ARCADIS

Conseil scolaire Viamonde

Pre-Renovation Designated Substances and Hazardous Materials Survey

École élémentaire Félix-Leclerc
50 Celestine Drive, Toronto, Ontario

March 14, 2025

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1 Introduction

Arcadis Canada Inc. (Arcadis) was retained by the Conseil scolaire Viamonde (CSV) to conduct a pre-renovation designated substances and hazardous materials survey in designated areas of École élémentaire Félix-Leclerc located at 50 Celestine Drive, Toronto, Ontario.

The information in this report is to be provided to all bidders on a project in accordance with the requirements of the *Occupational Health and Safety Act*.

The site is a one-storey masonry structure built in 1958 with additions built in 1963 and 2023.

It is our understanding that renovations are planned in designated areas of the building. The survey was limited to inspecting and testing materials in the designated areas in the building (referred to in this report as the "designated study areas"), that may be affected by the renovation project based on information provided by CSV.

The designated study areas and eras of construction are shown on the floor plans provided in Appendix A.

The survey was undertaken to report on the presence or suspected presence of readily observable designated substances and hazardous materials.

1.1 Scope of Work

The scope of work for our investigation included:

- review of existing information;
- investigation of readily-accessible areas in the designated study areas for the presence of designated substances and hazardous materials used in building construction materials;
- obtaining representative bulk samples of materials suspected of containing asbestos and paint chip samples for lead;
- laboratory analyses of bulk samples for asbestos content;
- laboratory analyses of paint chip samples for lead content; and
- preparation of a report outlining the findings of the investigation.

Mr. Dwayne Kellyman of Arcadis visited the site on December 6 and 18, 2024, to conduct the designated substances and hazardous materials survey at École élémentaire Félix-Leclerc.

2 Regulatory Discussion and Methodology

Ontario Occupational Health and Safety Act (OHSA)

The Ontario *Occupational Health and Safety Act* (OHSA) sets out, in very general terms, the duties of employers and others to protect workers from health and safety hazards on the job. These duties include, but are not limited to:

- taking all reasonable precautions to protect the health and safety of workers [clause 25(2)(h)];
- ensuring that equipment, materials and protective equipment are maintained in good condition [clause 25(1)(b)];
- providing information, instruction and supervision to protect worker health and safety [clause 25(2)(a)]; and
- acquainting a worker or a person in authority over a worker with any hazard in the work and in the handling, storage, use, disposal and transport of any article, device, equipment or a biological, chemical or physical agent [clause 25(2)(d)].

In addition, Section 30 of the OHSA deals with the presence of designated substances on construction projects. Compliance with the OHSA and its regulations requires action to be taken where there is a designated substance hazard on a construction project.

Section 30 of the OHSA requires the owner of a project to determine if designated substances are present on a project and, if so, to inform all potential contractors as part of the bidding process. Contractors who receive this information are to pass it onto other contractors and subcontractors who are bidding for work on the project.

Regulation for Construction Projects, O.Reg. 213/91

The *Regulation for Construction Projects*, O.Reg. 213/91, applies to all construction projects. The following sections of the regulation would apply to situations where there is the potential for workers to be exposed to designated substances:

Section 14	(5)	A competent person shall perform tests and observations necessary for the detection of hazardous conditions on a project.
Section 21	(1)	A worker shall wear such protective clothing and use such personal protective equipment or devices as are necessary to protect the worker against the hazards to which the worker may be exposed.
	(2)	A worker's employer shall require the worker to comply with subsection (1).
	(3)	A worker required to wear personal protective clothing or use personal protective equipment or devices shall be adequately instructed and trained in the care and use of the clothing, equipment or device before wearing or using it.

Section 30 Workers who handle or use substances likely to endanger their health shall be provided with washing facilities with clean water, soap and individual towels.

Section 46 (1) A project shall be adequately ventilated by natural or mechanical means,

(a) if a worker may be injured by inhaling a noxious...dust or fume;

(2) If it is not practicable to provide natural or mechanical ventilation in the circumstances described in clause (1)(a), respiratory protective equipment suitable for the hazard shall be provided and be used by the workers.

Section 59 If the dissemination of dust is a hazard to a worker, the dust shall be adequately controlled or each worker who may be exposed to the hazard shall be provided with adequate personal protective equipment.

Regulation for Designated Substances (O.Reg. 490/09)

The *Designated Substance Regulation* (O.Reg. 490/09) specifies occupational exposure limits (OELs) for designated substances and requires an assessment and a control program to ensure compliance with these OELs.

Although, O.Reg. 490/09 and the OELs do not apply to an employer on a construction project, or to their workers at the project, employers still have a responsibility to protect the health of their workers and to comply with the OHSA and other applicable regulations. Section 25(2)(h) of the OHSA requires that employers take "every precaution reasonable in the circumstances for the protection of a worker".

Other regulatory requirements (and guidelines) which apply to control of exposure to designated substances and hazardous materials are referenced in the sections below.

2.1 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 about 1975 contain some form of friable construction material with an asbestos content. The use of asbestos in certain non-friable materials continued beyond the mid-1970s.

Control of exposure to asbestos is governed in Ontario by Regulation 278/05 – *Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations*. Disposal of asbestos waste (friable and non-friable materials) is governed by Ontario Regulation 278/05 and by Ontario Regulation 347, *Waste Management – General*. O.Reg. 278/05 classifies asbestos work operations into three types (Type 1, 2 and 3), as shown in Table C-1 in Appendix C, and specifies procedures to be followed in conducting asbestos abatement work.

2.2 Lead

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 has been used historically in exterior and interior paints.

The *Surface Coating Materials Regulations* (SOR/2016-193) made pursuant to the Canada Consumer Product Safety Act states that a surface coating material must not contain more than 90 mg/kg total lead. Health Canada defines a lead-containing surface coating as a paint or similar material that dries to a solid film that contains over 90 mg/kg dry weight of lead.

Information from the United States Occupational Health and Safety Administration (OSHA) suggests that the improper removal of lead paint containing 600 mg/kg lead results in airborne lead concentrations that exceed half of the permissible exposure limit. Lead concentrations as low as 90 mg/kg may present a risk to pregnant women and children[(1)].

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

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.

The Ministry of Labour *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, as shown in Appendix C, Table C-2. 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.

2.3 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

(1) *Lead-Containing Paints and Coatings: Preventing Exposure in the Construction Industry.* WorkSafe BC, 2011.

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 foot) 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.

The intentional addition of mercury to Canadian-produced consumer paints for interior use was prohibited in 1991. Mercury may have remained in paints after 1991, however, as a result of impurities in the paint ingredients or cross-contamination due to other manufacturing processes. The *Surface Coating Materials Regulations* made under the *Hazardous Products Act* set a maximum total mercury concentration of 10 mg/kg (0.001 percent) for surface coating materials (including paint). This criterion level applies to the sale and importation of new surface coating materials.

Mercury-containing thermostats and silent light switches are mercury tilt switches which are small tubes with electrical contacts at one end of the tube. A mercury tilt switch is usually present when no switch is visible. Mercury switches often have the word “TOP” stamped on the upper end of the switch, which is visible after removing the cover plate. If mercury switches are to be removed, the entire switch should be removed and placed into a suitable container for storage and disposal.

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.

2.4 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, topsoil and asphalt containing rock or stone.

The Ministry of Labour *Guideline, Silica on Construction Projects*, dated April 2011, 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 as shown in Appendix C, Table C-3.

2.5 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.

2.6 Acrylonitrile

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.

2.7 Other Designated Substances

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.

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.

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 1940's. Pressure-treated wood containing CCA is no longer being produced for use in most residential settings.

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.

2.8 Polychlorinated Biphenyls (PCBs)

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.

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 speciality 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.

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 and Climate Change (MOECC) and O.Reg. 362. All remedial and PCB management work must be carried out under the terms of a Director's Instruction issued by an MOECC District Office (for quantities of PCB fluid greater than 50 litres). The PCB waste stream, regardless of quantity, must be registered with the MOECC, in accordance with O.Reg. 347, *General - Waste Management*. O.Reg. 362 applies to any equipment containing greater than 1 kg of PCBs.

2.9 Ozone-Depleting Substances (ODS) and Other Halocarbons

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.

2.10 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.

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:

- *Mould Guidelines for the Canadian Construction Industry*. Standard Construction Document CCA 82 2004. Canadian Construction Association.
- *Mould Abatement Guidelines*. Environmental Abatement Council of Ontario. Edition 3. 2015.

