



FINAL
Hazardous Building
Materials Assessment

North Stormont Public School
57 Cockburn Street, Berwick,
Ontario

Prepared for:

Upper Canada District School
Board

225 Central Avenue West
Brockville, Ontario, K6V 5X1

March 9, 2023

Pinchin File: 302783.058



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EXECUTIVE SUMMARY

Upper Canada District School Board (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at North Stormont Public School located at 57 Cockburn Street, Berwick, Ontario. Pinchin performed the assessment on July 28, 2022.

The objective of the assessment was to document the locations of specified hazardous building materials, evaluate their condition and develop corrective action plans as required for the purposes of long-term management. The results of this assessment can be used for construction, renovation, demolition or project tendering purposes conditional that additional intrusive investigations are completed and excluded materials are sampled prior to disturbance, if required.

SUMMARY OF FINDINGS

Asbestos:

- Hard brown window caulking
- All asbestos-containing materials were observed to be in good condition

Lead:

- Low levels of lead in paints is present as follows:
 - Beige on concrete block walls (Phase A)
- Lead within batteries of emergency lights and fire alarm control panels

Silica: Crystalline silica is present in concrete, mortar, masonry, ceramics, grout, drywall, terrazzo and ceiling tiles.

Mercury: Mercury vapour is present in lamp tubes.

Polychlorinated Biphenyls (PCBs): PCBs are not present.

Mould and Water Damage: Visible mould growth and water damage was not observed.



SUMMARY OF RECOMMENDATIONS

The following is a summary of significant recommendations; refer to the body of the report for detailed recommendations.

1. Assess and/or sample materials listed as excluded or as presumed prior to disturbance.
2. Prepare an Asbestos Management Program (AMP).
3. Perform a re-assessment of ACM on an annual basis.
4. Perform a pre-construction assessment and remove all ACM prior to alteration or maintenance work if ACM may be disturbed by the work.
5. Recycle mercury-containing lamp tubes.
6. Follow appropriate safe work procedures when handling or disturbing asbestos, lead and silica.

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



TABLE OF CONTENTS

1.0	INTRODUCTION AND SCOPE	1
1.1	Scope of Assessment	1
2.0	METHODOLOGY	2
3.0	BACKGROUND INFORMATION	2
3.1	Building Description	2
3.2	Existing Reports.....	3
4.0	FINDINGS	3
4.1	Asbestos	3
4.2	Lead	10
4.3	Silica	11
4.4	Mercury	11
4.5	Polychlorinated Biphenyls	12
4.6	Mould and Water Damage.....	13
5.0	RECOMMENDATIONS.....	13
5.1	General	13
5.2	On-going Management and Maintenance	13
6.0	TERMS AND LIMITATIONS	14
7.0	REFERENCES.....	15

APPENDICES

APPENDIX I	Drawing
APPENDIX II-A	Asbestos Analytical Certificates
APPENDIX II-B	Lead Analytical Certificates
APPENDIX II-C	PCB Analytical Certificates
APPENDIX III	Methodology and Evaluation Criteria
APPENDIX IV	Location Summary Report
APPENDIX V	Hazardous Materials Summary Report / Sample Log
APPENDIX VI	HMIS All Data Report



1.0 INTRODUCTION AND SCOPE

Upper Canada District School Board (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at North Stormont Public School located at 57 Cockburn Street, Berwick, Ontario.

Pinchin performed the assessment on July 28, 2022. The assessed area was vacant at the time of the assessment.

The objective of the assessment was to document the locations of specified hazardous building materials, evaluate their condition and develop corrective action plans as required. This assessment is to be used for the purposes of long-term management and routine maintenance. The results of this assessment can be used for construction, renovation, demolition or project tendering purposes conditional that additional intrusive investigations are completed and excluded materials are sampled prior to disturbance, if required.

1.1 Scope of Assessment

The **assessed area** consisted of all parts of the building, excluding the roof.

The assessment was performed to establish the type of specified hazardous building materials, locations and approximate quantities incorporated in the structure(s) and its finishes.

