestos in certain non-friable materials continued beyond the mid-1970s and are commonly found in buildings constructed up to and including the mid-1980s, with some materials still in production through 2018. Manufacturing, importation, and use of asbestos was banned in Canada in 2018.

A separate set of samples was collected of each type of homogenous material suspected to contain asbestos. A homogenous material is defined by the US EPA as material that is uniform in texture and appearance, was installed at one time, and is unlikely to consist of more than one type or formulation of material. The homogeneous materials are determined by visual examination, available information on the phases of the construction and prior renovations.

Bulk sampling protocols followed the ASTM E2356 Standard, which indicates requirements for the number of samples to collect for each homogeneous material. The table below provides an outline of the minimum number of samples to be collected from the ASTM E2356 Standard.

Table 6: Bulk Material Sample Quantities

Type of Material	Size of Area of Homogeneous Material	Minimum Number of Samples Collected
Any homogeneous material, including but not limited to fireproofing, drywall joint compound, ceiling tile stucco, acoustical and stipple finishes, and visually similar floor tiles.	Less than 90 m^2 (<1,000 ft^2)	3
	90 m^2 or more, but less than 450 m^2 (1,000-5,000 ft^2)	5
	450 m^2 or more (>5,000 ft^2)	7

In some cases, manufactured products such as asbestos cement pipe were visually identified without sample confirmation.

Flooring mastic/adhesive were only sampled and analyzed if present on the underside of flooring samples (vinyl floor tile and vinyl sheet flooring) in sufficient quantity for laboratory analysis.

Attempts to distinguish and delineate asbestos-containing drywall compound from new non-asbestos drywall compound is often unachievable. Arcadis collected drywall joint compound samples from exterior walls, columns or

other locations which are unlikely to have been renovated in an attempt to determine the presence of asbestos in the original drywall compound.

Arcadis samples roofing felts only at the Clients request. A temporary repair will be made with asphalt-based mastic and fibreglass mesh. A more permanent repair is required if the roofing or the building is to remain in use for any extended period of time. Arcadis will not be responsible or liable for leaks or water damage caused by sampling and or repair.

Arcadis conducts limited demolition of masonry block walls (core holes) to investigate for loose fill insulation. The core holes are temporarily patched with expanding foam.

Arcadis will submit the bulk samples to an NVLAP accredited laboratory for analysis. The analysis is performed in accordance with Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, July 1993.

EPA Method 600 states that materials characterized by interfering binder/matrix or low asbestos content may require additional gravimetric reduction sample treatment beyond routine polarized light microscopy (PLM) analysis (e.g., dissolution with hydrochloric acid, treatment with organic solvents or ashing in a muffle furnace or low temperature plasma asher to remove unwanted components). Arcadis will submit one sample of each sample set (3) of vinyl floor tiles to be analyzed by transmission electron microscopy (TEM) if the first two samples are reported negative by PLM.

The asbestos analysis was completed using a stop positive approach. Only one result of greater than the regulated criteria is required to determine that a material is asbestos-containing, but all samples must be analyzed to conclusively determine that a material is non-asbestos. The laboratory will stop analyzing samples from a homogeneous material once greater than the criteria was detected in any of the samples of that material. All samples of a homogeneous material will be analyzed if no asbestos is detected.

Bulk samples of materials which could contain asbestos were collected and submitted to EMSL Canada Inc. (EMSL) for analysis of asbestos content. Asbestos-containing materials are defined as 0.5% or greater, or any amount if vermiculite.

Classification, Condition and Accessibility

Spray Applied Fireproofing, Insulation and Texture Finishes

To evaluate the condition of ACM spray applied as fireproofing, thermal insulation, or texture, decorative or acoustic finishes, the following criteria are applied:

GOOD

Surface of material shows no significant signs of damage, deterioration, or delamination. Up to 1 percent visible damage to surface is allowed within range of **GOOD**. Evaluation of sprayed fireproofing requires the surveyor to be familiar with the irregular surface texture typical of sprayed asbestos products. **GOOD** condition includes un-encapsulated or unpainted fireproofing or texture finishes, where no delamination or damage is observed, and encapsulated fireproofing or texture finishes where the encapsulation has been applied after the damage or fallout occurred.