3 Results and Discussion

3.1 Asbestos

Arcadis reviewed reports prepared by Arcadis for the CSV titled *"Updated Survey of Asbestos-Containing Materials, École élémentaire Félix-Leclerc, 50 Celestine Drive, Toronto, Ontario"* October 5, 2022 and "*Pre-Renovation Designated Substances and Hazardous Materials Survey, École élémentaire Félix-Leclerc, 50 Celestine Drive, Toronto, Ontario"* dated March 29, 2022. Information and/or bulk sample analysis results obtained from these existing reports was utilized by Arcadis in the preparation of this report.

During the course of our site investigation, additional representative bulk samples of material were collected by Arcadis staff. The samples were forwarded to EMSL Canada Inc. for asbestos analyses. Results of bulk sample analysis for asbestos content are provided in Table 3.1. Table 3.1 also include sample results that are outside of the designated study areas, which are provided for references purposes only. Laboratory reports for samples collected as part of this investigation are provided in Appendix B. Locations of accessible asbestos-containing materials are shown on the floor plan provided in Appendix A.

Table 3-1 Summary of Results of Analyses of Bulk Samples for Asbestos Content

Sample No.	Location	Description	
1A	Room 130	2'x4' ceiling tile – pinhole random fissure	None Detected
1B	Room 130	2'x4' ceiling tile – pinhole random fissure	None Detected
1C	Room 130	2'x4' ceiling tile – pinhole random fissure	None Detected
2A	Room 125A	9" vinyl floor tile – Beige (2nd layer)	**2.3% Chrysotile**
3A	Room 125A	Mastic below 9" vinyl floor tile (mastic only) (Era 1958)	<0.25% Chrysotile (1)
3B	Room 125A	Mastic below 9" vinyl floor tile (mastic only) (Era 1958)	**2% Chrysotile**
4A	Room 132	12" vinyl floor tile – Pink with brown and white fleck	None Detected (TEM)
4B	Room 138	12" vinyl floor tile – Pink with brown and white fleck	None Detected
4C	Room 138	12" vinyl floor tile – Pink with brown and white fleck	None Detected
5A	Room 127	12" vinyl floor tile – White with grey fleck	None Detected (TEM)
5B	Room 127	12" vinyl floor tile – White with grey fleck	None Detected
5C	Room 127	12" vinyl floor tile – White with grey fleck	None Detected
5C (Mastic)	Room 127	12" vinyl floor tile – White with grey fleck	None Detected
5C (Leveler)	Room 127	12" vinyl floor tile – White with grey fleck	None Detected
6A	Room 132	Mastic under 12" vinyl floor tile - pink with brown and white and white with grey fleck (Era 1958)	<0.25% Chrysotile (1)
6B	Room 132	Mastic under 12" vinyl floor tile - pink with brown and white and white with grey fleck (Era 1958)	None Detected
6C	Room 132	Mastic under 12" vinyl floor tile - pink with brown and white and white with grey fleck (Era 1958)	None Detected

Sample No.	Location	Description	
7A	Room 138	Mastic under 12” vinyl floor tile - pink with brown and white and white with grey fleck (Era 1963)	None Detected (TEM)
7B	Room 138	Mastic under 12” vinyl floor tile - pink with brown and white and white with grey fleck (Era 1963)	None Detected
7C	Room 138	Mastic under 12” vinyl floor tile - pink with brown and white and white with grey fleck (Era 1963)	None Detected
8A	Room 131	Mastic under 12” vinyl floor tile – cream with brown specks (Era 1958)	<0.25% Chrysotile (1)
8B	Room 131	Mastic under 12” vinyl floor tile – cream with brown specks (Era 1958)	None Detected
8C	Room 131	Mastic under 12” vinyl floor tile – cream with brown specks (Era 1958)	None Detected
9A	Room 137	Black and grey mastic under 12” vinyl floor tile – white with black fleck (Era 1963)	None Detected (TEM)
9B	Room 140	Black and grey mastic under 12” vinyl floor tile – white with black fleck (Era 1963)	None Detected
9C	Room 142	Black and grey mastic under 12” vinyl floor tile – white with black fleck (Era 1963)	None Detected
10A	Room 141	9” vinyl floor tile – light brown	**5.6% Chrysotile**
11A	Room 141	Mastic under 9” vinyl floor tile – light brown (Era 1963)	None Detected (TEM)
11B	Room 141	Mastic under 9” vinyl floor tile – light brown (Era 1963)	None Detected
11C	Room 141	Mastic under 9” vinyl floor tile – light brown (Era 1963)	None Detected
12A	Room 123	Ceramic floor tile – grout	None Detected (TEM)
12B	Room 123	Ceramic floor tile – grout	None Detected
12C	Room 123	Ceramic floor tile – grout	None Detected
13A	Room 123	Ceramic floor tile – mortar bed	None Detected
13B	Room 123	Ceramic floor tile – mortar bed	None Detected
13C	Room 123	Ceramic floor tile – mortar bed	None Detected
14A	Room 140	Concrete block filler paint (Era 1963)	<0.36% Chrysotile (1)
14B	Room 141	Concrete block filler paint (Era 1963)	<0.25% Chrysotile (1)
14C	Room 142	Concrete block filler paint (Era 1963)	<0.38% Chrysotile (1)
15A	Room 131	Exterior white window caulking (Era 1958)	None Detected (TEM)
15B	Room 132	Exterior white window caulking (Era 1958)	None Detected
15C	Room 134	Exterior white window caulking (Era 1958)	None Detected
16A	Room 112	Exterior beige window caulking (Era 1958)	None Detected (TEM)
16B	Room 114	Exterior beige window caulking (Era 1958)	None Detected
16C	Room 114	Exterior beige window caulking (Era 1958)	None Detected
17A	Room 140	Exterior white window caulking (Era 1963)	None Detected (TEM)
17B	Room 141	Exterior white window caulking (Era 1963)	None Detected
17C	Room 142	Exterior white window caulking (Era 1963)	None Detected

Sample No.	Location	Description	
18A	Room 140	Exterior brick mortar (Era 1963)	None Detected
18B	Room 141	Exterior brick mortar (Era 1963)	None Detected
18C	Room 142	Exterior brick mortar (Era 1963)	None Detected
1A	Room 104C	4” x 8” ceramic floor tile – grout	None Detected (2)
1B	Room 104C	4” x 8” ceramic floor tile – grout	None Detected (2)
1C	Room 104C	4” x 8” ceramic floor tile – grout	None Detected (2)
2A	Room 104C	4” x 8” ceramic floor tile – mortar bed	None Detected (2)
2B	Room 104C	4” x 8” ceramic floor tile – mortar bed	None Detected (2)
2C	Room 104C	4” x 8” ceramic floor tile – mortar bed	None Detected (2)
3A	Room 108A	2” x 2” ceramic floor tile – grout	None Detected (2)
3B	Room 109A	2” x 2” ceramic floor tile – grout	None Detected (2)
3C	Room 108A	2” x 2” ceramic floor tile – grout	None Detected (2)
4A	Room 108A	2” x 2” ceramic floor tile – mortar bed	None Detected (2)
4B	Room 109A	2” x 2” ceramic floor tile – mortar bed	None Detected (2)
4C	Room 108A	2” x 2” ceramic floor tile – mortar bed	None Detected (2)
1A	Room 108	Vinyl sheet flooring – beige with blue, white and brown specks (new look)	None Detected (TEM) (3)
1B	Room 108B	Vinyl sheet flooring – beige with blue, white and brown specks (new look)	None Detected (3)
1C	Room 109	Vinyl sheet flooring – beige with blue, white and brown specks (new look)	None Detected (3)
2A	Room 115	12” vinyl floor tile – white with black fleck	None Detected (TEM) (3)
2B	Room 116	12” vinyl floor tile – white with black fleck	None Detected (3)
2C	Room 117	12” vinyl floor tile – white with black fleck	None Detected (3)
3A	Room 110	Black and grey mastic under 12” vinyl floor tile white with black fleck	None Detected (3)
3B	Room 112	Black and grey mastic under 12” vinyl floor tile white with black fleck	None Detected (3)
3C	Room 112	Black and grey mastic under 12” vinyl floor tile white with black fleck	None Detected (3)
4A	Room 101	Interior window caulking (grey)	None Detected (3)
4B	Room 106	Interior window caulking (grey)	None Detected (3)
4C	Room 101	Interior window caulking (grey)	None Detected (3)
5A	Room 112	Paint on concrete panel	None Detected (3)
5B	Room 114	Paint on concrete panel	None Detected (3)
5C	Room 116	Paint on concrete panel	None Detected (3)
1A	Room 103	1’x1’ ceiling tile – medium and small hole	None Detected (3)
1B	Room 104	1’x1’ ceiling tile – medium and small hole	None Detected (3)
1C	Room 103	1’x1’ ceiling tile – medium and small hole	None Detected (3)
2A	Room 104	Black mastic under 12” vinyl floor tile – beige with light brown fleck	**2% chrysotile** (3)
3A	Room 104	Black vinyl baseboard	None Detected (TEM) (3)

