



S2S
Environmental Inc.



2023 Annual Hazardous Building Materials Reassessment

**École élémentaire
catholique Frère-
André**

**273 Cundles Road East
Barrie, Ontario**

Prepared for:
**Conseil Scolaire Catholique
MonAvenir**

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1.0 INTRODUCTION

S2S Environmental Inc. (S2S) was retained by the Conseil Scolaire Catholique MonAvenir (CSC MonAvenir) (Client) to conduct the 2023 Annual Hazardous Buildings Materials Reassessment (HBMR) within École élémentaire catholique Frere Andre located at 273 Cundles Road East in Barrie, Ontario (Subject Building).

Date of Inspection: November 14, 2023
Site Assessor: Ms. Rachel Dowdall

Description of Subject Building: At the time of the site visit, the Subject Building was occupied by a one-storey school building with no basement.

Construction Date: Approximately 1989

Total Combined Footprint Area: Approximately 3,937 m² (42,378 ft²)

Interior Finishes Walls: Drywall, concrete block and brick;
 Ceilings: Drywall and acoustic ceiling tiles;
 Floors: Vinyl floor tile, carpet and concrete slab.

The building was not occupied by regular CSC MonAvenir staff and students at the time of the inspection. Only select administration and custodial staff were present.

2.0 SCOPE OF WORK

2.1 Scope of Work

The 2023 HBMR carried out by S2S was based on CSC MonAvenir's inspection requirements, and consisted of the following:

1. Records Review, including previous reports made available;
2. Site visit including interviews and a non-destructive visual inspection for the following hazardous materials:
 - a. Asbestos Containing Materials (ACMs);
 - b. Lead;
 - c. Mercury;
 - d. Polychlorinated Biphenyls (PCBs);
 - e. Silica; and
 - f. Mould.
3. Photography of previously or newly identified, presumed/suspect or damaged ACMs and other designated substances or hazardous materials listed above;
4. Updating of drawings and room-by-room asbestos inventory; and
5. Evaluation of information and preparation of a report.



2.2 Methodology

2.2.1 Records Review

As part of the HBMR, S2S reviewed the following report:

- “*Reassessment of Hazardous Building Materials Survey Report – École élémentaire catholique Frere Andre – 273 Cundles Road East Barrie, Ontario*” report, prepared by Maple Environmental Inc., dated September 2018;
- “*2019 Hazardous Building Materials Reassessment – École élémentaire catholique Frere Andre – 273 Cundles Road East Barrie, Ontario*” report, prepared by S2S, dated February 27, 2020;
- “*2020 Annual Hazardous Building Materials Reassessment – École élémentaire catholique Frere Andre – 273 Cundles Road East Barrie, Ontario*” report, prepared by S2S, dated September 25, 2020;
- “*2021 Annual Hazardous Building Materials Reassessment – École élémentaire catholique Frere Andre – 273 Cundles Road East Barrie, Ontario*” report, prepared by S2S, dated December 17, 2021; and
- “*2022 Annual Hazardous Building Materials Reassessment – École élémentaire catholique Frere Andre – 273 Cundles Road East Barrie, Ontario*” report, prepared by S2S, dated December 30, 2022.

As noted in the above reports, lead, mercury, silica, and apparent water damage were previously identified/suspected to be present within the Subject Building. Previous sample results and findings for existing asbestos and lead containing materials have been assumed to be accurate and have been incorporated into this report where applicable.

2.2.2 Site Visit

The Subject Building was examined to verify the location, quantity and condition of hazardous materials previously identified.

The presence or absence of the following hazardous materials: asbestos, lead, mercury, PCBs, and silica has been inferred based on the historical building usage (reportedly purpose-built school) and site observations. Further, no confirmatory sampling for these materials or visual suspect mould (if observed) was conducted.

S2S was reliant on CSC MonAvenir to provide access to locked or limited-access areas of the Subject Building on the date of the site visit. All areas of the Subject Building with previously identified hazardous materials were accessible at the time of the 2023 HBMR, with the exception of the Boy’s Changeroom due to ongoing activities.



2.3 Guidelines and Regulations

As listed in Section 2.1 of this report, the presence or absence of the specified hazardous materials have been reviewed by S2S, as requested by CSC MonAvenir. Management of each of these materials is subject to various guidelines or regulations which are elaborated on below.

Where applicable, local federal and provincial regulations and guidelines (e.g. Ontario Regulations and Health Canada guidelines) are referenced to provide the framework for this HBMR. At the time of construction or demolition activities, a Designated Substances Survey pursuant to Section 30 of the Ontario Occupational Health and Safety Act (OHSA) for the substances designated under Ontario Regulation (O. Reg.) 490/09 should be conducted with respect to the specific requirements of planned project work.