For the purpose of the assessment and this report, hazardous building materials are defined as follows:

- Asbestos
- Lead
- Silica
- Mercury
- Polychlorinated Biphenyls (PCBs)
- Mould
-

The following Designated Substances are not typically found in building materials in a composition/state that is hazardous and were not included in this assessment:

- Arsenic
- Acrylonitrile
- Benzene



- Coke oven emissions
- Ethylene oxide
- Isocyanates
- Vinyl chloride monomer

2.0 METHODOLOGY

Pinchin conducted a room-by-room assessment (rooms, corridors, service areas, exterior, etc.) to identify the hazardous building materials as defined in the scope.

The assessment was limited to non-intrusive testing. Concealed spaces such as those above solid ceilings and within shafts and pipe chases were accessed via existing access panels only. Destructive testing of flooring was not conducted (under carpets or multiple layers of flooring). Demolition of walls, solid ceilings, structural items, interior finishes or exterior building finishes, to determine the presence of concealed materials was not conducted. Sampling of roofing materials was not conducted.

For further details on the methodology including test methods and evaluation criteria, refer to Appendix III.

3.0 BACKGROUND INFORMATION

3.1 Building Description

Description Item	Details
Use	Public School
Number of Floors	The building is 1 storey
Total Area	The total area of the building is 14,264 square feet
Year of Construction	Building Phase A: 1965 Building Phase B: 1989
Structure	Structural steel and concrete
Exterior Cladding	Brick
HVAC	Forced air furnace and electric baseboards
Roof	Flat (outside of scope)
Flooring	Vinyl floor tiles, vinyl sheet flooring, ceramic tiles and terrazzo
Interior Walls	Concrete block and drywall
Ceilings	Acoustic ceiling tiles and drywall

3.2 Existing Reports

Pinchin previously prepared the following reports, which have been reviewed as part of this assessment:

- *“Hazardous Building Materials Assessment, North Stormont Public School, 57 Cockburn Street, Berwick, Ontario”*, prepared by Pinchin Ltd. Dated October 13, 2011, File No. 70594.005.

4.0 FINDINGS

The following section summarizes the findings of the assessment and provides a general description of the hazardous materials identified and their locations. For details on approximate quantities, condition, friability, accessibility and locations of hazardous materials; refer to the Hazardous Material Summary Report and All Data Report in Appendix V and VI.

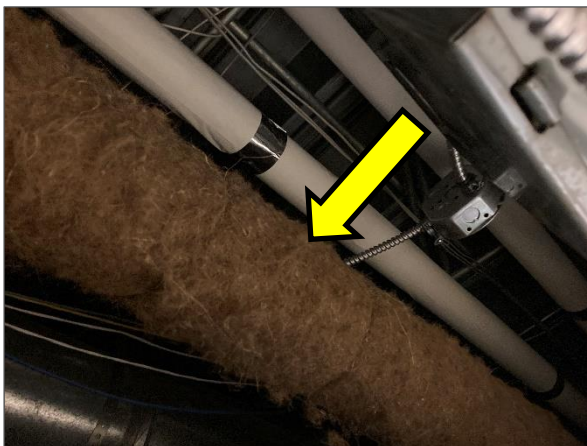
Any quantities listed in this report or data tables are estimated based on visual approximations only and are subject to variation.

4.1 Asbestos

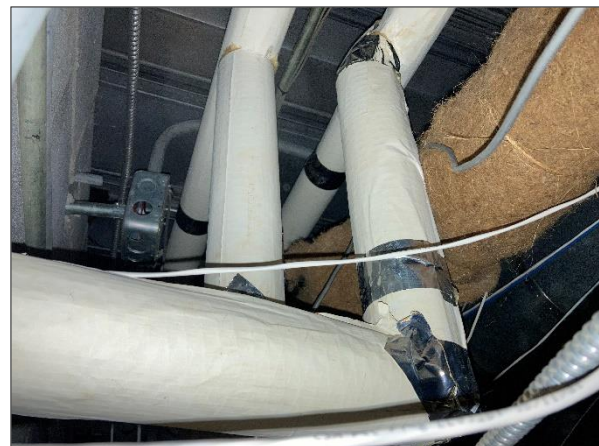
4.1.1 Pipe Insulation

Horsehair insulation present on rain water leaders in the Central Corridor (Loc.3) does not contain asbestos (previous Pinchin samples S0004A-C).

Remaining pipes are either uninsulated or insulated with non-asbestos fibreglass.