Sample No.	Location	Description	
3B	Room 104A	Black vinyl baseboard	None Detected [3]
3C	Room 104B	Black vinyl baseboard	None Detected [3]
4A	Room 104	Beige vinyl baseboard mastic	None Detected (TEM) [3]
4B	Room 104A	Beige vinyl baseboard mastic	None Detected [3]
4C	Room 104B	Beige vinyl baseboard mastic	None Detected [3]
5A	Room 103	Interior concrete block mortar	None Detected [3]
5B	Room 104	Interior concrete block mortar	None Detected [3]
5C	Room 110	Interior concrete block mortar	None Detected [3]
5D	Corridor C101	Interior concrete block mortar	None Detected [3]
5E	Corridor C101	Interior concrete block mortar	None Detected [3]
5F	Corridor C103	Interior concrete block mortar	None Detected [3]
5G	Corridor C103	Interior concrete block mortar	None Detected [3]
6A	Room 103	Exterior window caulking	None Detected [3]
6B	Exit S02	Exterior window caulking	None Detected [3]
6C	Room 103	Exterior window caulking	None Detected [3]
8A	Room 103	Exterior brick mortar	None Detected [3]
8B	Room 103	Exterior brick mortar	None Detected [3]
8C	Room 103	Exterior brick mortar	None Detected [3]
9A	Room 103	Black building paper	None Detected [3]
9B	Room 103	Black building paper	None Detected [3]
9C	Room 103	Black building paper	None Detected [3]
1A	Rm 103	3”x3” Ceramic wall tile grout - white	None Detected [3]
1B	Rm 103	3”x3” Ceramic wall tile grout - white	None Detected [3]
1C	Rm 104	3”x3” Ceramic wall tile grout - white	None Detected (TEM) [3]
2A	Rm 103	3”x3” Ceramic wall tile mortar bedding - grey	None Detected [3]
2B	Rm 103	3”x3” Ceramic wall tile mortar bedding - grey	None Detected [3]
2C	Rm 104	3”x3” Ceramic wall tile mortar bedding - grey	None detected (TEM) [3]
4A	C103	2’x4’ Ceiling tile – small random fissure and pinhole	None Detected [3]
4B	C103	2’x4’ Ceiling tile – small random fissure and pinhole	None Detected [2]
4C	C103	2’x4’ Ceiling tile – small random fissure and pinhole	None detected (TEM) [3]
5A	C101 (Outside Rm 111)	12”x12” Ceiling tile mastic pucks - brown	None Detected [3]
5B	C101 (Outside Rm 112)	12”x12” Ceiling tile mastic pucks - brown	None Detected [3]
5C	C101 (Outside Rm 113)	12”x12” Ceiling tile mastic pucks - brown	None detected (TEM) [3]
6A	C102 (1963)	Concrete block mortar - grey	None Detected [3]
6B	Rm 138 (1963)	Concrete block mortar - grey	None Detected [3]
6C	Rm 141 (1963)	Concrete block mortar - grey	None detected (TEM) [3]

Sample No.	Location	Description	
7A	C102 (Doors to Rm 100)	Door caulking – grey, hard	**4% chrysotile** (3)
8A	C102	Black paper on fibre glass pipe straight insulation	None Detected (3)
8B	C102	Black paper on fibre glass pipe straight insulation	None Detected (3)
8C	C102	Black paper on fibre glass pipe straight insulation	None detected (TEM) (3)
9A	Rm 147	Interior door/window caulking - grey	None Detected (3)
9B	Rm 118	Interior door/window caulking - grey	None Detected (3)
9C	Rm 102	Interior door/window caulking - grey	None detected (TEM) (3)
1A	Room 125A	12”x12” Vinyl floor tile – beige with white and brown specks	None detected (TEM) (3)
1B	Room 121A	12”x12” Vinyl floor tile – beige with white and brown specks	None Detected (3)
1C	Room 121A	12”x12” Vinyl floor tile – beige with white and brown specks	None Detected (3)
2A	Room 125A	Mastic under 12”x12” vinyl floor tile - black	None Detected (3)
2B	Room 121A	Mastic under 12”x12” vinyl floor tile - black	None Detected (3)
2C	Room 121A	Mastic under 12”x12” vinyl floor tile - black	None Detected (3)
3A	Room 125A	3” Brown vinyl baseboard Composite sample (vinyl, adhesive)	None Detected (TEM) (3)
3B	Room 125A	3” Brown vinyl baseboard Composite sample (vinyl, adhesive)	None Detected (3)
3C	Room 121A	3” Brown vinyl baseboard Composite sample (vinyl, adhesive)	None Detected (3)
4A	Room 121A	Concrete block mortar	None Detected (3)
4B	Room 121A	Concrete block mortar	None Detected (3)
4C	Room 121A	Concrete block mortar	None Detected (3)
5A	Room 121A	Concrete block filler paint, 1958	**2% chrysotile** (3)
8A	Room 121A	Joint compound from drywall ceiling	None Detected (3)
8B	Room 125A	Joint compound from drywall wall	None Detected (3)
8C	Room 125A	Joint compound from drywall wall	None Detected (3)
9A	Room 125A	Smooth plaster, top coat from wall	None Detected (3)
9B	Room 125A	Smooth plaster, top coat from wall	None Detected (3)
9C	Room 125A	Smooth plaster, top coat from ceiling	None Detected (3)
10A	Room 125A	Smooth plaster, rough coat from wall	None Detected (3)
10B	Room 125A	Smooth plaster, rough coat from wall	None Detected (3)
10C	Room 125A	Smooth plaster, rough coat from ceiling	None Detected (3)
11A	Room 121A/C103	Brick mortar	None Detected (3)
11B	Room 121A/C103	Brick mortar	None Detected (3)
11C	Room 121A/C103	Brick mortar	None Detected (3)
1A-PS	Room 118	Pipe straight – antisweat (brown paper)	None Detected (3)
1B-PS	Room 105A (stage)	Pipe straight – antisweat (brown paper)	None Detected (3)

Sample No.	Location	Description	
1C-PS	C102 above ceiling	Pipe straight – antisweat (brown paper)	None Detected [3]
2A-CT	C101 near 118	12”x12” ceiling tile - large pinhole	None detected[3]
2B-CT	C101 near 110	12”x12” ceiling tile - large pinhole	None detected[3]
2C-CT	C101 near 109	12”x12” ceiling tile - large pinhole	None detected[3]
3A-PL	Room 118	Plaster – smooth, ceiling	None detected[3]
3B-PL	Room 114	Plaster – smooth, wall	None detected[3]
3C-PL	Room 102	Plaster – smooth, ceiling	None detected[3]
3D-PL	Room 103	Plaster – smooth, wall	None detected[3]
3E-PL	Room 104	Plaster – smooth, wall	None detected[3]
3F-PL	Room 125A	Plaster – smooth, wall	None detected[3]
3G-PL	C102 (coat rack ceiling)	Plaster – smooth, coat rack ceiling	None detected[3]
5A-CT	C101 near 113	12”x12” ceiling tile textured pattern	None detected[3]
5B-CT	C101 near 110	12”x12” ceiling tile textured pattern	None detected[3]
5C-CT	C101	12”x12” ceiling tile textured pattern	None detected[3]
6A-CT	C101 near 113	12”x12” ceiling tile small fissure pinhole	None detected[3]
6B-CT	C101 near 110	12”x12” ceiling tile small fissure pinhole	None detected[3]
6C-CT	C101 near 112	12”x12” ceiling tile small fissure pinhole	None detected[3]
7A-CT	C101 near 110	12”x12” ceiling tile small pinhole	None detected[3]
7B-CT	C101 near 105A	12”x12” ceiling tile small pinhole	None detected[3]
7C-CT	C101 near 110	12”x12” ceiling tile small pinhole	None detected[3]
8A-JC	Room 112	Drywall joint compound	None detected[3]
8B-JC	Room 101	Drywall joint compound	None detected[3]
8C-JC	Room 109	Drywall joint compound	None detected[3]
8D-JC	Room 108A	Drywall joint compound	None detected[3]
8E-JC	Room 126	Drywall joint compound	None detected[3]
9A-PL	S01-soffit	Texture plaster	None detected[3]
9B-PL	S01-soffit	Texture plaster	None detected[3]
9C-PL	S01-soffit	Texture plaster	<0.25% chrysot3le[1,3]
10A-VFT	Room 104B	12”x12” vinyl floor tile white with beige specks	None detected (TEM)[3]
10B-VFT	Room 104	12”x12” vinyl floor tile white with beige specks	None detected[3]
10C-VFT	Room 104	12”x12” vinyl floor tile white with beige specks	None detected[3]
11A-VFT	Room 131	12”x12” vinyl floor tile cream with brown specks	**3.4% chrysotile (TEM)**[3]
11B-VFT	Room 131	12”x12” vinyl floor tile cream with brown specks	None detected[3]
11C-VFT	Room 131	12”x12” vinyl floor tile cream with brown specks	None detected[3]
12A-CT	C102	2’x4’ ceiling tile medium fissure	None detected[3]
12B-CT	C102	2’x4’ ceiling tile medium fissure	None detected[3]
12C-CT	C102	2’x4’ ceiling tile medium fissure	None detected[3]
13A-CT	C102 near 138	2’x4’ suspended ceiling tile large wavy fissure with red backing	None detected[3]