POOR

Sprayed materials show signs of damage, delamination, or deterioration. More than 1 percent damage to surface of ACM spray.

In observation areas where damage exists in isolated locations, both **GOOD** and **POOR** condition may be reported. The extent or percentage of each condition will be recorded on the survey or re-assessment form.

NOTE: **FAIR** condition is not utilized in the evaluation of the sprayed fireproofing, sprayed insulation, or texture coat finishes.

The evaluation of ACM spray applied as fireproofing, non-mechanical thermal insulation, or texture, decorative or acoustic finishes which are present above ceilings, may be limited by the number of observations made, and by building components such as ducts or full height walls that obstruct the above ceiling observations. Persons entering the ceiling are advised to be watchful for ACM **DEBRIS** prior to accessing or working above ceilings in areas of buildings with ACM regardless of the reported condition.

Mechanical Insulation

The evaluation of the condition of mechanical insulation (on boilers, breaching, ductwork, piping, tanks, equipment etc.) utilizes the following criteria:

GOOD

Insulation is completely covered in jacketing and exhibits no evidence of damage or deterioration. No insulation is exposed. Includes conditions where the jacketing has minor surface damage (i.e., scuffs or stains), but the jacketing is not penetrated.

FAIR

Minor penetrating damage to jacketed insulation (cuts, tears, nicks, deterioration, or delamination) or undamaged insulation that has never been jacketed. Insulation is exposed but not showing surface disintegration. The extent of missing insulation ranges should be minor to none.

POOR

Original insulation jacket is missing, damaged, deteriorated, or delaminated. Insulation is exposed and significant areas have been dislodged. Damage cannot be readily repaired.

The evaluation of mechanical insulation may be limited by the number of observations made and building components such as ducts or full height walls that obstruct observations. It is not possible to observe the full length of mechanical insulation from all angles.

Non-friable and Potentially Friable Materials

Non-friable materials generally have little potential to release airborne fibres, even when damaged by mechanical breakage. However, some non-friable materials, i.e., exterior asbestos cement products, may have deteriorated so that the binder no longer effectively contains the asbestos fibres. In such cases of significantly deteriorated non-friable material, the material should be treated as a friable product.

Evaluation of Accessibility

The accessibility of building materials known or suspected of being ACM is rated according to the following criteria:

ACCESS (A)

Areas of the building within reach (from floor level) of all building users. Includes areas such as gymnasiums, workshops, and storage areas where activities of the building users may result in disturbance of ACM not normally within reach from floor level.

ACCESS (B)

Frequently entered maintenance areas within reach of maintenance staff, without the need for a ladder. Includes: frequently entered pipe chases, tunnels and service areas or areas within reach from a fixed ladder or catwalk, e.g. tops of equipment, mezzanines.

ACCESS (C) EXPOSED

Areas of the building above 2.4 metres where use of a ladder is required to reach the ACM. Only refers to ACM that is exposed to view, from the floor or ladder, without the removal or opening of other building components such as ceiling tiles, or service access door or hatch. Does not include infrequently accessed service areas of the building.

ACCESS (C) CONCEALED

Areas of the building which require the removal of a building component, including lay-in ceilings and access panels into solid ceiling systems. Includes rarely entered crawl spaces, attic spaces, etc. Observations will be limited to the extent visible from the access points.

ACCESS (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 ACM. Evaluation of condition and extent of ACM is limited or impossible, depending on the surveyor's ability to visually examine materials in ACCESS D.

ACM DEBRIS

DEBRIS from Friable ACM

The presence of fallen ACM is noted separately from the presumed friable ACM source (sprayed fireproofing, thermal insulation, texture, decorative or acoustic finishes or mechanical insulation) and is referred to as **DEBRIS**.