2.4 Asbestos Containing Materials (ACMs)

Asbestos is the general name for several varieties of highly fibrous naturally occurring minerals. Commercially significant types include Chrysotile, Amosite and Crocidolite. Due to the thermal, chemical, electrical resistance, flexibility, and strength of asbestos, it was widely manufactured into products for home and industrial applications. Asbestos presents a risk when it is inhaled and has been linked to numerous respiratory diseases.

The disturbance of ACMs during project work is controlled by the Ministry of Labour , Immigration, Training and Skills Development (MLTSD) through O. Reg. 278/05 – Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations (as amended by O. Reg. 479/10). The regulation classifies all disturbances as Type 1, Type 2, or Type 3, each of which has defined work practices. All asbestos-containing materials (if they are to be disturbed) are subject to special handling and disposal requirements and must be removed before partial or full demolition. The MLTSD must be notified in writing of any project involving the removal of more than a minor amount of friable asbestos material.

Evaluation Criteria of ACMs

The condition of ACMs as well as the potential of disturbance was evaluated. These evaluations were based on the conclusions of published studies, existing Ontario regulations, and S2S's experience involving buildings containing ACMs.

Examples of damaged ACMs include, but not limited to, delamination on sprayed material, mechanical insulation with damaged/missing insulation or jacketing, exposed under-pad on vinyl sheet flooring, or a non-friable material that has been pulverized which causes it to become friable. The precedence for remedial action is based not solely on the evaluation of condition but is also based on several other factors which include:

- Accessibility or potential for direct contact and disturbance which can cause release of asbestos to the air;



- Practicality of repair (e.g. if damage to the ACMs will continue even if they are repaired); and
- Efficiency of the work (e.g. if damaged ACMs are being removed in a given area, it may be most practical to remove all ACMs in the area even if they are in good condition).

For the purposes of this assessment, Good, Fair and Poor were utilized to describe the condition of the known or suspect ACMs present in the Subject Building.

Known ACMs are further classified into two categories based on their friability properties. Friable material is material that (a) when dry, can be crumbled, pulverized or powdered by hand pressure, or (b) is crumbled, pulverized or powdered. ACMs that are friable have a much greater potential than non-friable ACMs to release airborne asbestos fibres when disturbed. Typical friable ACMs include surfacing materials (e.g. sprayed fireproofing, texture, decorative or acoustic plaster) and thermal insulations (e.g. parging cement) on mechanical systems. Asbestos-containing manufactured materials include vinyl floor tiles, ceiling tiles, gasket materials, asbestos cement pipe or board, and asbestos textiles. Depending on the formulation, these materials may be friable or non-friable. Note that though a product may be considered non-friable when new, if the product releases fine dust due to deterioration or during removal, the free dust is considered friable. Certain ACMs are non-friable when in place but may release significant dust at the time of removal depending on the condition, quantity and method of removal. For example, plaster would be considered friable at the time of significant disturbance/demolition.

S2S utilizes each of the above noted hazard ratings (i.e. condition, accessibility and friability) during our site assessments to determine the risk level of exposure. Detailed notations are obtained on a room by room basis, where accessible during each of our surveys.

S2S utilizes this hazard rating protocol to evaluate ACMs present within a building that may require repair or removal procedures. The information obtained from site assessments is utilized to draft detailed specifications on the procedures to remove and or repair the ACMs (if required).

2.5 Lead

Lead is a soft metallic element that is stable, ductile and resistant to corrosion. It has historical widespread use in building materials because it is easy to extract/smelt and is highly malleable. Lead was commonly added to paint as a pigment, and to increase durability, resist corrosion and increase pliability. Lead can pose a health risk to humans if ingested or inhaled.

The disturbance of lead containing materials during project work is controlled by the MLTSD document, “Guideline: Lead on Construction Projects”, issued by the Occupational Health and Safety Branch of the Ontario MLTSD, published in September 2004 and revised



in April 2011. This guideline provides classifications for types of lead disturbance activities and assigns different levels of respiratory protection and work procedures for anticipated worker exposure to airborne lead. The concentration of total lead present in a surface coating material is regulated by the federal Surface Coating Materials Regulation (SOR/2005-109) made under the Canada Consumer Product Safety Act. This regulation limits total lead levels in new surface coating materials and products with surface coatings applied to them to 90 mg/kg (or 0.009% by weight). Despite this threshold limit, the level of airborne lead expected to be present in a work area is dependent on the likelihood of producing airborne lead dust or fumes (i.e. hand scraping, sanding, welding, torch cutting, and sandblasting) and is not related to the percentage of lead within the coating. Therefore, for the purpose of this survey, paints with detectable lead concentrations should be considered to be lead containing.