Sample No.	Location	Description	
13B-CT	C102 near 138	2'x4' suspended ceiling tile large wavy fissure with red backing	None detected(3)
13C-CT	C102 near 138	2'x4' suspended ceiling tile large wavy fissure with red backing	None detected(3)
14A-CT	Room 137	12"'x12" ceiling tile large wavy fissure red backing	**2.50% amosite**(3)
15A-PL	Room 137 wall	Plaster - smooth	None detected(3)
15B-PL	Room 139 wall	Plaster - smooth	None detected(3)
15C-PL	Room 139 wall	Plaster - smooth	None detected(2)
1-A	Room 114	12" x 12" vinyl floor tile – light grey coloured with grey flecks	None Detected (TEM) (3)
1-B	Room 114	12" x 12" vinyl floor tile – light grey coloured with grey flecks	None Detected (3)
1-C	Room 112	12" x 12" vinyl floor tile – light grey coloured with grey flecks	None Detected (3)
2-A	Room 114	Mastic on 12" floor tile – black coloured	None detected (TEM) (3)
2-B	Room 114	Mastic on 12" floor tile – black coloured	None Detected (3)
2-C	Room 112	Mastic on 12" floor tile – black coloured	**3% chrysotile** (3)
3-A	Room 114	Vinyl baseboard – light brown coloured	None Detected (TEM) (3)
3-B	Room 114	Vinyl baseboard – light brown coloured	None Detected (3)
3-C	Room 114	Vinyl baseboard – light brown coloured	None Detected (3)
4-A	Room 114	Vinyl baseboard mastic – dark brown coloured	None Detected (TEM) (3)
4-B	Room 114	Vinyl baseboard mastic – dark brown coloured	None Detected (2)
4-C	Room 114	Vinyl baseboard mastic – dark brown coloured	None Detected (3)
5-A	Room 114	Caulking between concrete roof deck panels – grey coloured	0.4% chrysotile (PLM) (1,3) **2.8% chrysotile (TEM)** (3)
6-A	Room 114	Caulking on interior window frames – white coloured	None Detected (TEM) (3)
6-B	Room 114	Caulking on interior window frames – white coloured	None Detected (3)
6-C	Room 112	Caulking on interior window frames – white coloured	None Detected (3)
7-A	Corridor C101	Black paper on "anti-sweat" pipe straight thermal insulation	None Detected (PLM) (3) <0.25% chrysotile (TEM) (1,3)
7-B	Corridor C101	Black paper on "anti-sweat" pipe straight thermal insulation	None Detected (3)
7-C	Corridor C103 (Corridor C102 north in laboratory report)	Black paper on "anti-sweat" pipe straight thermal insulation	None Detected (3)
8-A	Corridor C103 (Corridor C102 north in laboratory report)	Brown paper on "anti-sweat" pipe straight thermal insulation	None Detected (TEM) (3)
8-B	Corridor C101	Brown paper on "anti-sweat" pipe straight thermal insulation	None Detected (3)

Sample No.	Location	Description	
8-C	Corridor C103	Brown paper on "anti-sweat" pipe straight thermal insulation	None Detected (3)
10	Room 112A	Drywall joint compound on drywall wall	None Detected (3)
11-A	Room 114	Plaster on wall above sink cabinets – top coat	None Detected (3)
11-B	Corridor C101	Plaster on ceiling – top coat	None Detected (3)
12-A	Room 114	Plaster on wall above sink cabinets – scratch coat	None Detected (3)
12-B	Corridor C101	Plaster on ceiling – scratch coat	None Detected (3)
S11	Not Available	Pipe straight insulation - aircell	**60% chrysotile**(3)
S12	Not Available	Mud Joint Compound	**60% chrysotile**(3)

NOTES:

(1) "Asbestos-containing material" is defined as material that contains 0.5% or more asbestos by dry weight.

(2) Sample results taken from a report prepared by Arcadis for CSV titled *"Pre-Renovation Designated Substances and Hazardous Materials Survey, École élémentaire Félix-Leclerc, 50 Celestine Drive, Toronto, Ontario"* dated March 29, 2022.

(3) Sample results taken from a report prepared by Arcadis for CSV titled *"Updated Survey of Asbestos-Containing Materials, École élémentaire Félix-Leclerc, 50 Celestine Drive, Toronto, Ontario"* October 5, 2022.

Bulk samples were analyzed by Polarized Light Microscopy (PLM) analysis, except where "TEM" is noted, in which case Transmission Electron Microscopy analysis was also performed.

< = less than.

Chrysotile = Chrysotile Asbestos.

Amosite = Amosite Asbestos

Determination of the locations of asbestos-containing material was made based on the review of existing information, results of bulk sample analysis, visual observations and physical characteristics of the applications as well as our knowledge of the uses of asbestos in building materials.

Based on review of existing information, visual observations, and results of laboratory analyses of samples collected by Arcadis, the following accessible asbestos-containing materials were found to be present in the designated study areas:

- 12" x 12" vinyl floor tiles in Rooms 131;
- 9" x 9" vinyl floor tiles below 12" x 12" non-asbestos vinyl floor tiles in Room 141;
- 9" x 9" vinyl floor tiles and associated mastic below 12" x 12" non-asbestos vinyl floor tiles in Rooms 125, 125A and 130;
- mastic on 12" x 12" non-asbestos vinyl floor tiles in Room 104;
- hard grey caulking applied to door frames between Rooms C102 and 122;
- caulking between the concrete roof deck panels in various locations throughout the 1958 era of construction;
- 12" x 12" acoustic ceiling tiles glued to concrete roof decking in Rooms 137 and 139;

- thermal insulation applied to pipe fittings and pipe straights above ceilings in Rooms 101, 106, 125A, and C102 (Section in 1958 Construction Era);
- thermal insulation applied to pipe fittings below ceilings in Room 127; and
- block filler paint (see note below) on concrete block walls throughout the 1958 construction era.

Note: Block-filler paint applied to concrete block walls was generally applied to bare concrete block as a primer coat to limit absorption of the final paint finishes into the concrete block. Exposed paint finishes on concrete block walls in the 1958 construction era should not contain asbestos.

During the course of the site investigations, Arcadis staff accessed cavities in exterior concrete block walls in several different locations in both the 1958 and 1963 construction eras, in the designated study areas, where renovation activities may disturb the concrete block walls. Materials suspected of containing asbestos (e.g. vermiculite block-fill insulation) was not observed in all block wall cavities accessed.

Asbestos-containing thermal insulation applied to pipe fittings is a white/grey-coloured cementitious material. Asbestos-containing thermal insulation applied to pipe straights is “Air-Cell” type insulation. “Aircell” is a trade name for a grey-coloured corrugated paper-like type of pipe insulation, usually found on heating and domestic hot water piping.

Glass fibre insulation is readily visually distinguishable (typically yellow in colour) from asbestos-containing insulation materials and if observed was therefore, not tested for asbestos content.

Vinyl floor tiles, floor tile mastics, caulking and paint are non-friable materials. The removal, alteration and/or disturbance of these non-friable asbestos-containing materials can be performed as a Type 1 operation as specified in O. Reg. 278/05 if the material is wetted and the work is done only using non-powered, hand-held tools (see Table C-1 in Appendix C). If the removal, alteration and/or disturbance work is done using power tools that are attached to dust-collecting devices equipped with HEPA filters, then the work is classified as Type 2. If the power tools do not have HEPA filtered dust collecting devices, then the work is Type 3.

Thermal insulation is a friable material. The removal, alteration and/or disturbance of less than 1 m^2 of friable asbestos-containing materials is classified as a Type 2 enclosure operation as specified in O.Reg. 278/05. The removal, alteration and/or disturbance of more than 1 m^2 of friable asbestos-containing materials is classified as a Type 3 operation.