Non-asbestos horsehair insulation.



Pipes insulated with non-asbestos fibreglass.

4.1.2 Duct Insulation and Mastic

Ducts are either uninsulated or insulated with non-asbestos fibreglass (foil-faced or canvas).

4.1.3 Mechanical Equipment Insulation

Mechanical equipment (e.g. furnace, hot water tank, fan unit) is either uninsulated or insulated with non-asbestos fibreglass.



Furnace insulated with non-asbestos fibreglass.



Hot water tank insulated with non-asbestos fibreglass.

4.1.4 Vermiculite

Destructive testing of concrete block walls to investigate for loose fill vermiculite was not conducted due to the current building use.

Loose fill vermiculite debris was not observed in the spaces/areas inspected.

4.1.5 Acoustic Ceiling Tiles

Acoustic ceiling tiles are present in the assessed area, as follows:

Size, Type, Pattern	Sample Locations	Sample Number	Asbestos Type
2'x4' lay-in, small pinholes, small fissures	Boiler Room (Loc.1)	Previous Pinchin samples S0001A-C	None Detected
2'x4' lay-in, small and medium pinholes	Classroom (Loc.4)	Previous Pinchin samples S0005A-C	None Detected

Ceiling tiles present throughout Building Phase B are presumed to be non-asbestos based on the age of the materials determined from the age of the building phase construction (1989). The tiles were manufactured after asbestos stopped being used in acoustic ceiling tiles.



Non-asbestos lay-in ceiling tiles with small pinholes, small fissures.



Non-asbestos lay-in ceiling tiles with small and medium pinholes.

4.1.6 *Drywall Joint Compound*

Drywall joint compound present on wall and ceiling finishes throughout Building Phase A (previous Pinchin samples S0003A-G) and Building Phase B (previous Pinchin samples S0010A-G) does not contain asbestos.

4.1.7 *Vinyl Sheet Flooring*

Vinyl sheet flooring is present as follows:

Pattern, Colour	Sample Locations	Sample Number	Asbestos Type
Blue and white specks	Maintenance (Loc.10)	Previous Pinchin samples S0006A-C	None Detected
Grey squares	Maintenance (Loc.10)	Previous Pinchin samples S0007A-C	None Detected



Non-asbestos vinyl sheet flooring with blue and white specks.



Non-asbestos vinyl sheet flooring with grey squares.

4.1.8 Vinyl Floor Tiles, Baseboard, and Stair Flooring

Vinyl floor products are present as follows:

Size, Pattern, Colour	Sample Locations	Sample Number	Asbestos Type (tile)	Asbestos Type (mastic)
12"x12" large white and beige streaks	Custodial Room (Loc.2)	Previous Pinchin samples S0002A-C	None Detected	None Detected
12"x12" large white and beige streaks (Abated Material)	Central Corridor (Loc.17)	Previous Pinchin samples S0008A-C	None Detected	None Detected
12"x12" large white and grey streaks	Storage Room (Loc.18) Gym (Loc.23)	Previous Pinchin samples S0009A-C and sample S0009D	None Detected	None Detected
12"x12" blue and light blue with fleck	Not sampled	N/A	None*	None*
12"x12" grey and beige with fleck	Not sampled	N/A	None*	None*

*Vinyl floor tiles were presumed to be non-asbestos based on historical knowledge of the date of installation (after 1992) based on information provided by the Client.

Mastic present under non-asbestos vinyl floor tiles installed after 1992 does not contain asbestos (samples S0016A-C).



Non-asbestos vinyl floor tiles with large white and beige streaks.



Non-asbestos vinyl floor tiles with large white and grey streaks.



Non-asbestos blue and light blue vinyl floor tiles with fleck.



Non-asbestos grey and beige vinyl floor tiles with fleck.