DEBRIS from Damaged Non-Friable ACM

The presence of fallen ACM from damaged non-friable ACM is also reported separately from the non-friable ACM source. Only fallen non-friable ACM that has become friable is reported as **DEBRIS**.

The identification of the exact location or presence of **DEBRIS** on the top of ceiling tiles is limited by the number of observations made and the presence of building components such as ducts or full height walls that obstruct observations. Workers are advised to be watchful for the presence of **DEBRIS** prior to accessing or working in proximity to mechanical insulation or above ceilings in areas of buildings with ACM regardless of the reported presence or absence of **DEBRIS**.

Paint

Arcadis collects samples of distinctive paint finishes and surface coatings present in more than a limited application, where removal of the paint is possible. Arcadis collects samples by scraping the painted finish to include base and covering applications. Paint and surface coatings are evaluated for condition. All paints will be analyzed for lead.

When evaluating the condition of paints, an attempt is made to determine whether the deterioration is due to a moisture problem or some other existing building deficiency. **“Poor”** surfaces are considered to be a hazard and should be corrected. “**Fair”** surfaces should be repaired but are not yet considered to be a hazard; if not repaired, they should be monitored frequently. “**Good/intact”** surfaces should be monitored to ensure that they remain in a nonhazardous condition.

In addition, the presence of paint debris is considered in evaluating conditions. Given the variety of paint uses, there are many applications that can have a tendency for the paint to “wear” from the surface slowly, over an extended

period of time. Conditions where paint has worn from a surface are worth noting for maintenance discussions (i.e., related to re-coating the surface should, for example, the coating provide weather protection), however, in the absence of loose paint chip debris/dust, such conditions would not represent a potential exposure situation related to lead.

The condition evaluation criteria for paints is summarized in the table below.

Table 7: Paint Condition Categories

Type of Building Component[1]	Total Area of Deteriorated Paint on Each Component		
	Good/Intact	Fair[2]	Poor[3]
Exterior components with large surface areas.	Entire surface is intact.	Less than or equal to 10 square feet	More than 10 square feet
Interior components with large surface areas (walls, ceilings, floors, doors.	Entire surface is intact.	Less than or equal to 2 square feet	More than 2 square feet
Interior and exterior components with small surface areas (windowsills, baseboards, soffits, trim).	Entire surface is intact.	Less than or equal to 10% of the total surface area of the component.	More than 10% of the total surface area of the component

NOTES:

1 Building component in this table refers to each individual component or side of building, not the combined surface area of all similar components in a room (e.g., a wall with 1 square foot of deteriorated paint is in "fair" condition, even if the other three walls in a room are intact).

2 Surfaces in "fair" condition should be repaired and/or monitored but are not considered to be "lead-containing paint hazards".

3 Surfaces in "poor" condition are considered to be "lead-containing paint hazards" and should be addressed through abatement or interim controls.

Analysis for lead in paints or surface coatings is performed in accordance with US EPA SW-846 Method No. 3050B/Method No. 7000B; Flame Atomic Absorption (FAA) at an accredited laboratory by the American Industrial Hygiene Association (AIHA). For the purpose of this report a criteria of 90 ppm will be used to define lead-based paint.

Analysis for mercury in paint is performed in accordance with EPA Cold Vapor Atomic Absorption (CVAA) via 7471B. For the purpose of this project, a criteria of 10 ppm is used as stipulated in the Surface Coating Materials Regs (SOR/2016-93).

Analysis for arsenic in paint is performed in accordance with Individual Elements by EPA Inductively Coupled Plasma (ICP) via 6010D. There is no current regulated criteria; therefore, the laboratory detection limit of 10 ppm is used for this project.

Analysis for PCB is performed via EPA SW 846 3540C/8082A. For the purpose of this project a criteria of 50ppm or greater is used based on the threshold given in Canadian Environmental Protection Act (1999) SOR/2008-273.