The removal, alteration and/or disturbance of less than 7.5 m^2 of asbestos-containing ceiling tiles is a Type 1 operation (provided tiles are removed without being broken, cut, etc.). The removal, alteration and/or disturbance of 7.5 m^2 or more of asbestos-containing ceiling tiles is a Type 2 operation (provided tiles are removed without being broken, cut, etc.).

Asbestos may also be present in materials which were not sampled during the course of the asbestos survey carried out by Arcadis, including, but not limited to, areas outside the designated study areas, which include components of electrical equipment (e.g. electric wiring insulation, non-metallic sheathed cable, electrical panel partitions, arc chutes, high-grade electrical paper, etc.), threaded pipe sealants, concrete, asphaltic pavement. Confirmatory testing of any such materials could be undertaken as the need arises (i.e., at the time of renovations, modifications or demolition) or the materials can be assumed to contain asbestos based on findings in adjacent areas.

If any materials which may contain asbestos and which were not tested during the course of the designated substances and hazardous materials survey are discovered during any construction activities, the work shall not proceed until such time as the required notifications have been made and an appropriate course of action is determined.

3.2 Lead

Arcadis reviewed a report prepared by Arcadis for the CSV titled "Pr*e-Renovation Designated Substances and Hazardous Materials Survey, École élémentaire Félix-Leclerc, 50 Celestine Drive, Toronto, Ontario*" dated March 29, 2022. Information and paint sample analysis results obtained from this existing report was utilized by Arcadis during the course of our investigation and in the preparation of this report. Results of bulk sample analysis for lead content obtained from the existing report are provided in Table 3.2.

During the course of our site investigation, additional representative paint samples of the predominant paint observed in the designated study areas were collected by Arcadis staff. The samples were forwarded to EMSL Canada Inc. for lead analyses. Results of bulk sample analysis for lead content including results from the above referenced report are provided in Table 3.2. Laboratory report for paint samples collected as part of this investigation are provided in Appendix B.

Table 3-2 Summary of Results of Analyses of Bulk Samples for Lead Content

Sample No.	Sample Location	Sample Description	Lead Content
P-1	Room 142	Paint on concrete block wall	**420 ppm**
P2	Room 123	Paint on plaster wall	**790 ppm**
P-3	Room 125	Paint on plaster wall	**1,300 ppm**
P-1	Room 103	Beige paint on exterior concrete soffit	**680 mg/kg (680 ppm)(1)**
P2	Corridor C103	Paint on wood door frame – blue on beige	**3,100 mg/kg (3,100 ppm)(1)**
P5	Room 143	Paint on smooth plaster – white	**300 mg/kg (300 ppm)(1)**
P-1	Room 114	Paint on concrete block wall – cream colour	**550 mg/kg (550 ppm)(1)**

NOTE:

(1) Bulk sample results taken from a report prepared by Arcadis for the CSV titled "*Designated Substances and Hazardous Materials Survey, École élémentaire Félix-Leclerc, 50 Celestine Drive, Toronto, Ontario*" dated March 29, 2022.

< = less than.

ppm = part per million

1 ppm = 1 mg/Kg

Lead was detected in all paint samples.

Lead may also be present in lead pipe, mortar, glazing on ceramic tiles, in the solder 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.

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.

The Ministry of Labour *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, as shown in Appendix C, Table C-2. 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.

3.3 Mercury

During the course of our site investigation, fluorescent lights were observed in the designated study areas. Mercury should be assumed to be present as a gas in all fluorescent light tubes and in all paint applications, albeit at low levels. The fluorescent light tubes should be recycled for mercury, if the lights are removed.

Proper procedures for removing and handling mercury-containing fluorescent light tubes typically involve:

- ensuring that electrical power to light fixtures has been disconnected and locked out;
- taking all necessary precautions to ensure that fluorescent light tubes and lamps are removed in a manner that prevents breakage; and
- transporting fluorescent lamp tubes and lamps to a licensed processing location for separation and recovery of mercury.

The measures and procedures outlined in the MOL *Guideline, Lead on Construction Projects* for control of potential exposure to lead in paint during construction activities will also serve to control potential exposure to any mercury in paint.

3.4 Silica

Materials observed in the designated study areas which should be considered to contain silica included gypsum board, joint compound, plaster, concrete, concrete mortar, cement block walls, ceramic tile wall bases, cementitious mortar on the back side of ceramic tile bases, ceramic flooring and vinyl floor tiles.

Silica can also be assumed to be present in any gravel on ground surfaces or ballast on roofs and will also be found in asphalt roofing materials if rock or stone are present in the asphalt.

The Ministry of Labour *Guideline, Silica on Construction Projects*, April 2011, 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 silica, as shown in Appendix C, Table C-3.

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.

3.5 Vinyl Chloride

As mentioned in Section 2.5 above, vinyl chloride would only be a potential exposure concern in the event of combustion of PVC products.

3.6 Acrylonitrile

As mentioned in Section 2.6 above, acrylonitrile would only be a potential exposure concern in the event of combustion of ABS products.

3.7 Other Designated Substances

No other designated substances (benzene, isocyanates, arsenic, ethylene oxide and coke oven emissions) were observed to be present in the designated study areas, and none would be expected to be encountered in any building materials in a form that would represent an exposure concern. Arsenic may be present at low levels in paint applications. The measures and procedures outlined in the MOL *Guideline, Lead on Construction Projects* for control of potential exposure to lead in paint during construction activities will also serve to control potential exposure to any arsenic (or mercury) in paint.

3.8 Polychlorinated Biphenyls (PCBs)

Fluorescent lights were observed in various locations in the designated study areas during the course of our site investigations. Light ballasts, such as those associated with the type of fluorescent lights (T8s) observed in the designated study areas, are usually an electronic type which do not contain PCBs, however, this would be confirmed by an electrician at the time of dismantling of the lights.

3.9 Ozone-Depleting Substances (ODS) and Other Halocarbons

Equipment with refrigerants that may be ODS, that may be affected by the proposed renovation work was not observed during course of the site investigation.

If any ODS-containing equipment is to be removed then they must be handled in the following manner:

- any equipment designated for disposal as scrap must be drained of its contents by a licensed technician and equipped with a label indicating that the equipment no longer contains any refrigerant. The specific requirements for information on the label, as specified in the regulation, must be adhered to;
- equipment designated for relocation to another facility owned by Conseil scolaire Viamonde must be drained and labelled, as above; and
- any equipment that is drained to facilitate relocation to another facility owned by Conseil scolaire Viamonde must be tested for leaks prior to re-filling. The equipment must be re-filled within six months of the leak test.

3.10 Mould

The investigation for mould included a visual inspection of readily-accessible surfaces throughout the designated study areas to determine if any mould was evident. The inspection of mould did not include intrusive inspections of wall cavities. Readily evident suspect mould was not observed in the designated study areas during the course of the site investigation. During renovations or interior demolition work, any mould-impacted materials uncovered/discovered should be remediated following the measures and procedures outlined in the *Canadian Construction Association Standard Construction Document CCA-82 2004 - Mould Guidelines for the Canadian Construction Industry*.

4 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.