4.1.9 Sealants, Caulking, and Putty

The following table presents a summary of caulking, sealants and putties present:

Material and Colour	Application	Sample Locations	Sample Number	Asbestos Type
Caulking, light brown	Exterior window and door frames and expansion joints (Phase A)	Exterior – Phase A (Loc.100)	S0011A-C	None Detected
Caulking, brown	Exterior window frames and expansion joints (Phase B)	Exterior – Phase B (Loc.101)	S0012A-C	None Detected
Caulking, light grey	Exterior window frames (Phase B)	Exterior – Phase B (Loc.101)	S0013A-C	None Detected

Material and Colour	Application	Sample Locations	Sample Number	Asbestos Type
Caulking, hard brown	Interior window frames (Phase A)	Classroom (Loc.4) Classroom (Loc.7) Classroom (Loc.8)	S0015A-C	Chrysotile
Butyl sealant, black	Interior window liner (Phase A)	Vestibule (Loc.33)	S0017A-C	None Detected
Caulking, dark brown	Interior window frames (Phase B)	Classroom (Loc.21) Classroom (Loc.25) Classroom (Loc.26)	S0018A-C	None Detected
Caulking, silicone	Interior door frames	Not sampled	N/A	None*
Butyl sealant, rubber	Exterior window liners	Not sampled	N/A	None*

*Presumed to be non-asbestos based on the composition of the material (e.g. rubber, silicone).



Non-asbestos light brown caulking.



Non-asbestos brown caulking.



Non-asbestos light grey caulking.



Asbestos-containing hard brown caulking.



Non-asbestos black butyl sealant.



Non-asbestos dark brown caulking.

4.1.10 Other Building Materials

Paint present on concrete block walls throughout Building Phase A does not contain asbestos (samples S0014A-G).

Paint present on concrete block walls throughout Building Phase B is presumed to be non-asbestos based on the age of the materials determined from the age of the building phase construction (1989).

4.1.11 Excluded Asbestos Materials

The following is a list of materials which may contain asbestos and was excluded from the assessment. These materials are presumed to contain asbestos until otherwise proven by sampling and analysis:

- Roofing felts and tar, mastics
- Ceramic tile setting compound
- Electrical components
- Vermiculite
- Baseboard adhesives
- Adhesives and duct mastics
- Fire resistant doors
- Terrazzo
- Sealants on pipe threads
- Firestopping sealants
- Materials concealed or outside the assessed area

4.2 Lead

4.2.1 Paints and Surface Coatings

The following table summarizes the analytical results of paints sampled:

Sample Number	Colour, Substrate Description	Sample Location	Lead (%)
L0001	Beige, concrete block walls (Phase A)	Classroom (Loc.4) Classroom (Loc.7) Kitchen (Loc.14)	0.0529
L0002	Beige, drywall (Phase A)	Classroom (Loc.4) Classroom (Loc.8) Staff Room (Loc.13)	0.0031
L0003	Pink, drywall (Phase A)	Administration (Loc.16)	0.0020
L0004	Beige, drywall (Phase B)	Gym Storage (Loc.22) Classroom (Loc.24) Classroom (Loc.26)	0.0015
L0005	Beige, concrete block walls (Phase B)	Storage Room (Loc.18) Gym (Loc. 23)	0.0059

Results less than or equal to 0.1% (1,000 mg/kg), but equal to or greater than 0.009% (90 mg/kg), are considered low-level lead paints or surface coatings in accordance with the EACC guideline.

Paints containing less than 0.009% (90 mg/kg) lead is assumed to be insignificant.

4.2.2 Lead Products and Applications

Lead-containing batteries are present in emergency lighting and fire control panels.



Lead-containing batteries in emergency lighting.



Lead-containing batteries in fire alarm control panel.

4.2.3 Excluded Lead Materials

Lead may be present in a number of materials which were not assessed and/or sampled. The following materials, where found, should be considered to contain lead:

- Electrical components, including wiring connectors, grounding conductors, and solder
- Solder on pipe connections
- Glazing on ceramic tiles

4.3 Silica

Crystalline silica is a presumed component of the following materials:

- Poured or pre-cast concrete
- Masonry and mortar
- Ceramic tiles and grout
- Drywall
- Terrazzo
- Ceiling tiles

4.4 Mercury

4.4.1 Lamps

Mercury vapour is present in fluorescent lamp tubes.

4.4.2 Mercury-Containing Devices

Thermostats inspected did not contain liquid mercury ampules.



Non-mercury digital thermostat.