Lead Products

Lead is a heavy metal that can be found in construction materials such as paints, coatings, mortar, concrete, pipes, solder, packings, sheet metal, caulking, glazed ceramic products and cable splices. Lead building products were identified by visual observation only.

Leachate Testing

Representative samples are collected of each material (e.g. wood, gypsum, concrete) coated with metal-containing paint. Samples are submitted for analysis to EMSL Canada Inc. OR Bureau Veritas labs, Burnaby, BC, NVLAP accredited Laboratory in accordance with the Toxicity Characteristic Leaching Procedure (TCLP) outlined in US EPA SW-846 Method 1311 and Method 6010D.

Results are compared to Ontario Ministry of Environment, Conservation and Parks Leachable toxic waste means waste when subject to the TCLP leaks or spills which may lead to the escape of hazardous waste from the facility or may pose a threat to human health.

Silica

Silica exists in several forms of which crystalline silica is of most concern with respect to potential worker exposures. Quartz is the most abundant type of crystalline silica. Some commonly used construction materials containing silica include brick, refractory brick, concrete, concrete block, cement, mortar, rock and stone, sand, fill dirt, top soil and asphalt containing rock or stone.

Arcadis identified building materials suspected of containing crystalline silica (e.g., concrete, cement, tile, brick, masonry, mortar) by knowledge of current and historic applications and visual inspection only. Arcadis did not perform sampling of these materials for laboratory analysis of crystalline silica content.

Mercury

Mercury has been used in electrical equipment such as alkaline batteries, fluorescent light bulbs (lamps), high intensity discharge (HID) lights (mercury vapour, high pressure sodium and metal halide), “silent switches” and in instruments such as thermometers, manometers and barometers, pressure gauges, float and level switches and flow meters. Mercury-containing lamps, the bulk of which are 1.22 m (four feet) fluorescent lamps contain between 7 and 40 mg of mercury each. Mercury compounds have also been used historically as additives in latex paint to protect the paint from mildew and bacteria during production and storage.

Building materials/products/equipment suspected to contain mercury were identified by visual inspection only. Dismantling of equipment suspected of containing mercury was not performed. Mercury spills or damaged mercury-containing equipment were recorded where observed.

Polychlorinated Biphenyls (PCBs)

In most institutional, commercial facilities and in smaller industrial facilities, the primary source of equipment potentially containing PCBs is fluorescent and H.I.D. light ballasts. Small transformers may also be present. In larger industrial facilities, larger transformers and switch gear containing or potentially containing, PCBs may also be present.

PCBs were also commonly added to industrial paints from the 1940s to the late 1970s. PCBs were added directly to the paint mixture to act as a fungicide, to increase durability and flexibility, to improve resistance to fires and to increase moisture resistance. The use of PCBs in new products was banned in Canada in the 1970s. PCB amended paints were used in specialty industrial/institutional applications prior to the 1970s including government buildings and equipment such as industrial plants, radar sites, ships as well as non-government rail cars, ships, grain bins, automobiles and appliances.

Arcadis determined the potential for light ballast and wet transformers to contain PCBs based on the age of the building, a review of maintenance records and examination of labels or nameplates on equipment, where present and accessible. The information was compared to known ban dates of PCBs and Environment Canada publications. Dry type transformers were presumed to be free of dielectric fluids and hence non-PCB. Arcadis recorded spills or leakage of suspect PCB-containing fluids where observed or identified in historical documents. Fluids (mineral oil, hydraulic or Askaral) in transformers, capacitors or other equipment are not sampled for PCB content. Capacitors which were installed in 1980 or earlier are assumed to contain PCBs.

Window, door, penetration, and expansion caulking were sampled for PCB content in buildings older than 1985. The material was considered a PCB solid if PCB content is 50ppm or greater based on the threshold given in PCB Regulations, SOR/2008-273.

Halocarbon-Containing Equipment (HCE)

Arcadis determines the potential presence of halocarbons (chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluorocarbons, halons, etc.) in air conditioning units, chillers, commercial coolers, and fire suppression systems by visual inspection of manufactures' labels or plates, maintenance records, or logbooks, etc.