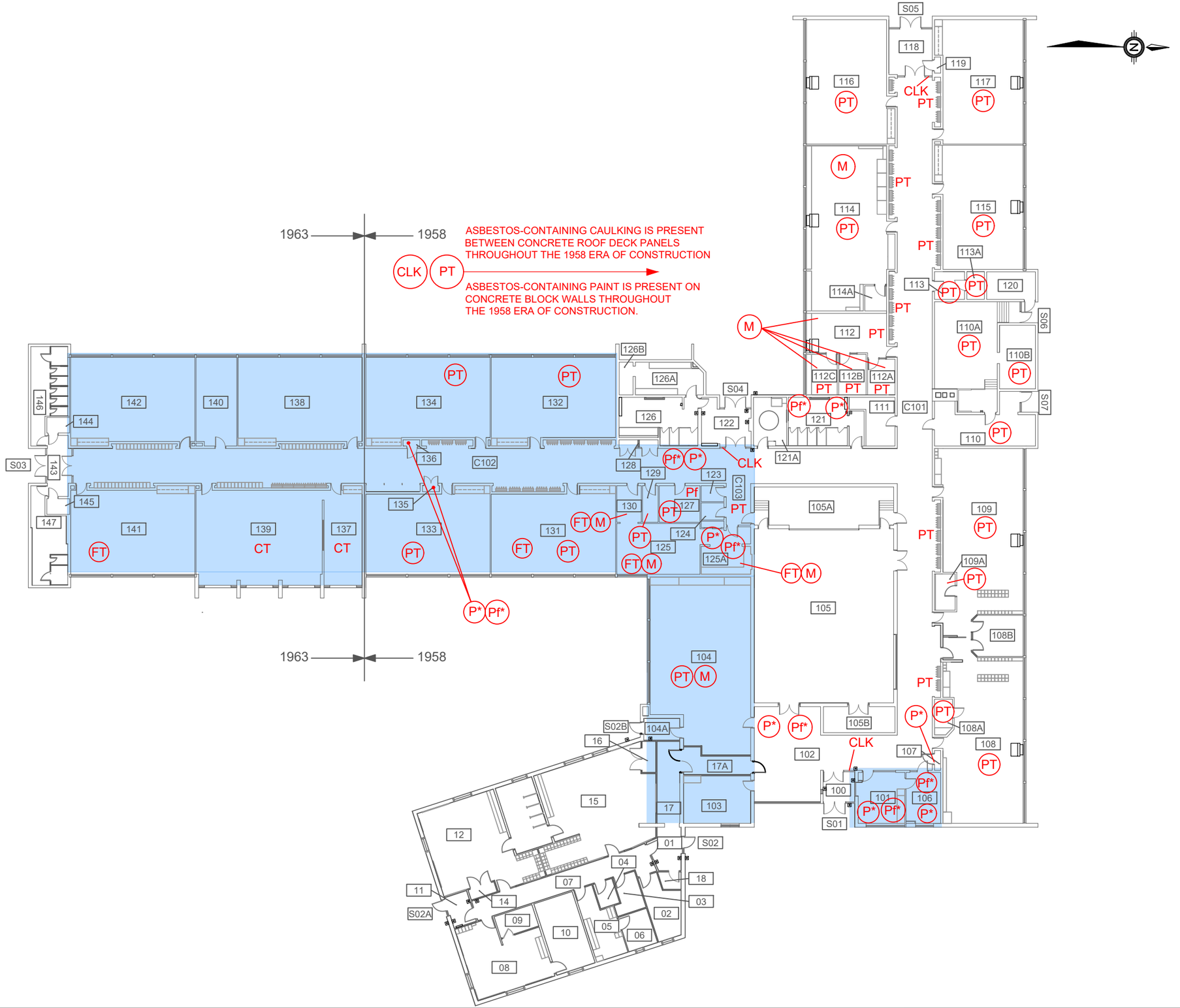
This report is expressly for the sole and exclusive use of the Client for whom this report was originally prepared and for the particular purpose outlined in the report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall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

The survey did not include for identification of asbestos in process materials, equipment (including electrical equipment and wiring), furniture (e.g., chairs, tabletops, chalkboards, etc.), nor material outside of the building (e.g., asphaltic pavement).

This report is not intended to be used as a scope of work or technical specification for remediation of designated substances or hazardous materials.

Appendix A

Floor Plans



XREFS: IMAGES: PROJECTNAME: ----

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
C:\Users\km7685\DCACCDocs\Arcadis ACC USA\CA-9999999-CONSEIL SCOLAIRE VIAMONDE_NORTH YORK_ON\Project Files\10_WIP\10T_ARC_ENV\2025\01-DWG\30247688 Felix Leclerc DSHMS.dwg LAYOUT: 1ST FLOOR SAVED: 3/17/2025 5:21 PM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 3/17/2025 5:21 PM BY: K. MAHENDRA

LEGEND:

125	FUNCTIONAL SPACE
○	THROUGHOUT FUNCTIONAL SPACE
*	ABOVE CEILING ASSEMBLY
Pf	ASBESTOS ON PIPE FITTINGS
P	ASBESTOS ON PIPE STRAIGHTS
FT	ASBESTOS FLOORING
CT	ASBESTOS CEILING TILES
M	ASBESTOS MASTIC
CLK	ASBESTOS CAULKING
PT	ASBESTOS PAINT ON CONCRETE BLOCK
	STUDY AREA

NOTES:

1.

REVISIONS:

No.	Date:	By:	Revisions

REFERENCE:

1.

ARCADIS

CONSEIL SCOLAIRE VIAMONDE

PRE-RENOVATION DESIGNATED SUBSTANCES AND HAZARDOUS MATERIALS SURVEY

LOCATIONS OF ASBESTOS-CONTAINING MATERIALS AND STUDY AREAS

ÉCOLE ÉLÉMENTAIRE FÉLIX-LECLERC
50 CELESTINE DRIVE, TORONTO,ON

MAIN FLOOR PLAN

Drawn By:	M.K.R	Approved By:	J.D	Project No:	30247688
Date:	MARCH 2025	Scale:	N.T.S	Drawing No:	30247688-1

Appendix B

Laboratory Reports

EMSL ANALYTICAL, INC.

Attention: Dwayne Kellyman
Arcadis Canada Inc.
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Markham, ON L6G 1B3

Samples analyzed by: EMSL Canada Analytical, Inc.
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NVLAP Lab Code: 200877
AIHA-LAP, LLC-IHPAT Lab: LAP-196142
NYS ELAP: 12027

Sample Date:
Submitted Date: 12/27/2024
Analysis Date: 1/6/2025
Report Date: 1/8/2025

Project: 30247688 / Felix Leclerc

EMSL ID: 55-245

Summary Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Sub E App E supplemented with EPA 600/R-93/116

This is page one of the analytical report; data found on subsequent pages.

Samples in this report were submitted to EMSL Analytical Inc. for Asbestos Analysis of Bulk materials via EPA methods and may contain analytical results by PLM friable, PLM 400 Point count or gravimetric reduction of samples by PLM NOB, TEM NOB,PLM NOB 400 PTCT.

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. 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. A combination of PLM and TEM analysis may be necessary to ensure consistently reliable detection of asbestos. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Measurement of uncertainty is available upon request. NOB = Non-friable Organically Bound; N/A = Not Applicable; PTCT = Point Count.

Laboratory Comments:

Matthew Davis, Laboratory Manager
or other approved Signatory

Project: 30247688 / Felix Leclerc EMSL Order ID: 55-245

Summary Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Sub E App E supplemented with EPA 600/R-93/116

Sample	Description	Type of Analysis	Color/Fibrous/ Homogeneity	Non-Asbestos Fibers	%	% Non-Fibrous	Asbestos Type	Asbestos Percentage	Final Asbestos %	Comment
1A	2'x4' ceiling tile – pinhole random fissure / Room 130	PLM Friable	Grey	Cellulose	40	20.0	None Detected			
			Fibrous	Min Wool	40					
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
1B	2'x4' ceiling tile – pinhole random fissure / Room 130	PLM Friable	Grey	Cellulose	40	20.0	None Detected			
			Fibrous	Min Wool	40					
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
1C	2'x4' ceiling tile – pinhole random fissure / Room 130	PLM Friable	Grey	Cellulose	40	20.0	None Detected			
			Fibrous	Min Wool	40					
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
2A-Beige	9" vinyl floor tile – Beige (2nd layer) / Room 125A	PLM NOB	Beige			97.7	Chrysotile	9	2.27	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	2.3	
2A-Grey	9" vinyl floor tile – Beige (2nd layer) / Room 125A	PLM NOB	Grey			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
2A-Grey	9" vinyl floor tile – Beige (2nd layer) / Room 125A	TEM NOB	Grey			100.0	None Detected			Beige Tile Only
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
2B	9" vinyl floor tile – Beige (2nd layer) / Room 125A	PLM Friable					Positive Stop			Beige Tile Only
2C	9" vinyl floor tile – Beige (2nd layer) / Room 125A	PLM Friable					Positive Stop			
			--	--	--		Total Asbestos	--	--	
3A	Mastic below 9" vinyl floor tile (mastic only) (Era 1958) / Room 125A	PLM NOB	Black			99.8	Chrysotile	3	0.17	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	<0.25	
3B	Mastic below 9" vinyl floor tile (mastic only) (Era 1958) / Room 125A	PLM Friable	Black			98.0	Chrysotile	2	2.00	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	2.0	
3C	Mastic below 9" vinyl floor tile (mastic only) (Era 1958) / Room 125A	PLM Friable					Positive Stop			
			--	--	--		Total Asbestos	--	--	
4A	12" vinyl floor tile – Pink with brown and white fleck / Room 131	PLM NOB	Pink			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
4A	12" vinyl floor tile – Pink with brown and white fleck / Room 132	TEM NOB	Pink			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
4B	12" vinyl floor tile – Pink with brown and white fleck / Room 138	PLM Friable	Pink			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
4C	12" vinyl floor tile – Pink with brown and white fleck / Room 138	PLM Friable	Pink			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	