4.5 Polychlorinated Biphenyls

4.5.1 Caulking and Sealants

The following table presents a summary of caulking sampled:

Material, Colour	Sample Location (Location #)	Sample Number	PCB concentration mg/kg
Various caulking and butyl sealants	Windows and door frames, window liners and expansion joints (Loc.4, Loc.33 and Loc.100)	P0001	<5
Caulking, silicone	Interior door frames	N/A	None*
Butyl sealant, rubber	Exterior window liners	N/A	None*

*Presumed to be a non-PCB solid based on the composition of the material (e.g. rubber, silicone).

Caulking in the table above is considered a non-PCB solid based on the threshold (50 mg/kg).

PCBs were banned in 1980; however, are found to be present in caulking and sealants until 1985.

Caulking and sealants present in Building Phase B were installed after 1989 and is not suspected to contain PCBs.

4.5.2 Lighting Ballasts

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

Based on date of construction (1989) and confirmed by visual observations (evidence of T-8 fixtures) Building Phase B will not contain PCB ballasts.

4.5.3 Transformers

All transformers in the building are dry type transformers and do not contain PCB-containing dielectric fluids; however, may contain capacitors, which could not be assessed for PCBs as the equipment was in service.



Non-PCB dry type transformer.

4.5.4 Excluded PCB Materials

- Applications of caulking or sealants on the roof.
- Capacitors

4.6 Mould and Water Damage

Visible mould growth and water damage was not found during the assessment.

5.0 RECOMMENDATIONS

5.1 General

Perform an intrusive assessment prior to building renovation or demolition operations. The assessment should include; destructive testing (e.g., coring and/or removal of building finishes and components), and other materials not previously tested (e.g., roofing materials, caulking, mastics). This report does not provide sufficient detail for certain renovations or demolition.

5.2 On-going Management and Maintenance

The following recommendations are made regarding on-going management and maintenance work involving the hazardous materials identified.

5.2.1 Asbestos

Prepare an Asbestos Management Program (AMP). The AMP should address and document; written work practices, worker training, notifications, policies and responsibilities.

Perform a re-assessment of asbestos-containing materials (ACM) on an annual basis.



Remove ACM prior to alteration or maintenance work if ACM may be disturbed by the work. Follow appropriate asbestos precautions for the classification of work being performed.

Asbestos-containing materials must be disposed of at a landfill approved to accept asbestos waste.

Update the asbestos inventory upon completion of the abatement and removal of asbestos-containing materials and any other relevant findings.

5.2.2 *Lead*

For paints identified as having low levels of lead (i.e., less than the EACC guideline of 0.1% (1,000 mg/kg) for lead-containing paints but equal to or above 0.009% (90 mg/kg)) special precautions are not recommended unless aggressive disturbance (grinding, blasting, torching) is planned.

Exposure from construction disturbance of paints containing lead less than 0.009% (90 mg/kg) is assumed to be insignificant.

Lead-containing items should be recycled when taken out of service.

5.2.3 *Silica*

Disturbance of silica-containing products during maintenance activities may result in excessive exposures to airborne silica, especially if performed indoors and dry. Cutting, grinding, drilling or demolition of materials containing silica should be completed only with proper respiratory protection and other worker safety precautions that comply with applicable regulations and guidelines.

5.2.4 *Mercury*

Do not break lamps. Recycle and reclaim mercury from fluorescent lamps when taken out of service. Mercury is classified as a hazardous waste and must be disposed of in accordance with applicable regulations.

6.0 **TERMS AND LIMITATIONS**

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.



7.0 REFERENCES

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

1. Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05.
2. Designated Substances, Ontario Regulation 490/09.
3. Lead on Construction Projects, Ministry of Labour Guidance Document.
4. The Environmental Abatement Council of Canada (EACC) Lead Guideline for Construction, Renovation, Maintenance or Repair.
5. Ministry of the Environment Regulation, R.R.O. 1990 Reg. 347 as amended.
6. Ministry of the Environment Regulation, R.R.O. 1990 Reg. 362 as amended.
7. Silica on Construction Projects, Ministry of Labour Guidance Document.
8. Alert – Mould in Workplace Buildings, Ontario Ministry of Labour.
9. PCB Regulations, SOR/2008-273, Canadian Environmental Protection Act.
10. Surface Coating Materials Regulations, SOR/2016-193, Canada Consumer Product Safety Act.

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