Suspect Visible Mould

Moulds are forms of fungi that are found everywhere both indoors and outdoors all year round. Outdoors, moulds live in the soil, on plants and on dead and decaying matter. More than 1000 different kinds of indoor moulds have been found in buildings. Moulds spread and reproduce by making spores, which are all small and light-weight, able to travel through air, capable of resisting dry, adverse environmental conditions, and hence capable of surviving a long time. Moulds need moisture and nutrients to grow and their growth is stimulated by warm, damp and humid conditions.

Arcadis identified the presence of any suspect visible mould or water damage observed during the course of our site investigation. Suspect visible mould is typically a coloured, textured substance or discolouration or staining on a building material surface which, based on our experience, may be mould growth. The adjective suspect is used where the presence of mould has not been confirmed by laboratory analysis.

Other Biological Hazards (Rodent Droppings)

Arcadis identifies other biological hazards by visual observation only. Areas where rodent or bird droppings are noticed will be noted and photographed. Arcadis does not perform sampling of these materials for laboratory analysis, unless specifically requested by the Client.

Toxic or Flammable Chemicals

Arcadis identifies toxic or flammable chemical by visual observation only. Areas used to store toxic and flammable chemicals will be noted and photographed.

Radioactive Materials

Arcadis identifies radioactive materials, such as smoke detectors, by visual observation only. Suspect areas where radioactive materials are present will be noted and photographed. Testing for radiation is not conducted.

Urea Formaldehyde Foam Insulation

Potential for Urea Formaldehyde Foam Insulation (UFFI) was assessed in building older than 1980. Arcadis inspected accessible areas where UFFI may have been applied such as attics, crawlspaces and wall spaces by

looking for oozing out foam, color and texture, wall plugs covering injection ports etc. UFFI was identified by visual observation only.

Other Designated Substances

Any products or materials observed during the course of the site inspections, which could contain any of the other designated substances) and which are present in a form that could present an exposure hazard, were documented.

- Isocyanates are a class of chemicals used in the manufacture of certain types of plastics, foams, coatings and other products. Isocyanate-based building construction materials may include rigid foam products such as foam-core panels and spray-on insulation and paints, coatings, sealants and adhesives. Isocyanates may be inhaled if they are present in the air in the form of a vapour, a mist or a dust. Products that may contain Isocyanates are visually assessed only.
- Vinyl chloride vapours may be released from polyvinyl chloride (PVC) products in the event of heating or as a result of decomposition during fire. PVC is used in numerous materials that may be found in building construction, including, for example, piping, conduits, siding, window and door frames, plastics, garden hoses, flooring and wire and cable protection. Materials suspected to contain vinyl chloride were identified by visual observation only.
- Arsenic is a heavy metal used historically in pesticides and herbicides. The primary use in building construction materials was its use in the wood preservative chromated copper arsenate (CCA). CCA was used to pressure treat lumber since the 1940s. Pressure-treated wood containing CCA is no longer being produced for use in most settings. Material suspected to contain arsenic were identified by visual observation only.
- Ethylene oxide is a colourless gas at room temperature. It has been used primarily for the manufacture of other chemicals, as a fumigant and fungicide and for sterilization of hospital equipment.
- Coke oven emissions are airborne contaminants emitted from coke ovens and are not a potential hazard associated with building construction materials.
- Acrylonitrile is used to produce nitrile-butadiene rubber, acrylonitrile-butadiene-styrene (ABS) polymers and styrene-acrylonitrile (SAN) polymers. Products made with ABS resins which may be found in buildings include telephones, bottles, packaging, refrigerator door liners, plastic pipe, building panels and shower stalls. Acrylonitrile can be released into the air by combustion of products containing ABS.
- Benzene is a clear, highly flammable liquid used mainly in the manufacture of other chemicals. The commercial use of benzene as a solvent has practically been eliminated, however it continues to be used as a solvent and reactant in laboratories.

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