5A	12" vinyl floor tile – White with grey fleck / Room 126	PLM NOB	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
5A	12" vinyl floor tile – White with grey fleck / Room 127	TEM NOB	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
5B	12" vinyl floor tile – White with grey fleck / Room 127	PLM Friable	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
5C-Floor Tile	12" vinyl floor tile – White with grey fleck / Room 127	PLM Friable	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
5C-Mastic	12" vinyl floor tile – White with grey fleck / Room 127	PLM Friable	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
5C-leveler	12" vinyl floor tile – White with grey fleck / Room 127	PLM Friable	Beige			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
6A	Mastic under 12" vinyl floor tile - pink with brown and white and white with grey fleck (Era 1958) / Room 132	PLM NOB	Black			99.9	Chrysotile	2	0.09	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	<0.25	
6B	Mastic under 12" vinyl floor tile - pink with brown and white and white with grey fleck (Era 1958) / Room 132	PLM Friable	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
6C	Mastic under 12" vinyl floor tile - pink with brown and white and white with grey fleck (Era 1958) / Room 132	PLM Friable	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
7A	Mastic under 12" vinyl floor tile - pink with brown and white and white with grey fleck (Era 1963) / Room 137	PLM NOB	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
7A	Mastic under 12" vinyl floor tile - pink with brown and white and white with grey fleck (Era 1963) / Room 138	TEM NOB	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
7B	Mastic under 12" vinyl floor tile - pink with brown and white and white with grey fleck (Era 1963) / Room 138	PLM Friable	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
7C	Mastic under 12" vinyl floor tile - pink with brown and white and white with grey fleck (Era 1963) / Room 138	PLM Friable	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
8A	Mastic under 12" vinyl floor tile – cream with brown specks (Era 1958) / Room 131	PLM NOB	Black			100.0	Chrysotile	<1	<1	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	<0.25	
8B	Mastic under 12" vinyl floor tile – cream with brown specks (Era 1958) / Room 131	PLM Friable	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
8C	Mastic under 12" vinyl floor tile – cream with brown specks (Era 1958) / Room 131	PLM Friable	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
9A	Black and grey mastic under 12" vinyl floor tile – white with black fleck (Era 1963) / Room 136	PLM NOB	Grey/Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	

9A	Black and grey mastic under 12" vinyl floor tile – white with black fleck (Era 1963) / Room 137	TEM NOB	Grey/Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
9B	Black and grey mastic under 12" vinyl floor tile – white with black fleck (Era 1963) / Room 140	PLM Friable	Grey/Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
9C	Black and grey mastic under 12" vinyl floor tile – white with black fleck (Era 1963) / Room 142	PLM Friable	Grey/Black/Yellow			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
10A	9" vinyl floor tile – light brown / Room 141	PLM NOB	Brown			94.4	Chrysotile	15	5.55	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	5.6	
10B	9" vinyl floor tile – light brown / Room 141	PLM Friable					Positive Stop			
			--	--	--		Total Asbestos	--	--	
10C	9" vinyl floor tile – light brown / Room 141	PLM Friable					Positive Stop			
			--	--	--		Total Asbestos	--	--	
11A	Mastic under 9" vinyl floor tile – light brown (Era 1963) / Room 140	PLM NOB	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
11A	Mastic under 9" vinyl floor tile – light brown (Era 1963) / Room 141	TEM NOB	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
11B	Mastic under 9" vinyl floor tile – light brown (Era 1963) / Room 141	PLM Friable	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
11C	Mastic under 9" vinyl floor tile – light brown (Era 1963) / Room 141	PLM Friable	Black			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
12A	Ceramic floor tile – grout / Room 123	PLM NOB	Tan			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							Caulking material in sample bag
			--	--	--		Total Asbestos	--	--	
12A	Ceramic floor tile – grout / Room 123	TEM NOB	Tan			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							Caulking material in sample bag
			--	--	--		Total Asbestos	--	--	
12B	Ceramic floor tile – grout / Room 123	PLM Friable	Tan/White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							Caulking material in sample bag
			--	--	--		Total Asbestos	--	--	
12C	Ceramic floor tile – grout / Room 123	PLM Friable	Tan/White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							Caulking material in sample bag
			--	--	--		Total Asbestos	--	--	
13A	Ceramic floor tile – mortar bed / Room 123	PLM Friable	Grey			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
13B	Ceramic floor tile – mortar bed / Room 123	PLM Friable	Grey			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
13C	Ceramic floor tile – mortar bed / Room 123	PLM Friable	Grey			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	

14A	Concrete block filler paint (Era 1963) / Room 139	PLM Friable	Grey/Tan			100.0	Chrysotile	<1	<1	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	<1	
14A	Concrete block filler paint (Era 1963) / Room 140	PLM NOB	Grey/Tan			100.0	Chrysotile	<1	<0.36	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	<0.36	
14B	Concrete block filler paint (Era 1963) / Room 140	PLM Friable	Grey/Tan			100.0	Chrysotile	<1	<1	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	<1	
14B	Concrete block filler paint (Era 1963) / Room 141	PLM NOB	Grey/Tan			100.0	Chrysotile	1	<0.19	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	<0.25	
14C	Concrete block filler paint (Era 1963) / Room 141	PLM Friable	Grey/Tan			100.0	Chrysotile	<1	<1	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	<1	
14C	Concrete block filler paint (Era 1963) / Room 142	PLM NOB	Grey/Tan			100.0	Chrysotile	<1	<0.38	
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	<0.38	
15A	Exterior white window caulking (Era 1958) / Room 130	PLM NOB	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
15A	Exterior white window caulking (Era 1958) / Room 131	TEM NOB	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
15B	Exterior white window caulking (Era 1958) / Room 132	PLM Friable	White/Tan			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
15C	Exterior white window caulking (Era 1958) / Room 134	PLM Friable	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
16A	Exterior beige window caulking (Era 1958) / Room 111	PLM NOB	Beige			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
16A	Exterior beige window caulking (Era 1958) / Room 112	TEM NOB	Beige			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
16B	Exterior beige window caulking (Era 1958) / Room 114	PLM Friable	White/Tan			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
16C	Exterior beige window caulking (Era 1958) / Room 114	PLM Friable	Beige			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
17A	Exterior white window caulking (Era 1963) / Room 139	PLM NOB	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
17A	Exterior white window caulking (Era 1963) / Room 140	TEM NOB	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
17B	Exterior white window caulking (Era 1963) / Room 141	PLM Friable	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	

17C	Exterior white window caulking (Era 1963) / Room 142	PLM Friable	White			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
18A	Exterior brick mortar (Era 1963) / Room 140	PLM Friable	Grey/Tan			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
18B	Exterior brick mortar (Era 1963) / Room 141	PLM Friable	Grey/Tan			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	
18C	Exterior brick mortar (Era 1963) / Room 142	PLM Friable	Grey			100.0	None Detected			
			Non-Fibrous							
			Homogeneous							
			--	--	--		Total Asbestos	--	--	

EMSL Canada Inc.

2756 Slough St. Mississauga, ON L4T 1G3
Telephone: (289)997-4602
http://www.EMSL.com

LIMS Order 55-244
EMSL Order ID 55-244

1/3/2025

Arcadis Canada Inc.
8133 Warden Avenue, Unit 300
Markham, Ontario, L6G 1B3

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 12/27/2024
The results are tabulated on the attached pages for the following client designated project:

Felix Leclerc / 30247688 Task 02

The reference number for these samples is EMSL Order #: 55-244. If present please use this reference when calling about these samples or the project name. If you have any questions, please do not hesitate to contact the lab.

Rowena Fanto, Lead/Metals Supervisor

The test results contained within this report meet the requirements of the applicable accreditation/certification program unless otherwise noted. Results are only validated to two (2) significant figures.
Accreditation Name/#: AIHA-LAP, LLC-ELLAP #196142

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.