2.6 Mercury

Mercury is used in thermometers, barometers, manometers, switches and relays, fluorescent lamps and other devices due to its electrical conductivity properties and liquid state at standard temperature and pressure.

The disposal of common mercury wastes (i.e. thermostats or fluorescent light tubes) is controlled by the Ontario Ministry of Environment, Conservation and Parks (MECP) Regulation, O. Reg. 347, R.R.O. 1990 (as amended by O. Reg. 334/13).

2.7 Mould and Water Damage

Water damage may be caused due to a variety of factors which include but are not limited to excessive moisture from condensation, pipe or roof leaks. Mould is a naturally occurring organism that is more likely to propagate within indoor environments on porous materials where excessive moisture is present.

Procedures for remediation and waste management of mould are outlined by the Environmental Abatement Council of Canada (EACC) “*Mould Abatement Guidelines*” Edition 3, dated 2015 and the Canadian Construction Association’s (CCA) “*Mould Guidelines for the Canadian Construction Industry*,” dated 2018.

2.8 Polychlorinated Biphenyls (PCBs)

PCBs may be contained within fluorescent light ballasts, cooling oil in transformers, caulking, grout, expansion joint material, and paints. Vapours may be released from PCB-containing building materials if they are disturbed which places workers at risk of exposure. PCBs are known to cause adverse health effects and being stable in the environment; they are able to bioaccumulate acting as long-term pollutants. PCBs were banned from manufacturing and import in North America in 1977.

Handling, waste management and storage of suspect PCB containing materials should be followed as outlined by O. Reg. 362/90, R.R.O. 1990 (as amended by O. Reg. 232/11). In



addition, requirements outlined in the federal regulation SOR/2008-273, as amended, made under the Canadian Environmental Protection Act (CEPA) should be followed.

2.9 Silica

The concrete, cinder block, drywall ceilings, mortar and any other aggregates used throughout the visibly accessible areas of the Subject Building may contain free crystalline silica. Free crystalline silica has been linked to respiratory illnesses when inhalation of silica dust occurs. Appropriate worker protection (i.e. respiratory protection), as outlined in the MLTSD Guideline “Guideline: Silica on Construction Projects”, issued by the Occupational Health and Safety Branch of the Ontario MLTSD, published in September 2004 and revised in April 2011 should be employed when conducting demolition or renovation work that will create silica dust.

3.0 FINDINGS AND CONCLUSIONS

3.1 Identified Hazardous Building Materials

Hazardous materials identified within the Subject Building by visual observations during the 2023 HBMR and previous surveys are outlined below:

Table 1 – Hazardous Materials Findings

| Hazardous Materials | Findings |
|----------------------------|---|
| Asbestos | Based on the records review, reported construction date (approximately 1989) and visual observations made during the current assessment within the visibly accessible portions of the Subject Building, no ACMs were observed or are expected to be present within the visibly accessible portions of the Subject Building. |
| Lead | Based on site conditions at the time of the assessment, no presumed lead containing materials were observed by S2S to be in a condition suspected to create a hazard to building occupants. S2S is of the opinion that paints do not pose a hazard to building occupants if they are left undisturbed. Presumed lead containing materials should be reviewed in the case of specific work activities. Lead may be present in paints, electronic components (e.g., wiring connections, wire bundles, etc.), plumbing solder, roof flashing, noise baffles, emergency lighting batteries, and cast-iron piping gaskets (i.e., bell & spigots). Where present within the Subject Building, they are presumed to be lead-containing. |
| Mercury | Mercury in the form of vapour may be present within the fluorescent light tubes and thermostats observed throughout the Subject Building. At the time of the site visit, all visually observed fluorescent light tubes and thermostats where |



| Hazardous Materials | Findings |
|---------------------|--|
| | accessible, were noted to be intact. |
| PCBs | Fluorescent light ballasts were observed within the Subject Building; however individual ballasts were not investigated during the 2023 HBMR. Based on the date of construction (approximately 1989) and the visual assessment previously completed, ballasts and other equipment were not suspected to contain PCBs. |
| Silica | The concrete, cinder block, ceiling tiles, mortar and any other aggregates used throughout the Subject Building may contain free crystalline silica. At the time of the site visit, visible accessible concrete within the Subject Building was observed to be in good condition. Conditions for silica to become airborne (i.e. due to extensive concrete damage or crushing/grinding of concrete) during regular activities within the Subject Building were not observed. |
| Mould/Water Damage | <p>Visual suspect mould growth was not observed within the visually accessible areas of the Subject Building on the date of the assessment; however, apparent water staining/damage was observed on ceiling tiles and is approximately quantified in the following locations:</p> <ul style="list-style-type: none"> • 1 acoustic ceiling tile located in Room 110; • 1 acoustic ceiling tile located in the Corridor outside of Room 14; • 2 acoustic ceiling tiles located in Room 16. • 2 acoustic ceiling tiles located in the Corridor outside Room 16; • 13 acoustic ceiling tiles located in the Girls Washroom; • 1 acoustic ceiling tile located in Room 3; • 2 acoustic ceiling tiles located in Room 19; • 3 acoustic ceiling tiles located in the Corridor outside Chemical Room; • 6 acoustic ceiling tiles located in the Boy’s Washroom; • 1 acoustic ceiling tile located in the Main Entrance. <p>At the time of the site visit, the sources of the apparent water damage/staining noted above could not be identified.</p> |