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LIMS Order 55-244
EMSL Order ID 55-244

Attention: Arcadis Canada Inc.
8133 Warden Avenue, Unit 300
Markham, Ontario, L6G 1B3

Project Name: Felix Leclerc / 30247688 Task 02
Received: December 27, 2024
Reported: January 3, 2025

Lead in Paint Chips Analytical Results

Analyte	Result	Units	Q	DF	RL	Preparation Date	Analysis Date	Analyst	Prep./Anal. Method
Sample ID: P-1 Paint on Concrete block Room142					LIMS ID: 55-244-0001			Collected: N/A	
Sample Wt.: 0.2549 g									
Lead	420	ppm		1	80.00	12/30/24 & 12/31/24	12/31/2024	FD	3050B/7000B
Sample ID: P-2 Paint on plaster Room 123					LIMS ID: 55-244-0002			Collected: N/A	
Sample Wt.: 0.2533 g									
Lead	790	ppm		1	80.00	12/30/24 & 12/31/24	12/31/2024	FD	3050B/7000B
Sample ID: P-3 Paint on plaster Room 125A					LIMS ID: 55-244-0003			Collected: N/A	
Sample Wt.: 0.2470 g									
Lead	1300	ppm		1	80.97	12/30/24 & 12/31/24	12/31/2024	FD	3050B/7000B

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LIMS Order	55-244
EMSL Order ID	55-244

Attention:	Arcadis Canada Inc.	Project Name:	Felix Leclerc / 30247688 Task 02
	8133 Warden Avenue, Unit 300	Received:	December 27, 2024
	Markham, Ontario, L6G 1B3	Reported:	January 3, 2025

Notes and Definitions

Item	Definition
D	Analyte was reported from a dilution run.
(Dig)	For metals analysis, sample was digested.
S	The Lab Control Sample fell outside out control limits.
B	Analyte was found in the Method Blank above the reporting limit.
R1	The Reporting Limit Verification Sample fell outside of control limits.
R2	The RPD of the sample/duplicate result fell outside of control limits.
M	The Matrix Spike Sample fell outside out control limits.
ND	Analyte was NOT DETECTED at or above the reporting limit.
RL	Reporting Limit
MDL	Method Detection Limit
Q	Qualifier

Appendix C

Summary of Asbestos, Lead and Silica Work Classifications

TABLE C-1
SUMMARY OF CLASSIFICATION OF TYPE 1, 2 AND 3 OPERATIONS (Ont. Reg. 278/05)

TYPE 1 OPERATIONS

- removing less than 7.5 m^2 asbestos-containing ceiling tiles;
- removing non-friable asbestos-containing material other than ceiling tiles, if the material is removed without being broken, cut, drilled, abraded, ground, sanded or vibrated;
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the material is wetted and the work is done only using non-powered, hand-held tools; and
- removing less than 1 m^2 of drywall in which asbestos-containing joint compounds have been used.

TYPE 2 OPERATIONS

- removing all or part of a false ceiling to obtain access to a work area, if asbestos-containing material is likely to be lying on the surface of the false ceiling;
- removal of one square metre or less of friable asbestos-containing material;
- enclosing friable asbestos-containing material;
- applying tape or a sealant or other covering to asbestos-containing pipe or boiler insulation;
- removing 7.5 m^2 or more asbestos-containing ceiling tiles (if removed without being broken, cut, drilled, abraded, ground, sanded or vibrated);
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the material is not wetted and the work is done only using non-powered, hand-held tools;
- removal of one square metre or more of drywall in which asbestos-containing joint compounds have been used;
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the work is done using power tools that are attached to dust-collecting devices equipped with HEPA filters;
- cleaning or removing filters used in air-handling equipment in a building that has asbestos-containing sprayed fireproofing.

TABLE C-1 (Continued)
SUMMARY OF CLASSIFICATION OF TYPE 1, 2 AND 3 OPERATIONS (Ont. Reg. 278/05)

TYPE 3 OPERATIONS

- removal of more than one square metre of friable asbestos-containing material;
- spray application of a sealant to friable asbestos-containing material;
- cleaning or removing air-handling equipment, including rigid ducting but not including filters, in a building that has sprayed asbestos-containing fireproofing;
- repairing or demolishing a kiln, metallurgical furnace or similar structure that is made in part of asbestos-containing refractory materials;
- breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing materials, if the work is done using power tools that are not attached to dust-collecting devices equipped with HEPA filters.

TABLE C-2
SUMMARY OF CLASSIFICATION OF LEAD-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE – LEAD ON CONSTRUCTION PROJECTS, APRIL 2011

Type 1 Operations	Type 2 Operations		Type 3 Operations	
	Type 2a	Type 2b	Type 3a	Type 3b
<0.05 mg/m^3	>0.05 to 0.50 mg/m^3	>0.50 to 1.25 mg/m^3	>1.25 to 2.50 mg/m^3	>2.50 mg/m^3

Note: The classification of Type 1, 2 and 3 operations is based on presumed airborne concentrations of lead, as shown above.

TYPE 1 OPERATIONS

- application of lead-containing coatings with a brush or roller;
- removal of lead-containing coatings with a chemical gel or paste and fibrous laminated cloth wrap;
- removal of lead-containing coatings or materials using a power tool that has an effective dust collection system equipped with a HEPA filter;
- installation or removal of lead-containing sheet metal;
- installation or removal of lead-containing packing, babbit or similar material;
- removal of lead-containing coatings or materials using non-powered hand tools, other than manual scraping or sanding;
- soldering.

TYPE 2 OPERATIONS

Type 2a Operations

- welding or high temperature cutting of lead-containing coatings or materials outdoors. This operation is considered a Type 2a operation only if it is short-term, not repeated, and if the material has been stripped prior to welding or high temperature cutting. Otherwise it will be considered a Type 3a operation;
- removal of lead-containing coatings or materials by scraping or sanding using non-powered hand tools;
- manual demolition of lead-painted plaster walls or building components by striking a wall with a sledgehammer or similar tool.

Type 2b Operations

- spray application of lead-containing coatings.

TABLE C-2 (Continued)
SUMMARY OF CLASSIFICATION OF LEAD-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE – LEAD ON CONSTRUCTION PROJECTS, APRIL 2011

TYPE 3 OPERATIONS

Type 3a Operations

- welding or high temperature cutting of lead-containing coatings or materials indoors or in a confined space;
- burning of a surface containing lead;
- dry removal of lead-containing mortar using an electric or pneumatic cutting device;
- removal of lead-containing coatings or materials using power tools without an effective dust collection system equipped with a HEPA filter;
- removal or repair of a ventilation system used for controlling lead exposure;
- demolition or cleanup of a facility where lead-containing products were manufactured;
- an operation that may expose a worker to lead dust, fume or mist that is not a Type 1, Type 2, or Type 3b operation

Type 3b Operations

- abrasive blasting of lead-containing coatings or materials;
- removal of lead-containing dust using an air mist extraction system.

TABLE C-3

SUMMARY OF CLASSIFICATION OF SILICA-CONTAINING CONSTRUCTION TASKS

MOL GUIDELINE, SILICA ON CONSTRUCTION PROJECTS, APRIL 2011

	Type 1 Operations	Type 2 Operations	Type 3 Operations
Cristobalite and Tridymite	>0.05 to 0.50 mg/m^3	>0.50 to 2.50 mg/m^3	>2.5 mg/m^3
Quartz and Tripoli	>0.10 to 1.0 mg/m^3	>1.0 to 5.0 mg/m^3	>5.0 mg/m^3

Note: The classification of silica-containing construction tasks is based on presumed concentrations of respirable crystalline silica, as shown above.

TYPE 1 OPERATIONS

- The drilling of holes in concrete or rock that is not part of a tunnelling operation or road construction.
- Milling of asphalt from concrete highway pavement.
- Charging mixers and hoppers with silica sand (sand consisting of at least 95 per cent silica) or silica flour (finely ground sand consisting of at least 95 per cent silica).
- Any other operation at a project that requires the handling of silica-containing material in a way that may result in a worker being exposed to airborne silica.
- Entry into a dry mortar removal or abrasive blasting area while airborne dust is visible for less than 15 minutes for inspection and/or sampling.
- Working within 25 metres of an area where compressed air is being used to remove silica-containing dust outdoors.

TYPE 2 OPERATIONS

- Removal of silica containing refractory materials with a jackhammer.
- The drilling of holes in concrete or rock that is part of a tunnelling or road construction.
- The use of a power tool to cut, grind, or polish concrete, masonry, terrazzo or refractory materials.
- The use of a power tool to remove silica containing materials.
- Tunnelling (operation of the tunnel boring machine, tunnel drilling, tunnel mesh installation).
- Tuckpoint and surface grinding.
- Dry mortar removal with an electric or pneumatic cutting device.
- Dry method dust cleanup from abrasive blasting operations.
- The use of compressed air outdoors for removing silica dust.
- Entry into area where abrasive blasting is being carried out for more than 15 minutes.

TABLE C-3 (Continued)
SUMMARY OF CLASSIFICATION OF SILICA-CONTAINING CONSTRUCTION TASKS
MOL GUIDELINE, SILICA ON CONSTRUCTION PROJECTS, APRIL 2011

TYPE 3 OPERATIONS

- Abrasive blasting with an abrasive that contains ≥ 1 per cent silica.
- Abrasive blasting of a material that contains ≥ 1 per cent silica.

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