3.2 General Recommendations

Based on the findings of the 2023 HBMR, there are no recommendations related to asbestos or PCBs. S2S recommends the following for the other hazardous materials identified within the Subject Building:

- 1) If lead containing materials are disturbed, work should be completed as per “Guideline: Lead on Construction Projects” issued by the Occupational Health and Safety Branch of the Ontario MLTSD. Lead may be present in paints, electronic



- components (e.g., wiring connections, wire bundles, etc.), plumbing solder, batteries, and cast-iron piping gaskets (i.e., bell & spigots).
- 2) It is recommended that disposal of out-of-service mercury containing materials or equipment be completed in accordance with O. Reg. 490/09 and O. Reg. 347. At the time of the site visit, all visually observed suspect mercury containing fluorescent light tubes and thermostats, where accessible, were noted to be intact.
 - 3) Silica containing materials are to be managed in place or removed following appropriate dust control measures and worker precautions (i.e. respiratory protection), as outlined in the Ontario MLTSD “Guideline – Silica on Construction Projects”, issued in April 2011, when conducting demolition or renovation work that will create silica dust. At the time of the site visit, suspect silica containing materials in visually accessible areas were generally observed to be in good condition. Conditions for silica to become airborne (i.e. due to extensive damage or crushing/grinding of building materials) during regular activities within the Subject Building was not observed.
 - 4) No visual evidence of suspect mould growth was observed; however, apparent water staining/ damage was identified as outlined in Table 1 above. S2S recommends that the apparent water-stained acoustic ceiling tiles be removed and replaced with new ceiling tiles by trained maintenance staff and drywall ceiling finishes be repaired and that the sources of all apparent water staining be investigated and repaired prior to the development of mould growth.
 - 5) If any specific area within the Subject Building is to undergo interior renovation or demolition activities, it is recommended that a Designated Substance Survey (DSS) be conducted within the renovation/demolition areas for the purpose of providing a detailed layout of its potentially hazardous materials.

4.0 CLOSURE

This report has been prepared for the sole benefit of the Conseil Scolaire Catholique MonAvenir (CSC MonAvenir). S2S Environmental Inc. (S2S) understands that this report may be provided to and relied upon by contractors as background information on the location and condition of designated substances within the specified areas. Any other person or entity without the express written consent of S2S and CSC MonAvenir may not rely upon the report. Any use that a party makes of this report, or any reliance on decisions made based on it, is the responsibility of such parties. S2S accepts no responsibility for damages, if any, suffered by any party as a result of decisions made or actions based on this report.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted engineering and scientific practices current at the time the work was performed.



S2S has not evaluated health risks associated with building occupant exposure to hazardous materials (i.e. designated substances, mould) which may be identified in this report. Evaluation of health risks on an individual should only be made by a licensed medical practitioner who has knowledge of the individual's medical history.

Mould is a naturally occurring organism and regardless of the findings of an assessment or effectiveness of a remediation, it could occur/reoccur when conditions are favourable. Therefore, buildings and surfaces should be maintained to prevent conditions that are favourable for mould growth. The scope of services did not include a detailed evaluation of the thermal and moisture characteristics of the exterior wall assembly, or a detailed building envelope investigation to assess all potential cause of the water infiltration that created an environment favourable to mould proliferation.

All standards, regulations and guidelines referenced in this report are subject to change with time and may no longer be applicable at a later date.

S2S makes no other representation whatsoever, including those concerning the legal significance of its findings, or as to the other legal matters addressed incidentally in this report, including but not limited to the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation. These interpretations may change over time, thus CSC MonAvenir should review such issues with appropriate legal counsel. The designated substance locations and conclusions provided are based on information obtained from visual inspection and limited sampling carried out, at the specific test locations, and information obtained from building management personnel. The results can only be extrapolated to an undefined area around the test locations. It is possible that additional, concealed designated substances may become evident during demolition/renovation activities.

The quantities provided in this report are order-of-magnitude values and are not considered exact quantities. Contractors are not to use these quantities for providing quotations and will need to inspect the areas to verify the quantity of materials and site conditions that may affect the cost of any abatement work (if required).



We trust that the above meets your current requirements. If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Respectfully submitted,

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